



Building Knowledge Societies in the Arab Region

ARABIC LANGUAGE AS A GATEWAY TO KNOWLEDGE

Published in 2022 by the United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75352 Paris 07 SP, France

and

UNESCO Regional Bureau for Sciences in the Arab States - Cairo, and with generous funding from the Sultan Bin Abdulaziz Al-Saud Foundation

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ISBN: 978-92-3-100545-9



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Original title بناء مجتمعات المعرفة في المنطقة العربية: اللغة العربية بوابة للمعرفة

Published in 2019 by the United Nations Educational, Scientific and Cultural Organization and UNESCO Regional Bureau for Sciences in the Arab States – Cairo Office

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Translation: Higher Arab Institute for Translation, Algeria

Copy-editing: MultiLingua, Egypt

Cover and graphic design: Afkar Studio - Cairo

Typeset: Afkar Studio - Cairo

Printed by: Afkar Studio - Cairo

Printed in Cairo, Arab Republic of Egypt

Foreword

Building knowledge economies and societies is a professed objective in the Arab region. Most of the development plans in the Arab states clearly call for action to produce, transfer, localise and harness knowledge in various fields, in service of the sustainable human development goals. The Arabic language has an important role to play in this key development process, as the production, assimilation and dissemination of knowledge is more effective and more widely spread when the mother tongue is used. Hereupon, a fundamental question must be addressed: To what extent does the Arabic language today constitute a true gateway to knowledge in the Arab region?

This report, prepared by a group of distinguished Arab experts, under supervision and coordination of the UNESCO Regional Bureau for Sciences in the Arab States, seeks to research this central question by reviewing and evaluating the state of knowledge in the Arab region on the one hand, and analysing the role of the Arabic language in the processes of establishing knowledge societies and economies in the Arab region on the other. The general section of the report addresses the question of knowledge and language at the Arab regional level. It also features field research conducted in three Arab states (Saudi Arabia, Egypt and Morocco), that examines the state of knowledge and the Arabic language in those states, and to a certain extent, reflects the situation in the Arab sub-regions to which they belong.

Within the framework of promoting the role of the Arabic language in supporting the processes of establishing the desired knowledge societies and economies, the general and procedural recommendations (with clear temporal dimensions) presented in the report address a number of related issues that would transform Arabic into a language that positively interacts with the knowledge revolution and its exponential pace, as well as meets its exigencies while preserving the integrity of its rich cultural components. Thus, the report resonates with a number of UNESCO priorities, particularly those related to building knowledge societies and promoting linguistic diversity in a changing world.

It is hoped that the report, with its wealth of information, data and recommendations, will contribute to launching an in-depth societal dialogue and stimulating action to promote the role of the Arabic language in the processes of building knowledge societies that we aspire for, and which we believe is the best path towards achieving sustainable development in the Arab region, and in the world as a whole.

In conclusion, it behooves me to extend my deepest gratitude and appreciation to Sultan Bin Abdulaziz Al-Saud non-profit Foundation, with which we are proud to partner, for the generous support that made this report possible. I would also like to express my sincerest gratitude to everyone who contributed to and enriched this report, including members of the Advisory Committee, researchers and participants in the national case studies. I also would like to extend my thanks to my colleagues at the UNESCO Regional Bureau for Sciences in the Arab States, based in Cairo, for this commendable effort.

Undoubtedly, the Arabic language is a wellspring of marvellous cultural and scientific heritage. Over the centuries, the Arabic language has been an incubator to knowledge in various literary and scientific fields including medicine, astronomy, mathematics, philosophy and history, and a channel for its dissemination in the Arab region and beyond. I am confident that this rich language will preserve its stature and will continue to play its role in supporting Arab ambitions in building knowledge economies and societies and achieving sustainable development in the service of human dignity and well-being in the Arab region.

Ghaith Fariz

Director of the UNESCO Regional Bureau for Sciences in the Arab States - Cairo

Foreword

Sultan Bin Abdulaziz Al-Saud Foundation, which began its work in the year 1415 AH (1994 AD), is one of the most prominent civil society institutions in the world. It has harnessed its material and knowledge capabilities in the service of human and developmental communication, as well as building partnerships with human and knowledge dimensions that transcend geographical barriers, achieved through the provision of multiple services in the medical, humanitarian, civilizational and knowledge fields.

It is the Foundation's belief that language is one of the most important factors of rapprochement and dialogue among peoples. Therefore, it has worked through a number of programmes to promote this role by means of educational and interactive contributions and activities. The Foundation also endeavours to operationalize the enabling tools aiding in the proliferation of Arabic as one of the pre-eminent human languages, with its linguistic and lexical wealth and depth, breadth of meanings, as well as its ability to keep pace with the knowledge and technical exigencies and interact positively with the knowledge revolution and its exponential pace. Considering that language is the means of communication, the bedrock of identity building and the vessel through which a nation's heritage is transmitted, the Foundation participates, as a sponsor and supporter, in the Arabic language activities at UNESCO through Prince Sultan bin Abdulaziz Al-Saud Programme for Strengthening the Arabic Language.

Building on these principles and fundamentals, the Foundation has been keen to support language activities and programmes at UNESCO, successfully navigating many stages during the past few years, and launching additional programmes and events for the next stages. The present report was prepared with the support of the Foundation and includes everything related to the knowledge society and the role of the Arabic language inside, and was based on field studies and rich debates with specialists in Arabic, computing systems and media, as well as businessmen, with the purpose of helping identify the problems and challenges facing the establishment of the knowledge society on the one hand, and those facing Language on the other. On reviewing the report, we find that it draws attention to two key issues among the many issues it raised. The first relates to the knowledge society and stresses the importance of pairing calls for the establishment of a knowledge society with concrete efforts to transform Arab societies into productive ones. The second relates to the great controversy over the Arabic language and the importance of preserving it, as the report stresses the fact that this debate is accompanied by tangible efforts to construct Arabic dictionaries and develop the Arabic language to keep pace with the realities of the modern age and its knowledge outcomes. Hence, the report urges action to bring about a change in both aspects, the path of building a knowledge society on the one hand, and the path of language development on the other; which will be subject of focus in the near future through the Foundation's programmes.

We at the Sultan Bin Abdulaziz Al-Saud Foundation are proud of the partnership with UNESCO in support of the Arabic language, and we extend our gratitude to the UNESCO team in the Cairo office for coordinating this report, and all those who contributed to it from experts to specialists, and towards future and continuous cooperation in the service of the Arabic language.

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Cover and interior design

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Chapter 1

Language and Knowledge Society: Methodology and Conceptual Framework





Chapter 1

Language and Knowledge Society: Methodology and Conceptual Framework

Introduction

Language plays a pivotal role in the knowledge society, as it is the incubator of culture, science, and knowledge in any given society. It is also a component of the knowledge system and a prerequisite to its attainment and the facility of its production, transfer, localization and use

The pursuit of establishing knowledge societies and knowledge economies has become central to all progress and sustainable development rhetoric, for there can be no genuine progress today without a shift to knowledge societies and all what they entail in terms of high quality education and training programs, accumulation of scientific research and technical development output, and a mastery of communication technology and enhanced enabling environments that constitute the political, economic and social context for achieving all of these components. Gauging progress in societies is no longer based exclusively on the level of investments in industry, agriculture or people. The emergence of the knowledge society as a concept, in its broadest sense, has revolutionized the ways in which society is viewed. The adopted concept of knowledge expands to encompass the entirety of the knowledge and cultural repositories if one considers knowledge as what governs all human development activities. It aims to expand the options and opportunities for the advancement of the Arab individuals and the achievement of their freedom and decent living. Thus, knowledge – its acquisition, establishment, production and deployment - becomes a tool and an objective for society as a whole, reaching all layers on an equal footing, and encompassing all fields including science,

art, culture, heritage and the accumulated social experiences.

No dialogue on development is without a conversation about the importance of instituting a knowledge society. This interest coincides with successive developments taking place in the world today: daily advancements in communication systems enabling communication to effect change in the relationships of space and time, massive flows through globalized channels of ideas, ideologies, goods, capitals and technology, the inability of certain groups to keep pace with a rapid expansion of scientific and technological developments and international reports on all spheres of life, comparing countries and revealing their strengths and weaknesses.

Contemporary societies compete in the number of great minds they abound with, the knowledge and technologies they possess, the research and development expand the spacing can muster and the creativity and innovation they diffuse. They also compete in communication via electronic networks, in the knowledge they transmit, in how much they spend on capacity building and in the exerted efforts on knowledge localization, transfer and exploitation for the sake of human development. In such a circumstance, indicators of knowledge societies, including

education, research and development, innovation and creativity, and the related capacity for knowledge production, use, transfer and localization have become one of the main tools in measuring the progress of development in societies alongside orthodox indicators.

Language plays a pivotal role in the knowledge society, as it is the incubator of culture, science and knowledge in any given society. It is also a component of the knowledge system and a prerequisite to its attainment and the facility of its production, transfer, localization and use. The stronger the position of language is in societal life, its relationships with the surrounding world and in the efforts to produce, use and localize knowledge, the more integral it becomes, not only to access the knowledge society, but also to be able to take its place at the heart of it. That is because a society can pierce into the community of knowledge societies with its own language or with other languages. However, if the national language is discounted, the knowledge equation will remain incomplete, for the processes of building knowledge societies are more effective, readily accepted and of a wider reach when the mother tongue is used.

Against this background, this report comes to elucidate the state of the Arabic language in the Arab region, and determine the nature of the analogous and interconnected relationships between Arabic and the pillars of a knowledge society. Ultimately, this analytical study aims to extrapolate the opportunities, strategies and methodologies for the most efficient manner to stimulate the role of the Arabic language in building the coveted knowledge societies and economies.

Methodology and overall structure of the report

This report draws on multiple sources, beginning with field studies on the state of knowledge and the Arabic language, which were conducted in preparation of the present report in three states, namely Saudi Arabia, the Arab Republic of Egypt and the Kingdom of Morocco. It also builds on an analysis of the findings and data in a related number of published international and Arab studies and reports on knowledge societies in the Arab states, in addition to a secondary analysis of the cultural discourse in a set of studies on the Arabic language, as well as national statistics published on relevant topics including the state of education, scientific research, technology, communication technology and digital content published in Arabic. The present report is divided into two main sections. The first is a general report on the state of knowledge and Arabic in the Arab states as a whole. This section analyses and examines the interlocking and problematic relationships that accompany the creation of knowledge societies and fostering the role of the Arabic language in this endeavour. It concludes with a set of general recommendations, and puts forth several procedural recommendations, with well-defined time dimensions, for the purposes of fostering the role of Arabic as the main gateway to establishing knowledge economies and societies in the Arab states.

The second section includes the three case studies conducted in Saudi Arabia, Egypt and Morocco. These studies shed further light on, and observe closer the state of knowledge and the Arabic language in each of these countries by having a thorough examination of their

The processes of building knowledge societies are more effective, readily accepted and of a wider reach when the mother tongue is used

The language is the incubator of the culture and knowledge of the society, and the means through which societal knowledge is accumulated, ensuring the continuity, development and progress of societies

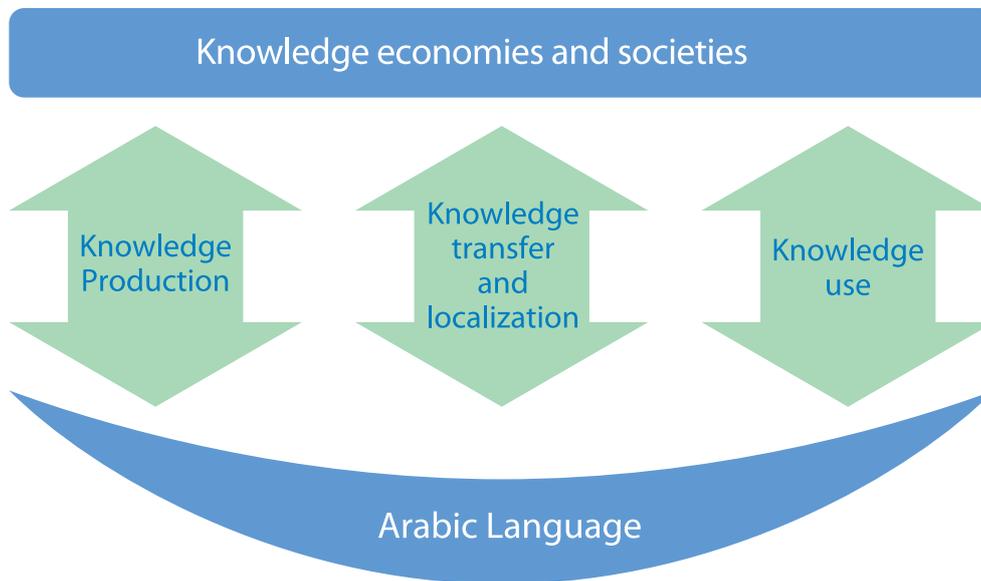
respectively available information and data. The studies are characterized by a qualitative addition, in that they build upon direct field research carried out by the report team, which involved a survey and an extrapolation of diverging opinions, focus discussions and in-depth interviews with several specialists in each of these states. Furthermore, the case studies concluded with a set of proposed recommendations and actions with specific time dimension in each of the case studies' states. Perhaps, the three studies shed light on the state of knowledge and language in other Arab states whose economic, social and cultural realities are similar to those in the case studies. While we acknowledge that there exists some differences and specificities in each of the Arab states, the study of Saudi Arabia may be able to shed light on the reality of knowledge and language in the Gulf region, and the study of the situation in Egypt may be able, in many respects, to represent the state of affairs in the Mashreq and the Nile valley, while Morocco's study may be able, to a certain extent, to reflect the state of knowledge and language in the Arab Maghreb as a whole.

Conceptual framework

If society is commonly defined as a group of actors who lay the foundation of a civic and social life, in accordance with cultural norms and blueprints that are taught and inherited throughout the generations, then language is the incubator of the culture and knowledge of the society, and the means through which societal knowledge is accumulated, ensuring the continuity, development and progress of societies. Therefore, language is one of the most important foundations for the creation of a human gathering. This

human gathering cannot operate without a tool for social networking, the transmission of heritage and its preservation through time, the refinement of knowledge and skills through education and social identity building. That tool is language, which Encyclopaedia Britannica defines as "*a system of conventional spoken, used, or written symbols by means of which human beings, as members of a social group and participants in one culture, express themselves*"¹. A second definition reveals that language is "*the words, the sentences, and the phrases where the humans express expand the distance.*"², and a third definition reads, "*language is a system of vocal symbols that are organically formed for enabling a social group communicates and cooperates*"³. All these definitions reflect that language is -first and foremost- an instrument for social and cultural partnership, a tool for intellect and creativity and a means for cooperation and gathering. Language appears to be the backbone of all elements of society and its components, and a lot has been said about the relationship between language and identity as a consequence; language reveals identity, it is the tool that enables the group to preserve its cast and character. Furthermore, if one considers language at the individual level, they will find it defined as an innate faculty in humans, each individual is predisposed to develop a "*set of syntactic rules enabling them to produce a limited number of sentences*"⁴; it is a faculty that is then honed and completed with the individual's involvement in societal life since birth. As Ibn Khaldun advances, "*a faculty does not appear without repetition of acts, for the act comes before the faculty, i.e. a fixed trait.*"⁵ Therefore, language for Ibn Khaldun is a faculty more akin to a craft; one cannot attain it unless acquired through repeated acts.

Figure 1-1: Interaction pathways between Arabic and the processes of establishing knowledge economies and societies



With the place it occupies in society, language is then present in any discussion about societal change and its transition from one state to another. It becomes a tool to facilitate communication in the modernization and development processes under any condition of change and transition. And in the pursuit of a knowledge society, language is a key pillar for knowledge of all genres, *“for whatever path you take in the world of knowledge, seek the language, it is [...] the companion of natural science, the pillar of philosophy throughout the centuries, the fulcrum of arts, and the heart of information technology and the architecture of its programs.”*⁶ These definitions demonstrate that language is inter-twined with knowledge. Knowledge is produced, disseminated, used and accessed through language. Figure 1.1 illustrates the close inter-relationship between the main channels for the creation of knowledge societies through the production, dissemination, localization and

utilisation of knowledge, on the one hand, and the state of Arabic as an incubator for such processes and a key channel of communication within them, on the other.

On the other hand, language evolves and acquires a level of flexibility and diversity in the means of its utilisation by exploiting the knowledge data. Consequently, it can simply be said that knowledge will stagnate and remain static if it is not accommodated, and thus, animated, disseminated, preserved and lent different uses by language. However, this role cannot be fulfilled by merely caring for the language and guarding it, but also through its capacity for change and openness and its ability to assimilate everything that is new; and it is that openness that makes change possible. The ability of the language to open and change is closely related to the ability of society to be open to the worlds of knowledge.

The language evolves and acquires a level of flexibility and diversity in the means of its utilisation by exploiting the knowledge data. Consequently, it can simply be said that knowledge will stagnate and remain static if it is not accommodated, and thus, animated, disseminated, preserved and lent different applications by language

Modern societies, especially those of developing countries, face significant challenges in dealing with the combination of knowledge society-language

Languages in several developing countries have been switched to self-defence mode, to attempts of self-affirmation in the face of the other languages

Modern societies, especially those of developing countries, face significant challenges in dealing with the dualism of knowledge societies and language. Globalization – with its extraordinary capabilities of monopoly, containment, and hegemony – has transformed the languages coming from developed states at the centre of the knowledge world (with English at the vanguard) into dominant languages, and the languages at world periphery into secondary languages, despite of their deep roots in history and old aspirations to universality. Languages in several developing countries have been switched to self-defence mode and to attempts of self-affirmation in the face of the other languages. This situation is compounded by the internal behaviours of the languages original owners themselves, who have been deserting their language for the benefit of other languages and have been neglecting its teaching and learning. If we assumed with Ibn Hazm Al Andalusi (994-1064 AD) that the language of a nation is bound by *“its sciences and information, the strength of its state and the vigour of its people,”* and that *“a language’s downfall is most often due to the downfall of its people and the intervention of others into it”*⁷, then we will be filled with dismay at the state

of the Arabic language which is facing a large set of internal and external challenges and dangers, which are limiting the role of the language in establishing a knowledge society, its ability to produce, localize and use knowledge, including its capability to be an instrument of educational training and a vehicle of research, development and innovation products, in addition to its ability to adapt to the developments in the information technologies and the worlds of communication.

All of this leads to a logical conclusion in that the shift to a knowledge society (so painstakingly sought after by the Arab states) not only requires a shift towards producing, localizing and using knowledge, and establishing its basic pillars, namely, education, scientific research, innovation and development of information and communication technologies; but it also requires tending to the Arabic language in all the components and dimensions of the knowledge society. Language then becomes a vessel for knowledge in all its aspects, with the ability to adapt to the world of technology and all its dimensions, while society moves towards acquiring knowledge and building its foundations.

Notes

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- 6 Nabil Ali. 2001. Al-Thaqafa al-Arabiyya wa Asr al-Ma'lumat: Ru'ya li Mustaqbal al-Khitab al-Thaqafi al-Arabi (Arab Culture and the Age of Information: A Vision for the Future of the Arab Cultural Discourse). Alam al-Ma'rifa, Kuwait, Silsilat alam Al-maarifa (World of Knowledge Series). p. 240.
- 7 Ali bin Ahmed bin Hazm Al-Andalusi. (No date). Al'ihkam fi 'Usul Al'ahkam (Accuracy in the Origins of Commandments). P. 20. <http://www.islamicbook.ws/asol/alihkam-labn-hzm-.pdf>. Accessed on 18 November 2019.

اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ وَصَحْبِهِ أَجْمَعِينَ

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Chapter 2

The Arabic Language and Knowledge Society: Reality and Challenges





Chapter 2

The Arabic Language and Knowledge Society: Reality and Challenges

The reality of knowledge societies in the Arab region

The strength of states and its abilities to influence events and take control of its destiny and future is nowadays measured by the cognitive power

The strength of states and its abilities to influence events and take control of its destiny and future is nowadays measured by the cognitive power; the phenomenon of knowledge has become our constant companion in all spheres of life, and in the fields of information, innovation, politics, education, and industry. Thus, knowledge has become a force in itself.¹ This conception has resulted in states competing for knowledge, focusing all their creative, innovative and cultural abilities towards its production, localization and use in all spheres of life.

Knowledge society cannot simply be reduced to information society, for they are different - as the 2005 UNESCO report *"From the Information Society to Knowledge Societies"* illustrated that *"the knowledge society is not only defined by technological capabilities or network only, but it encompasses broader social, ethical and political dimensions"*.² The report emphasizes the role of knowledge in economic growth and cultural and social development processes. The knowledge society was defined along the same lines in the 2003 *Arab Human Development Report* as being *"The society which is mainly based on the dissemination and production of knowledge and its efficient utilisation in all societal activities: the economy, civil society,*

politics, and private life, in a continuous quest to advance human development".³ This definition has been reflected in most international and regional reports, whereas the 2009 *Arab Knowledge Report* defines knowledge as a *"combination of higher cultures and evolved human experience leading to a revolution in the intensity and availability of knowledge and in the expansion of new economic, social, and recreational roles made available by the diverse spheres and worlds of production fashioning the knowledge society"*.⁴ This definition demonstrates that knowledge – its generation, localization and utilisation - does not only play a key role in expanding the economic and social opportunities granted by the different areas and worlds of production, but is closely linked to the issue of sustainable development, where knowledge intertwines with the economic, social, environmental and technical SDGs and the other dimensions defined by the UN in 17 goals that set out a plan of action for sustainable development across the world for the next decade and until 2030.⁵

The Arab interest in the knowledge society has kept pace with the global attention. There has been a constant stream of Arab reports in tandem with the consecutive international reports on knowledge society, starting from the World Bank's 2002 report on *"Constructing knowledge societies"* ⁶ and the 2007 report

on “*Constructing knowledge economies*”, and the aforementioned 2005 UNESCO report. As for the Arab reports, they have been realized with the help of international organizations, UNDP in particular, starting from the 2002 “*Arab Human Development Report*”, which indicated the knowledge gap, and the 2003 report, dedicated to knowledge society in the Arab region. Modern efforts in this regard have yielded succeeding reports on knowledge society and its indicators in the Arab region, starting from the 2009 “*Arab Knowledge Report*”, focusing on the productive knowledge communication, followed by its issuance in 2010-2011, focussing on preparing future generations for the knowledge society and including case studies in a number of Arab states, and 2014 issue, whose focus was on youth and localization of knowledge; in addition to successive reports released by many Arab and international stakeholders on knowledge and development topics. There is no doubt that these reports have played a significant role in framing awareness on the knowledge society issues in the Arab world.

Table (A.I) of the Statistical Annex presents a set of data on indicators relevant to the knowledge situation in the Arab states. On extrapolating the data in the table and the Human Development Index (see figure 2-1), it is clear that:

- A- Most Arab states had an average standing on the 2017 Human Development Index⁸, with clear and significant variations among some states. The United Arab Emirates (UAE) had the highest HDI value (0.836) and Yemen had the lowest (0.452) (see figure 2-1).
- B- GCC States ranked high on the 2018 Global Knowledge Index⁹ (covering 134

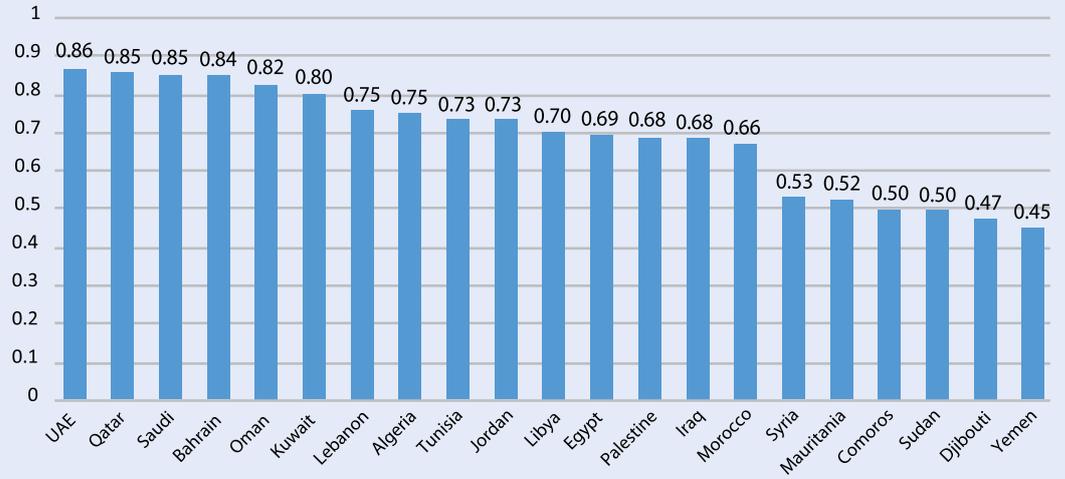
States); the GKI value has only exceeded 50 in three countries, respectively: UAE (61), Bahrain (51), and Qatar (51). The index fell sharply in some Arab states to reach 30 in Syria and Mauritania, and 24 in Yemen (see figure 2-2).

- C- Although the decline is a common thread in the sub-indicators of the Global Knowledge Index¹⁰ (with some minor exceptions), the decline rate follows a descending order as follows: Pre-university education, higher education (university), technical and vocational education, information and communication technology (ICTs), research, development and innovation. This gradient reveals the low status of knowledge in the Arab region, particularly in its technical, innovative and research aspects, which constitute the nerve centre of the knowledge society.

If one contemplates the knowledge status in the Arab states, they will discover a similarity to the state of Arab modernity, which continues to depend on forms of forced modernization, arbitrary selectivity, and excessive consumerism. This modernity has produced societies in which the traditional aspects interweave with the modern ones to fashion a hybrid modernity, in which, more often than not, greater importance is accorded to the appearance of modernity rather than its substance. It also lacks an original scientific and technical base, as well as cultural and institutional frameworks that stimulate creativity and innovation. This type of modernity remains stuck in the middle. It is neither able to move forward and achieve a true paradigm shift, nor sever ties with its deeply rooted traditions reproduced under many guises.

Several Arab and international reports have highlighted the great knowledge gap that separates the Arab region from the developed world

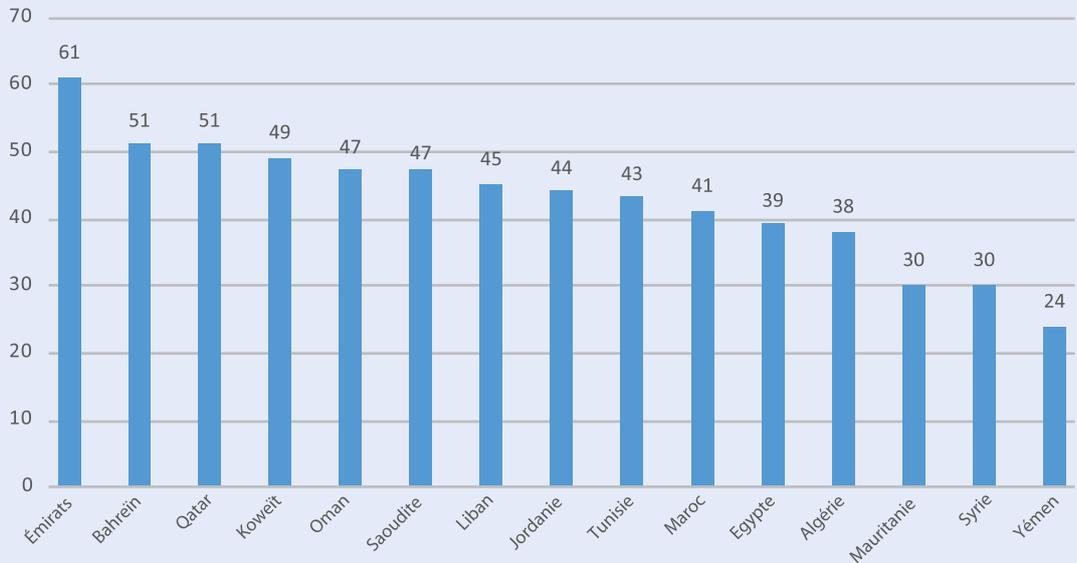
Figure 2-1: 2017 HDI value in selected Arab states



Source: United Nations Development Programme. 2018. Human development indices and indicators: 2018 statistical update.

Note: The HDI value is distributed across a scale from 0 to 1, and the higher the value, the higher the level of progress towards achieving Human Development.

Figure 2-2: 2018 GKI value in selected Arab states



Source: United Nations Development Programme and Mohammed bin Rashid al Maktoum Knowledge Foundation. 2018. Global Knowledge Report 2018. <https://www.knowledge4all.com/ScoreCard2018.aspx?id=1&language=ar>
 Accessed on 20 October 2019

Note: The GKI value is distributed across a scale from 0 to 100, and the higher the value, the higher the level of progress towards acquiring the knowledge pillars that enable development.

Every report on the state of knowledge in the Arab region has confirmed its persistent vulnerability in the face of major global shifts. The 2003 Arab Human Development Report noted that Arab human development faces significant constraints and obstacles to the acquisition, production and use of knowledge.¹¹

The subsequent Arab knowledge reports have confirmed this issue. They pointed to the need for an adequate source to supply countries in the region with the requisite human competencies to achieve their development aspirations and objectives. They also denoted the importance of building the critical mass required for future generations, in a broad understanding of the knowledge concept to cover the scientific, cultural and civilizational stock, so that knowledge – its production, transmission, localization and utilisation – develops into a tool and a destination for society as a whole with all its components and segments. These reports, however, appear to be a scream in a barren valley. The reality they monitor does not predict great leaps towards achieving the knowledge society; there is still a long way for high levels to be achieved in this field.

The Arabic Language and knowledge society: Discourses and challenges

The Arabic language as a main prerequisite for the creation of knowledge society

It is said that the language function is crystallized in its quality as the tool through which the members of one nation maintain their cohesion and interdependence, as well as the mirror of their culture and

identity.¹² Language, then, is the origin of civilization, the one that safeguards its enrichment and transmission to the new generations. It ensures its continuous renewal and represents the true passage of strength upon which any civilization, wishing to survive, is based on. The undeniable fact is that achieving the knowledge society on the path towards sustainable development is closely linked to the language in use inside a society. Language is a symbolic social networking system and is, therefore, a means of transferring knowledge products, its utilisation methods and, indeed, its localization approaches in the real world. It represents the common platform on which all forms of knowledge operate, and in truth, the means to use this knowledge through time and space. If scientific, technological, and cultural progress is a function of knowledge, and if knowledge is a function of the economy, then language is the function of communication in both worlds. This communication creates dynamism and continuity in the knowledge advancement manifestations, turning them into useful instruments for the happiness of the society and the welfare of its people.

Thus, language follows the path of civilization, in strength and weakness, as well as the path of the knowledge society. Therefore, it is appropriate to say that there is no effective knowledge society without an effective language; a language that assimilates and produces science, facilitates its use, and drives innovation and creativity. The Arabic language had a huge civilizational presence. After Islam began spreading outside the Arabian Peninsula, Arabic spread with it, becoming a language spoken by large swathes of the world's population. Indeed, Arabic was able to

Several reports have pointed to the need for an adequate source to supply countries in the region with the requisite human competencies to achieve their development aspirations and objectives. They also denoted the importance of building the critical mass required for future generations

Language follows the path of civilization, in strength and weakness, as well as the path of the knowledge society

Box 2-1: Arabic at the Core of Knowledge Society

Arabic is at the core of the knowledge society; it is the means by which knowledge is transmitted, localized, produced and used. A strong knowledge society needs a strong language capable of being a language of education, innovation and scientific research; a tool to facilitate different technical uses in the fields of commerce, industry and administration, which cannot be achieved unless it stands the assault of the other languages and turns into a strong and highly flexible language. This does not mean that a strong and flexible language is a sufficient prerequisite for knowledge society. It only represents one of several other conditions; the most important of which is economic, technical, educational and research progress. The language derives its strength from the strength of the productive knowledge economy and the surrounding enabling environments. It is the language constituting the interface of this economy through its production, localization, and use processes.

Even though Arabic embraced science and assimilated civilization in its early stages, it has turned, in the view of some researchers, into a rigid framework built on strict syntactic and grammatical rules, instead of flexibility and embracement

assimilate the language of philosophy and science during the Islamic renaissance age. Arabs translated several works of the Greek philosophers and wrote many treatises in Arabic on mathematics, astronomy, physics, chemistry, and social sciences. This happened in tandem with great efforts to define the grammatical rules of Arabic language, in order to facilitate its teaching and learning; thus, it became a key component of the Arab mindset.¹³

Herein lies the core of the discussed issue: To what extent can the Arabic language—with all its history—adapt to the data and requirements of modern civilization? And to what extent can it play a real communication role in the knowledge society?

The state of knowledge society in the Arab region, as previously mentioned, remains elusive. This may also apply to the Arabic language, as well. Although it is a living language capable of giving and evolving, a set of historical and current circumstances have, however, led to a deterioration in the civilizational and developmental role of the Arabic language, particularly with regard to the creation of knowledge societies. Even though Arabic

embraced science and assimilated civilization in its early stages, it has turned, in the view of some researchers, into a rigid framework built on strict syntactic and grammatical rules, instead of flexibility and embracement. This was after setting for it the grammatical and lexical assets in the first Abbasid age (*The Age of Tadween*). Since then, the Arabic language has remained silent and unchanging, both in its words and grammar, and has been locked up within the walls of the old. This has led to the Arab mind being locked up in itself; thus, we came to think the way we talk, and talk the way we think.¹⁴

Historical circumstances contributed to weakening the Arabic language, including its standoff with the Turkish language, after most Arab societies had fallen under the Ottoman Empire control. Once free from the Ottomans, most of the Arab region fell prey to modern colonialism, which brought with it its own languages and laid siege to Arabic. Several researchers are of the opinion that colonialism not just assaulted economy, politics and culture, but language as well, and endeavoured to fade away the identity and led the societies into an unending state of dependency.¹⁵

Against this backdrop, an awareness has begun to take shape in our modern society; an awareness on the importance of developing the Arabic language to face the times' realities and adapt to the prerequisites of building knowledge societies. Arabic Language Academies called for this at an early stage, and they continued to advocate it within the discourse defending the Arabic language to this date. This awareness is linked to the defence of Arabic language and its potential to support access to the knowledge society and the importance of its development and understanding the challenges it faces. For example, the *Arabic Language Journal* in Egypt has raised, at a relatively early stage -in 1971, when *computer science* was in its early beginnings - the issue of the relationship between Arabic and computer science and the importance of defining the word *computer*, as well as drawing attention to the role of computer in linguistic research.¹⁶ This topic continued to have echoes in several other issues of the journal, in various conferences organised by the Arab Language Academy in Cairo, as well as other conferences on and research efforts in topics related to the importance of transforming Arabic into a language of science and technology, the importance of computerizing the scientific terminology and the creation of a digitized stock of the Arab intellectual production, and others.¹⁷

This awareness was expressed in most Arab states, where it is readily apparent that advancing the cultural level of a society is difficult to achieve when the language of scientific and technical knowledge acquisition is a foreign language; language is a key pillar in societies and nations, and a component that has a significant impact on sustainable development.¹⁸ There is no self-development when you are culturally and

linguistically dependent since language is the cauldron of knowledge creation.¹⁹ There is also no escaping underdevelopment unless the Arab nation is able to access an age of innovation and ceases imitating the Western model of thinking. Furthermore, the use of foreign languages will not lead us to an age of innovation, nor free us from our economic and social underdevelopment. It will instead keep us in a state of scientific and intellectual dependence.²⁰

This awareness of the importance of Arabic was clearly reflected in the 2009 *Arab Knowledge Report*, entitled "*Towards Productive Intercommunication for Knowledge*". The report's editors recognized there is no way towards this productive intercommunication for knowledge without due interest in Arabic, in a clear nod to the role that Arabic plays in achieving the knowledge society. Despite the report's acknowledgment of the growing scale of Arabic use on the Internet, which promises greater chances of success in promoting its technical applications in the different fields, it calls for further research to understand how the Arabic language is interacting with the new digital divide in terms of identification, pronunciation and significance.²¹ This awareness is also reflected in the accumulation of an academic and cultural heritage on the Arabic language issues, which appeared in general and specialized scientific journals, as well as numerous conferences held by the Arab Language Academies and a number of civil associations advocating for Arabic. Furthermore, this research body has revealed a large number of dilemmas and challenges facing Arabic language in the Arab region, particularly those that stand in the way of the role that the Arabic language can play in the knowledge society.

An awareness has begun to take shape in our modern society. An awareness of the importance of developing the Arabic language to face the times' realities and adapt to the prerequisites of the knowledge societies

Challenges of the Arabic language, between ubiquity and diversity of contexts

A certain degree of diversity can be perceived within the Arab society even though it seems relatively homogeneous owing to the fact that its population shares one language, converging societal beliefs and culture, as well as a common history. The diversity, however, is due to the composition of its population, the nature of the local cultural heritage, and the way society is modernized. In this regard, Halim Barakat (1998) argues that the Arab society is inclusively diverse, and is subject to a set of parameters, including the environment, territory, social organisation, lifestyle, class, caste and ethnicity. Consequently, a distinction can be drawn between societies closer to homogenization, societies of a mosaic nature and societies that are situated between these two types.²² We will not debate the issue of profiling the cultural regions here, but we will move past it to advance the hypothesis that this cultural diversity among different regions is reflected in the nature of the questions raised about the Arabic language, and that these questions - despite their diversity - are directly related to the concern over the Arabic language which is in decline and whose role is in constant retreat. The concern is one, even if the reasons and contexts differ.

We may denote two types of challenges and dilemmas facing Arabic language in the Arab states; the first of which represents common challenges that can apply to all societies, and the second illustrates qualitative challenges for a particular set of contexts.

Common Challenges

A number of common challenges will be discussed in this section. These challenges are related to the nature of the Arabic language use in educational systems, its compatibility with the vernacular language, the extent to which it is able to arabize science, and the level of development in its dictionaries' writing systems, in order to adapt to the parameters of technology and knowledge society. These challenges include:

The duality of educational systems: Research on education in the Arab region has revealed that the prevailing educational model suffers from a duality between calls for modernism and prevalence of the traditional and patriarchal tendencies. One of the studies conducted in several Arab states on the predominant educational model has illustrated this duality by affirming the disposition of the Arab education towards the past. *"The way parents were brought up is better than the way their children are being educated today. The vision of the world governing education is an undefined vision. A vision that reflects an oscillation between the past and the present, where most Arab societies live in transit between tradition and modernity, and this state [...] effects the educational standards; it drives them towards conflict and away from cohesion and interactivity."*²³ This educational duality is reflected in the familial relations inside the educational systems, and it is closely linked to the duality in language use inside the educational institutions, as well as inside the family. Foreign languages have crept on society, and have been integrated in daily language and within family interactions, especially inside some social groups that tend to learn in foreign languages. These languages have also

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advanced on the educational system, which suffers nowadays from a duality in most Arab states; there, we find foreign schools and foreign or private universities that teach in foreign languages, alongside State schools and universities that commit to the Arabic language. Some Arab states have even introduced parallel curricula that are taught in foreign languages at public universities.

This has led to Arabic language becoming a second language in its motherland. Taha Hussein expressed this situation at an early stage, asserting in his book *The Future of Culture in Egypt* that the fate of the Arabic language “is to become a religious language that only the clergy are good at or not proficient in, and incapable to understand and taste it, let alone fabricate it or use it, other than these gentlemen from the people, ... Arabic in Egypt has become closer to a foreign language, if not a foreign language. People do not speak it inside their homes, nor do they speak it in the streets, nor the clubs, nor the schools, not even in Al-Azhar itself”.²⁴ Taha Hussein may have been talking about the retreat of Arabic language in the face of the vernacular here (A subject that will be discussed later in this research). However, its retreat today is a retreat in the face of the vernacular, as well as foreign languages, particularly inside educational systems, and a certain level of concern has spread among researchers and scholars because of this decline.²⁵ The educational field is facing several challenges in teaching Arabic language, among which the weak level of students in Arabic language and all its elements, such as reading, writing, understanding, expression and communication. This issue has reached a point where it became an alarming trend among the cultural and scientific decline

trends in the Arab nation. Many Arabic speakers look at their language with disdain, pushing it to the tail end of their national interests. *“The threat to the Arabic language increases whenever the student advances through the educational levels. As foreign languages replace Arabic language in tertiary education, the link between the learner and their national language is severed, which makes them culturally dependent on the other”*.²⁶ The focus discussions in the three case studies conducted in the context of the present report in Saudi Arabia, Egypt and Morocco reiterated these facts; most of the participants noted the clear neglect of teaching Arabic inside schools and universities and the creep of foreign languages on the educational process, which marginalized Arabic language and led to Arab families considering Arabic language as a second language to English and French. Moreover, some Arab families insist on using these foreign languages in their daily interactions. Most Arab states face this issue; however, it is more pronounced in the Arab Maghreb states, where French is steadily creeping, are still witnessing a clash between the different languages.

Dissociation of Knowledge Systems: By the dissociation of knowledge systems, we refer to that divide between natural, social and human sciences. This separation has become a constant in the structure of academic Arab culture, as the taught and published natural sciences have become entwined with foreign languages, and Arabic language with humanities and social sciences. And it behooves us to research this question and unravel its historical roots and modern manifestations; it represents a significant challenge to the language as a vehicle for science and an instrument of education in the knowledge society. Arabic

Separation has become a constant in the structure of academic Arab culture, as the taught and published natural science has become entwined with foreign languages, and Arabic with social science and humanities

The priorities and preferences of science switched in the modern Arab mentality. Accordingly, natural sciences, such as medicine and engineering became more prevalent than humanities and social sciences

language has assimilated the Greek sciences and philosophies in the past, which then reconstituted in the Arabic language, and the Arabs made an effort to separate and label sciences, similar to what Al-Farabi -Alpharabius- (874-950 AD) did in his book "*Ihsaa Al-Ulum*" (*Science Statistics*), where he listed and classified a number of sciences, such as linguistics which adjusts the speech, the science of logic which adjusts the mind and the theoretical sciences, such as mathematics, natural science, metaphysics and theology, as well as practical sciences, such ethics, political science and jurisprudence.²⁷ Other classifications were advanced by Ibn Sina -Avicenna- (980-1037 AD) in "*Al Chifaa*" (The Book of Healing), the Ikhwan al-Safa -the Brethren of Purity- in their treatises, Ibn Hazm Al Andalusi (994-1064 AD) in his book "*Maratib Al-'Ulum*" (The Categories of the Sciences), and Fakhr al-Din al-Razi in his book "*Hada'iq Al-Anwar Fi Haqa'iq Al-Asrar*" (Gardens of Radiance of the Truths of Mysteries). While different, these science typologies did not stray far from the one proposed by Al-Farabi, and there was a consensus that theology (or metaphysics) was the noblest of sciences,²⁸ and the remaining branches are in its service. Whether the classification included three, four or more branches, theology always ranked the highest, mathematics as intermediate, and then natural sciences as the lowest. This signifies that Arabs preferred some science branches to others. In addition to all the above-mentioned, in considering theology as the preeminent branch of science, there was an attack that some of them made on philosophers, as evident in the saying entitled: "*Ibtal Alfalsafa wa Fasad Muntahiliha*" (*A Refutation of Philosophy and the Corruption of their Impersonators*),²⁹ and to which Ibn Khaldun alluded. It was a tendency that prevailed in the Arab thought

of the time as one of the styles in fighting reason with and narrowing the horizons of thinking. The saying, whose roots trace back to Al-Ghazali in his treatise "*Tahafut Alfalasifa*" (*The Incoherence of Philosophers*), turned its back on rational thinking versus the victory of the mystical Sufi thought.³⁰

Here, we assume that this historical background paved the way for this division in the modern cognitive system, which marks an inequitable distribution between natural sciences and social and human sciences, as if the latter represents the science of reason and should therefore be elevated, as opposed to the practical natural sciences. This is true of Arabic in which these branches of science are written; thus, teaching and publishing social and human sciences were relegated to the Arabic language, while natural sciences shifted towards foreign languages, particularly English, in which they are taught and published.

The priorities and preferences of sciences switched in the modern Arab mentality. Accordingly, natural sciences, such as medicine and engineering became more prevalent than humanities and social sciences. Moreover, even though the vast majority of Arab constitutions clearly state that Arabic is the language of education, many educational systems in several universities shifted towards teaching in foreign languages, especially natural sciences. The current situation in the Arab higher education system reaffirms this inequitable division between Arabic and its counterparts, and through these systems, the divide between natural sciences and social sciences is only growing larger. Social sciences have taken a low position on the scale of sciences as long as it is written in

Arabic and cannot reach the international level. In some cases, Arabic and sciences taught with it appear to be useless. There is a trend towards creating universities of a foreign nature, where the main language is either English or French. These universities do not, in many cases, accord interest to social science and humanities, focusing instead on natural and applied sciences. This tendency is distinctly apparent in the educational systems of several Arab states, as is the case in Egypt, Jordan, UAE and Qatar, for instance. If this trend persists, Arabic language will subsequently have no place in the natural sciences educational system, and social and human sciences; the majority of which are written in Arabic, will remain second-class sciences.

The duality between Standard Arabic and the Vernacular: There is a duality between the vernacular and the written language in most languages of the world. However, the severity of the conflict between Standard Arabic and the Vernacular in Arab societies is considerable, to a point where it is possible to consider them as a separate set of languages. We will not delve into the disagreement between the prominent Arab writers about using the vernacular or relegating it to some lines of dialogue in stories, (We all know where Taha Hussein, Al-Aqqad and the other prominent authors stand vis-à-vis this issue). We will, however, raise three important points:

First: the issue is no longer merely a conflict between Standard Arabic and the Vernacular; other languages have entered the fray. We are facing what could be labelled as *Archaeology* of languages, where foreign languages stand at the top, and then comes Arabic, followed by the vernacular. This *Archaeology* becomes

increasingly complex when we triage the forms of the language itself, such as when we label Arabic language as modern or classical, or the language of culture or media. Thus, some researchers differentiate between the four types of Arabic language, namely, classical Arabic, modern Arabic, the Arabic of intellectuals and the vernacular.³¹

The **second** point concerns the stagnation of Arabic language in the face of the vernacular, and we have stated above the complexities' impact on Arabic grammatical and syntactic rules. No effort has been made throughout history to move Arabic out of this stagnation, or to infuse it with some flexibility and make it more inclined towards change and pliability, (Taha Hussein, in his foreword to one of Youssef Idriss's novels, called for the use of a softer Arabic instead of the vernacular; an opinion that was rejected by Al-Aqqad).³² A number of researchers criticised this stagnation, as some of them pointed that the Arabic language remained unchanged for close to a thousand years, its attributes remained the same as they were in the age of Sibawayh and Al-Kissai. Other researchers accused those who jealously guard Arabic of being at the root of this stagnation. They believe that when a language stagnates, the nation stagnates, and when a language hides in its shell, those who speak it do the same.³³

The **third** point is related to the nature of the vernacular and the speed of its development compared to Standard Arabic. The vernacular has completely forsaken grammar, which made it pliable and eased its use in expressing oneself.³⁴ This has led to calls for eliminating grammatical rules from the Arabic language; calls that have been publicly issued by some scholars.³⁵ Regardless of

The issue is no longer merely a conflict between Standard Arabic and the vernacular; other languages have entered the fray. We are facing what could be labelled as Archaeology of languages, where foreign languages stand at the top, then comes Arabic, followed by the vernacular

The question of Arabization is one of the most important issues widely debated in the Arab cultural and academic circles. The question of Arabization takes three key dimensions: the first is academic and cultural, the second is global and universal, and the third is political and social. Despite the efforts of the Arabic Academies in the Arab region to develop Arabic terminologies that accommodate the scientific and technological advances, the issue of terminology and all what it entails in creating Modern Arabic dictionaries represents one of the key issues facing Arabic today.

these calls, the state of reality reveals that the vernacular is ahead in most fields. It has dominated the worlds of literature and media, both written and especially TV; we now have a third language called the language of the press, the language of intellectuals or the language of media.

The question of Arabization: The question of Arabization is one of the most important issues widely debated in the Arab cultural and academic circles. The question of Arabization takes three key dimensions: the first is academic and cultural, the second is global and universal, and the third is political and social.

The **first dimension** is connected to the Arabization of science, in light of the widespread adoption of teaching natural sciences in foreign languages, English in particular. The Arabization of science refers to teaching all branches of science, including natural sciences, as well as disseminating their output in Arabic, which is considered an important step towards revalidating Arabic as a universal language. This question was the subject of heated debates that took shape in different conferences held by the Arabic Language Academies in the Arab region,^{36,37}. At the beginning of the twentieth century, the Arab states created the Arabic Academies with the mission of advancing the language through the Arabization of new terminologies. Thus, Arabic Language Academies were created in Damascus (1919), Cairo (1932), Baghdad (1947), Amman (1977), Khartoum (1993) and Tunisia (1993), and in 1960, the Institute of Studies and Research on Arabization was created in Rabat (Morocco), in addition to several other language institutes throughout the Arab region. In 1967, the Arab League entrusted the Institute of Arabization in Rabat with a

task of coordinating the efforts aimed at enriching the Arabic language with the newest scientific terms and unifying its Arabization at the Arab level. After the creation of the Arab League Educational, Cultural and Scientific Organization, the Office of Coordinating Arabization in the Arab Region was set up in 1997 as one of its specialized organs.³⁸ Recently, the King Abdullah bin Abdulaziz International Centre for the Arabic Language (2008), and the King Salman International Complex for Arabic Language (2019) were created in Saudi Arabia.

The **second dimension** is related to what is commonly known as the Franco-Arabic problem. The concept referring to the use of Latin letters and numbers to write Arabic letters, such as writing the letter (ح) with number (7), the letter (ع) with number (3), the letter (ج) with number (5), and (س) with number (2). The focus discussions within the three case studies have emphasized the dangers of this practice, how it distorts Arabic and transforms it into an alien language. Those who jealously guard the Arabic Language are afraid of the spread of this phenomenon, especially since there are several electronic apps that translate these Latin numbers and letters into their appropriate Arabic equivalents. The threat of this form of language that distorts the Arabic language lies in its adoption by the youth, which will accustom them to its use and prevent them from learning Arabic.³⁹

Box 2-2: Oh Arabs, We Would Like to Talk to You!

My name is Claudia Maria Tresso and I am of Italian origin; I speak Italian as my mother's tongue and Arabic as my "heart's" tongue.

I started studying Arabic about thirty years ago, and I met a group of young Palestinians from the city of *Nazareth* who were studying medicine at the University of my city, *Turin*. When they went back home for the summer break, they invited me along for a visit, and gave me the opportunity to meet their families, see their lands and get acquainted with a number of people who told me about their history, religion, culture, traditions and customs. Even if I did not understand them, I used to listen to the poems of Mahmoud Darwish and their beautiful rhythms, and enjoyed immensely Umm Kulthum's and Fairuz's songs. I tasted for the first time *hummus, m'tabbal and falafel*. I played with children, who made fun of me for not understanding their language, and learned from women how to prepare cardamom coffee to serve to guests...I understood that I was not the only person who knew so little about the Arab Islamic civilization. My family, my friends, we all learned but a meager amount of information on Arab and Islamic civilization at schools. The media never gave enough space for events in the Arab world. That is why I decided to learn Arabic, I deeply wanted to talk to Arabs in their language, I wanted to read the crown jewels of their writings and understand the lyrics of their songs...in order to contribute, along with my fellow Italian Arabists, in spreading knowledge of the Arabic language, literature and culture in our country.

This road has never been easy; I studied for many years classical Arabic at the universities of Turin and Lyon, and Modern Standard Arabic (MSA) at the University of Tunis, then I finished my PhD at the University of Napoli. I have delved, and I am still immersed into studying grammar, literature and the history of Islam and Arabs. Little by little, I have become able to read the Arab literature masterpieces, old and modern. I have been teaching Arabic and Arab literature at the University of Turin for twenty years now, and I have translated some of the Arabic masterpieces into Italian, the *Travels of Ibn Battuta* being one of them. As a professor of Arabic and a translator, I have always felt honored to receive invitations to participate in conferences in several Arab states. I have witnessed firsthand the extraordinary richness of the Arabic language and its ability to be a common language between the Arabs enabling its people (and the foreign learners) to understand each other over a wide region of the world that stretches from the Atlantic Ocean to the Gulf!

However, there is something we, Arabists, can only perform on certain occasions, namely that we cannot talk to Arabs we meet in other than an academic setting. Obviously, when I talk to an Arab in MSA, they, in the overwhelming majority of cases, understand me and rejoice at my speaking to them in their mother tongue. But many people lack this ability since the moment we get talking in this language, they start answering in their local language, i.e. the Arabic dialect... and if I am unable to understand, they talk to me in either English or French!

Therefore, I beseech you, oh Arabs; we want to talk to you in the language we love, the language we have spent long years of our lives learning. We want to talk to you in Arabic, your treasured heritage, your pride and the true symbol of your unity! Follow the example of many amongst you who are traveling new paths. Start a new language revival: ease the MSA, renew it, and agree on a common modern dictionary between all Arabs! Disseminate Modern Arabic in the emerging sciences, produce new films and translate them for people to learn Arabic as a live modern foreign language... We do not want to just read your books; we want to talk to you!

Turin, Italy, 31 October 2019

Claudia Maria Tresso, member of the report's Advisory Committee

Despite the efforts of the Arabic Academies in the Arab region to develop Arabic terminologies that accommodate the scientific and technological advances, the issue of terminology and all what it entails in creating Modern Arabic dictionaries represents one of the key issues facing Arabic today

As for the **third dimension** pertinent to the issue of Arabization, it is a political and social aspect linked to the use of the French language in the Arab Maghreb in particular, namely Algeria, Tunisia, Morocco and Mauritania, with variances in the degree rather than the type of its usage. Colonialism has aggravated the language dilemma in the Arab Maghreb because of the economic and cultural hegemony of the colonizer imposing its language to become the language of education and administration, and creating generations of French speaking citizens inclined towards its ideologies and partisanship. Such a reality applies to the political, cultural and bureaucratic elite, as well. French has dominated these countries, not only their educational and administrative systems, but their daily lives, as well, thus, it has become a main language. Arabic retreated in the face of this onslaught to become a second language, or a dialect that is a mixture of Arabic and French, and seemingly, adjacent languages, such as Spanish and Italian. This situation has created what can be referred to as the "Social Question" which represented an identity crisis, in which the identity fractures in an echo to the fracture of language. These circumstances have led to an existential crisis inside the Maghreb societies and prompted the adoption of Arabic as the national language in their constitutions, as well as the creation of Arabic schools, and the endorsement of Arabic as the language of education at universities. Furthermore, they adopted the question of Arabization as a national cause, similar to what happened in Morocco when it made Arabization one of the four principles of national policy.⁴⁰

Likewise, Algeria and Tunisia abolished French from all official documents and Arabic became the language of education

despite the francophone tendencies in there. Although the Arabization policies in the Arab Maghreb are achieving tangible progress, they still constitute a political and a caste conflict. For instance, the issue of Arabization has - according to some researchers - turned into a "closed circle of conflict", as some powers view Arabization efforts as a threat to their status.⁴¹

The production and digitization of dictionaries: Despite the efforts of the Arabic Academies in the Arab region to develop Arabic terminologies that accommodate the scientific and technological advances, the issue of terminology and all what it entails in creating Modern Arabic dictionaries represents one of the key issues facing Arabic language today.⁴² *Al-Mu'jam al-Waseet* (the Intermediate Dictionary), produced by the Arabic Language Academy in Cairo, and whose first issue was published in 1960, represents one serious attempt at producing an integrated dictionary. However, *Al-Mu'jam al-Kabir* (the Grand Dictionary), the largest lexical project in the Arab region, has only yielded eight (08) tomes in the period from 1970 to 2008, covering the first nine letters of the alphabet (from **أ** to **س**), and work on the rest is still ongoing. In addition to the dictionaries that were the result of individual efforts, such as *Al-Munjjid* by Father Luis al-Maalouf (1908), *al-Bustan* by Abdullah al-Bustani (1930), and *Matn Alughha* by Cheikh Ahmed Redha al-Ameli which was released in seven tomes and published by Dar Maktabat Alhayat in Beirut, 1958.⁴³ These efforts remained isolated and sporadic, and where unable to assimilate all the changes surrounding Arabic language, especially the aspects related to knowledge production. One

linguist described the issue saying that defining the terms and recording them is at the heart of the dictionary's function, and it is one of the issues that require great efforts from us, Arabs, considering that we remain importers of knowledge and we rarely contribute to its production. This knowledge comes to us with all the terms that need to be defined during the translation process, based on the accuracy of understanding. These are the two conditions that are not readily available in those who translate. The lack of active Arab institutions that define terms and bear the responsibility of their Arabization opens the door to personal efforts of varying success levels, and leads to terminological chaos.⁴⁴

The issue of dictionaries is not only connected to the issue of delineation and unification of terminology; dictionaries require a qualitative and a quantitative leap in the age of information and knowledge societies. Experts in the digitization of the Arabic language agree on the need of a data structure to the language in order to create modern dictionaries, which is currently lacking in the Arabic language. Efforts made in this regard, which Sakhr and a number of other companies had begun, remain incomplete.⁴⁵ Moreover, Arabs still fail to produce a technical dictionary that satisfies the needs of researchers in the technological field, despite sporadic efforts here and there to bridge this knowledge divide.

Diverging Challenges across the Arab Provinces

Alongside the common challenges to the Arabic language, particularly, in connection to its relation with knowledge, there exist several challenges connected to the social and historical context, as well as

Box 2-3: The Language of Teaching in the Arab Maghreb

In Algeria, Morocco, and Tunisia, science and mathematics are taught in French at the secondary level. However, only 30 percent of Tunisians, most of whom live near the capital, are fluent in written and spoken French. In Algeria, urban populations are fluent in French, but only 55 percent of rural populations are fluent. A similar dynamic occurs in Morocco. Students in areas without French fluency have less access to education and less achievement. However, students being tested in their mother tongue performed better than those being tested in a language not used at home.

Source: The World Bank, 2019. *Expectations and Aspirations: A new framework for Education in the Middle east and north Africa*. P.27

the cultural diversity, including religious and ideological beliefs inside the Arab territories.

In the Arab Maghreb, the issue lies within the linguistic diversity, which in many cases turns into a mosaic diversity built on coexistence between different linguistic formats between the modern and classical standard format and a hybrid format, neither classical nor modern, in addition to different dialects that vary in accordance with the geographical location. Not to mention, the pull of the colonization language, namely the French language, exerts. All of the above has led to a form of unrest and instability.⁴⁶ This issue exacerbates the deeper the colonial act stretches, in addition to its role in attempting to bury the local language, as was the case with Algeria, where the colonial forces attempted to obliterate the Arabic language, and left Algeria suffering from a linguistic split parallel to a variety of local dialects. Thus, the conflict between Standard Arabic, French and the vernacular became the identifying trait of the Algerian linguistic reality.⁴⁷

The issue of dictionaries is not only connected to the issue of delineation and unification of terminology; dictionaries require a qualitative and a quantitative jump in the age of information and knowledge societies

Alongside the common challenges to the Arabic language, particularly, in connection to its relation with knowledge, there exist several challenges connected to the social and historical context, as well as the cultural diversity, including religious and ideological beliefs inside the Arab territories

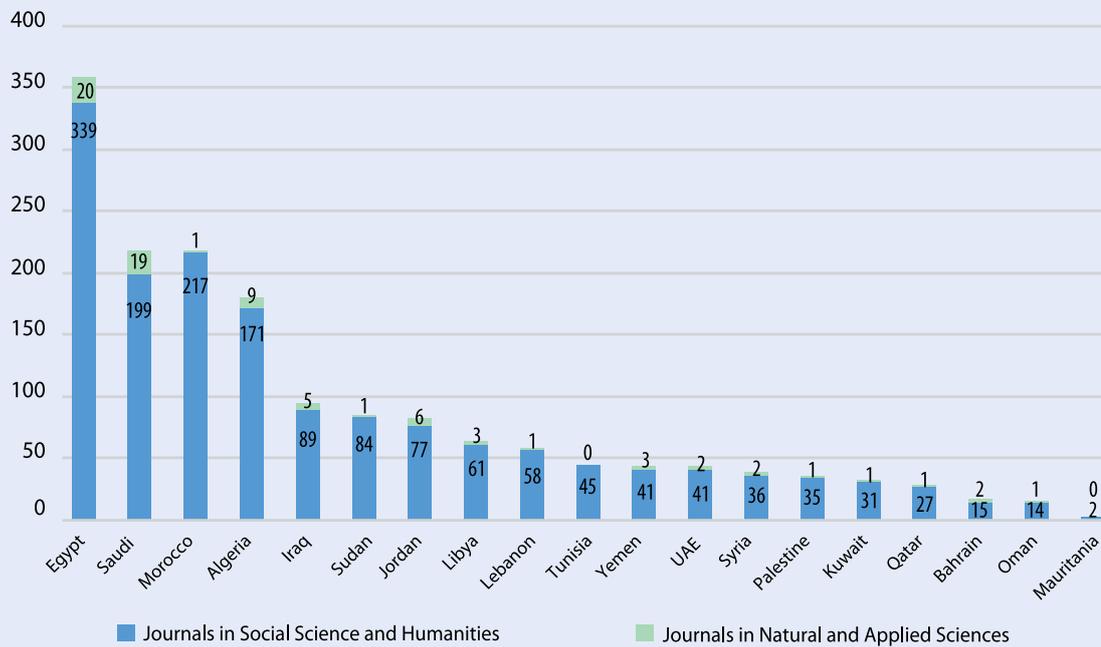
In the Arab Mashreq, the issue stands but with different colours and contexts. For instance, in Egypt, Jordan and Lebanon, the colonizer did not work towards eradicating Arabic, but it introduced English and French, and made them compete with Arabic, especially in education and culture. The vernacular persists in people's lives, and indeed, remains a favourite. It represents spoken dialects that vary according to the country, and indeed, the region inside the same country. Despite the interest accorded to Arabic there, and despite housing Arabic Academies, these countries still suffer from being stuck between the hammer of the vernacular and the anvil of foreign languages, which became the favourite learning language for many families there.⁴⁸

The situation in Syria, Palestine and Iraq is similar to that of Egypt, Jordan and Lebanon in the fact that Arabic is in conflict with the vernacular on one front and the globalized foreign languages on another. However, one comes across special circumstances there, as they may encounter old languages that were either revived, as is the case with Hebrew in Palestine, or spoken by communities inside these societies, like Aramaic, which is still used by the clergy in Palestine,⁴⁹ Syria and Lebanon, and spoken in a number of villages, such as Maaloula in Syria; as well as Assyrian, used by Assyrians living in Iraq, and Kurdish, spoken by the Kurds in several regions of the Arab Mashreq, in addition to different dialects derived from Arabic or a mixture of different languages. This situation raises a significant challenge to Arabic. In Palestine, Arabic has entered a new competition with Hebrew, in addition to its conflict with English and European languages, especially since Hebrew is gradually turning into a language that is compatible with the knowledge society. In

Iraq, Kurdish is striving to occupy a cultural space through writing, translation and media, a space that parallels the political land inhabited by the Kurds.

This issue manifests differently in the Gulf societies, which welcome large inflows of people, not only from Arab states, but also from all over the world. The migrant non-Arab workforce in some Gulf societies represents a large percentage of population there. Data reveal that in 2016, non-Arabic-speaking labour pool represented 69.3% of the workforce in the Gulf region, and was numbered around 17 million workers, most of whom are Asians.⁵⁰ The ensuing situation regarding the Arabic language is special. Most of the studies conducted on the impact of the migrant workforce in the Gulf region allude to the role they play, especially domestic workers and live-in nannies, in influencing the children's language, and to a larger extent, the Arabic language; an impact that leads to a distorted dialect.⁵¹ One such study confirmed this reality, stating that *"the impact of the foreign workforce on the Arabic language in the Gulf states imposed a new linguistic reality on their citizens [...] (which led) to the creation of a new language that has become a threat to our language, especially when children learn it, so they grow up, not able to speak their native language. This is an existential crisis to which we contribute when we believe that they will not be able to understand us (by they, we mean the Asian migrant workforce), unless we break our language the way they do"*.⁵²

Figure 2-3: Number and domains of the Arabic journals published in selected Arab states



Source: A census by the report team, based on Dar al-Mandhumah database (<http://mandhumah.com>). Accessed on 20 November 2019.

The Arabic Language and Knowledge Production

The production and dissemination of knowledge

The publishing industry thrived in the Arab region since ancient times.⁵³ In the following, we will attempt to elucidate the current state of publishing in the Arab states by studying the journals and research papers that are being published.

The number of scientific journals published in Arabic has increased significantly in recent years. Despite the fact that the majority of these publications is pertinent to literature and social and human sciences whose language of choice for writing is Arabic, data demonstrates a slow adoption of the fundamental, natural and

applied sciences in the Arabic publishing space, by way of journals specializing in these sciences, and published in Arabic. We can list 1,660 journals published in Arabic in the Arab region (see figure 2-3 and table M.2 in the Statistical Annex). The table illustrates that the number of specialized journals is much higher at 1,443 journals, or approximately 87%, than the number of general journals, at 13%. Most journals specialize in social and human sciences, the number of which (meaning those specializing in languages, media, education, social science and humanities in general) stands at 1,582 journals with a percentage of 95.3% of the total journals listed in the databases that were used in this census. On the other hand, the number of journals in natural and applied sciences is limited, as it does not exceed 78 journals with a 4.7% share of the journals' total. This demonstrates

The number of journals published in Arabic varies from one Arab state to another. Egypt, Morocco, and Saudi Arabia take the lead (359, 218, 218 journals respectively)

that publishing in Arabic is centred around the fields of social and human sciences, which affirms the divide inside the scientific apparatus based on language.

The number of journals published in Arabic varies from one Arab state to another. Egypt, Morocco, and Saudi Arabia take the lead (359, 218, 218 journals respectively), then comes Algeria, Iraq, Sudan, Jordan, Libya, and Lebanon (180, 94,

writing in Arabic makes this production local in nature, unable to breach the international stage, which is dominated by more widespread languages, such as English and French. What is required now is resoluteness and self-confidence, which will push us towards using our national language in the fields of science, knowledge, higher education and technical training, in order to possess knowledge and localize it to create and innovate. Without this, nothing but extinction and an absence from the civilizational map await.⁵⁴ In any discussion about a scientific theory that witnessed an Arab contribution, we always refer to those who write in a language other than Arabic.

Box 2-4: Arabic is the Language of Publishing in the Arab Maghreb

Arabic is the language of publishing in the Arab Maghreb. Despite the wars waged on the Arabic Language here and there, and despite the conflicts contrived in order to limit the role it plays in the fields of research, writing and creativity, the report has affirmed the undeniable truth in the midst of the prevailing debate on identity: that Arabic remains the main publishing tool in the Arab Maghreb, and that it sits atop the throne of releases.

Source: Fouad Abu Ali. 2019. Moroccans read in Arabic first... in Arabic always. <http://www.m-a-arabia.com/vb/archive/index.php/t-38204.html>. Accessed on 20 November 2019.

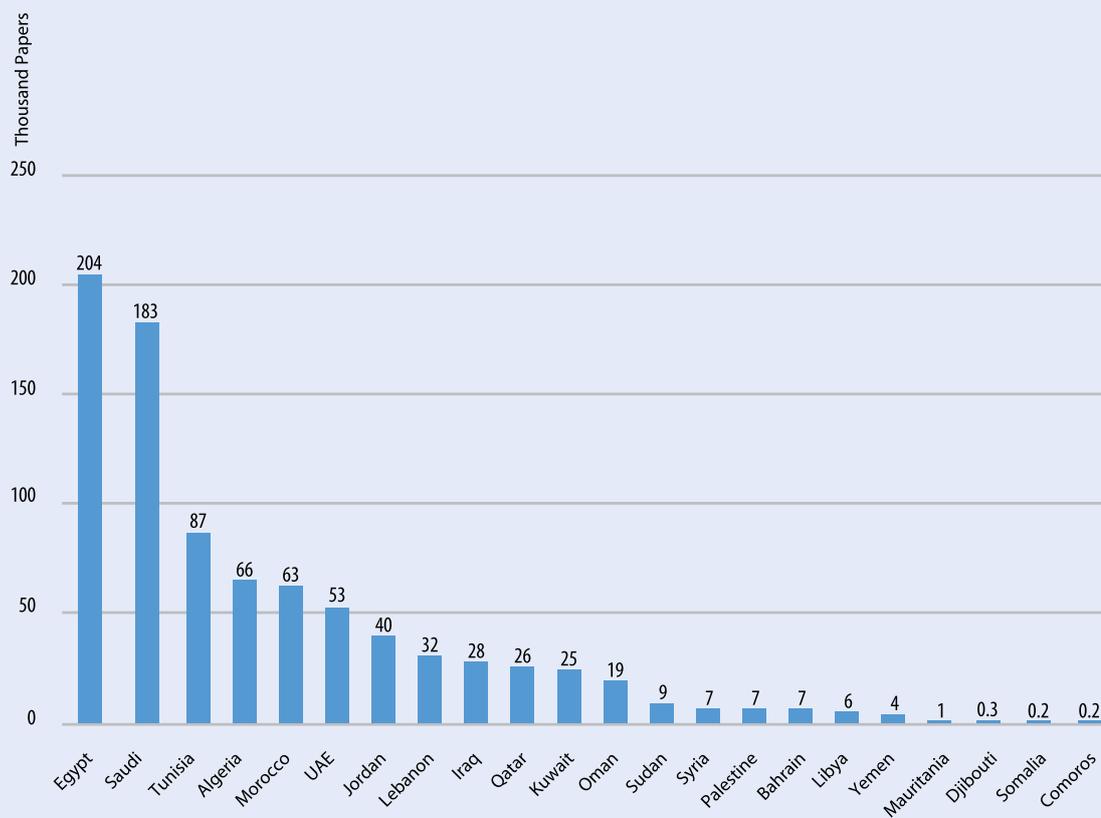
The interaction with other languages in the Arabic case drives more adoption of these languages; they appear to be gradually turning into the languages of science and education in the Arab region. In most Arab states, the state of reality reveals a gradual increase in the rate of publishing in other languages, which is evident from a review of research papers published by Arabs in foreign journals in the period from 1996 to 2018, based on the SCImago Journal & Country Rank portal, which includes the journals and country scientific indicators. Table A.3 in the Statistical Annex illustrates that Arab researchers have published close to 865,000 papers, with Egypt and Saudi Arabia as the Arab states with the highest numbers of published papers, at around 204,000 papers in Egypt, and nearly 183,000 papers in Saudi Arabia. Followed by eight countries, namely, Tunisia, Algeria, Morocco, Qatar, Iraq, UAE, Lebanon and Jordan, where the numbers ranged from 26,000 to 87,000 papers (see figure 2-4). The domains of literature, social and human sciences remain the ones with the lion's share of the research published in Arabic.

85, 83, 64, 59 respectively), followed by the rest of the Arab states with lesser numbers (from 45 to 2). This disparity is most often the result of the difference in the number of universities and research centres in these countries; since most of these journals, which are primarily academic, are published by universities and research centres.

Most experts who participated in the focus discussions conducted in the context of the three case studies in Saudi Arabia, Egypt and Morocco, believe that writing merely in Arabic is not the solution; because

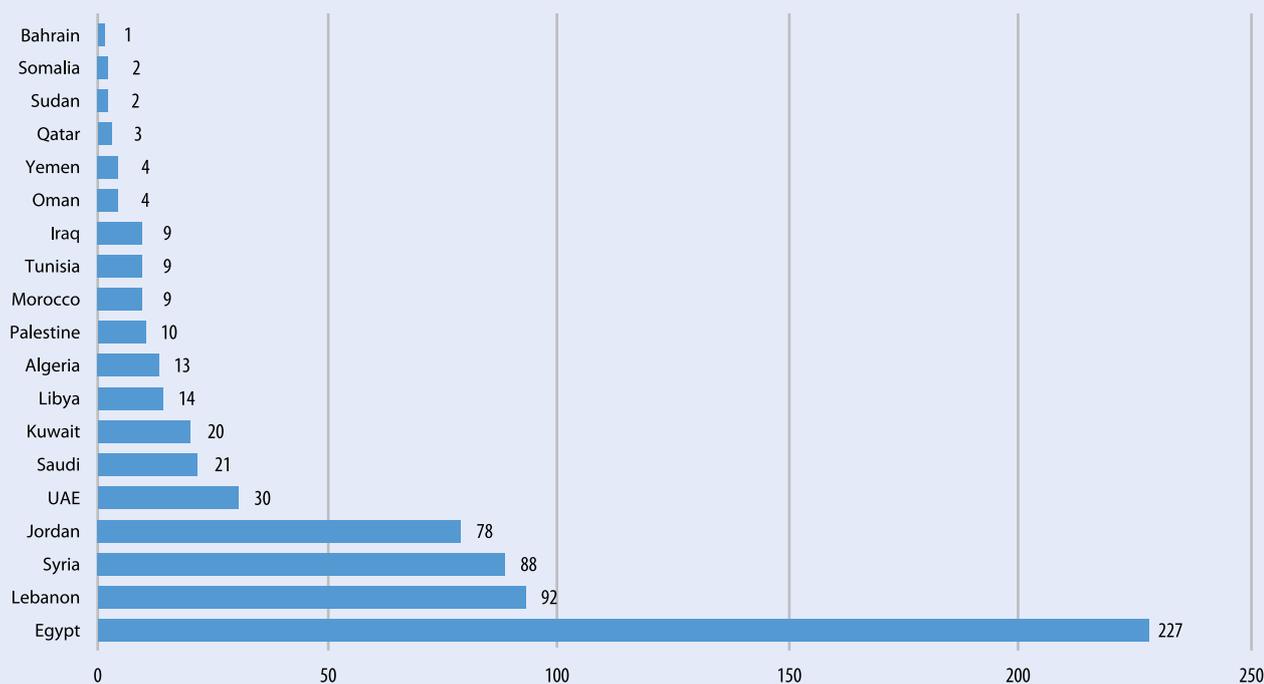
In any discussion about a scientific theory that witnesses an Arab contribution, we always refer to those who write in a language other than Arabic

Figure 2-4: Number of research papers published in the Arab states in the period from 1996 to 2018 according to SCImago Journal & Country Rank



Source: SCImago Journal & Country Rank (www.scimagojr.com). Accessed on 20 October 2019.

Figure 2-5: Number of the Member Publishers in the Arab Publishers Union



Source: Arab Publishers Union. <http://www.arab-pa.org/Ar/shared/Publishers.aspx>. Accessed on 20 November 2019.

One of the specialists participating in the in-depth interviews that were conducted in the context of the Saudi Arabia case study believes that the reason behind the interest in academic publishing in English at universities lies in the desire to ensure international communication and access to the scientific community because English data and research are more widespread, and they facilitate communication with the scientific community. Another participant is of the opinion that the Arabic publishing industry remains an open field, able to create many jobs if it were treated with an economic perspective. Furthermore, it is necessary to study the experiences of other languages and the underlying language industry to benefit from in promoting Arabic from an economic viewpoint. Others point to the importance of promoting publishing in Arabic, especially inter-disciplines to enable cross-fertilization of ideas and benefit from all domains of science and literature, and at the same time, increase the level of Arabic publishing channels and their number, as well as working to connect them to society, so that they will not be exclusive to specialized academics.⁵⁵

Publishing Institutions in the Arab Region

The Arab region is experiencing a problematic and complicated situation that hinders the progress of the Arab publishing industry and poses a challenge in the face of the Arab publisher. Among the issues are the high percentage of illiteracy, a decline in reading habits, violations of intellectual property rights and scarceness in libraries. Most of these problems can be solved by raising societal awareness of the publishing industry's importance in the progress and prosperity of the peoples of the world. There

are also several issues related to the publisher and which are the result of the fact that the publishing industry in the Arab world has not settled on the basis and the rules that will aid in solving the issues it is facing. There are approximately 1,000 publishers working permanently in the publishing industry, and producing several books each year and there are around 1,000 publishers that work sporadically, and as the situation dictates.⁵⁶

Figure 2-5 demonstrates that the member houses in the Arab Publishers Union, whose number reaches 636, are mostly localized in Egypt, Lebanon, Syria and Jordan (also table A.4 in the Statistical Annex).

There is no doubt that digitizing the Arabic publishing output will contribute to the efforts of transforming Arabic into a universal language.⁵⁶ Electronic publishing has been greatly impacted by the operations of engineering and computerizing Arabic and it is gradually replacing print publishing. Furthermore, a combination of both is commonplace. Electronic publishing has gained traction in the fields of online media⁵⁷, digital dictionaries⁵⁸, preservation of the religious and intellectual heritage⁵⁹, and the preservation of Arabic manuscripts.⁶⁰

The Arab region is experiencing a problematic and complicated situation that hinders the progress of the Arab publishing industry and poses a challenge in the face of the Arab publisher

The Arabic Language and Knowledge Transfer and Localization

Translation as an instrument for knowledge transfer and localization

There are many tools for the processes of knowledge transfer and localization, which include knowledge and cultural training for human resources, technological shifts, fostering innovation and creativity, as well as developing scientific research to drive society from consuming knowledge into its production. The truth of the matter is that achieving the state of knowledge production can only occur against a background of knowledge transfer and an ingestion of the scientific, literary, and cultural knowledge that was developed inside the societies of the other civilizations. Herein lies the importance of language as a tool for transferring this knowledge through translation; that is why experts in this domain emphasize the close relationship between the strength of translation flows and achieving the knowledge society. Jabra Ibrahim Jabra believes that translation is a means of promoting the modern Arab revival and that *“returning the Arab nation to its original status observed within the larger civilizational context [...] translation is a tool to transfer the wealth of human knowledge to the channels of our lives, enriching the Arab nation, and thus, aiding it in contributing to what mankind has to offer”*.⁶¹ Shawqi Jalal has written in this regard saying that: *“Translation in this case (meaning empowering society with knowledge) is a societal endeavour built on planning and driven by a dogged resolve, in a quest for a logical, critical, selective and creative assimilation of knowledge which integrates*

and combines with self-created knowledge. [...] Knowledge evolves and is completed by virtue of the social act and the interaction between the individuals and the institutions inside one society. It also evolves thanks to the interaction among societies via knowledge transfer/ translation”.⁶² Jaber Asfour asserts along these lines that: *“A thriving translation movement is a key marker of a knowledge society and its vitality. That is why a nation’s progress or decline is measured by the upward or downward trend in the translation activity and the efficiency of its institutions and organs”*.⁶³ Saida Charif affirms in *Dhawāt editorial* (A journal that published a special issue on translation in the Arab region) that translation is the most effective means of learning about the scientific, knowledge and cultural output of the world; it is through translation that we will be able to keep pace with all the developments and changes in the world, and the knowledge it produces to drive progress, build the present and envision the future.⁶⁴ Abu Jamal Qutb al-Islam Nomani confirms this line of thought by stating that: *“Translation is a means of transferring the cultures and civilizations of the world, as well as their customs and traditions, from one language to another. It is the instrument through which trade, industrial, military, political, and diplomatic cooperation is established between two or more states. It is also a tool for enriching the language and its evolution, as well as the vehicle through which the ideas in speeches, conferences, symposia, summits and texts reach the minds of the listeners”*.⁶⁵

“There is no doubt that translation is crucial for the Arab nation in this age, it is one of the main gates to the modern age, [...] without translation, we will remain helpless, trying to spell the lines of knowledge

Experts in this domain emphasize the close relationship between the strength of translation flows and achieving the knowledge society

Box 2-5: Translation: A Disconnected History

Researchers trace translation in the Arab world to the early translations of the Assyrians (the first half of the 2nd century AD) who translated a large repository into Arabic. The spread of Islam and the communication with non-Arabic-speaking communities has led to a search for translators and an incitement to learn foreign languages. The Arabic translation movement experienced radical changes during the Abbasid era (750-1250 AD) with caliph al-Mansour. During the Abbasid era, translation evolved into a profession that afforded the translator a distinguished social stature; moreover, it became an official position. Interest in translation was crowned with the establishment of the School of Translation in Baghdad, which was subsequently known as *Bayt al-Hikma (the House of Wisdom)*, during the reign of the Abbasid caliph al-Ma'mun. During this period, translators focused on Greek philosophy, Indian sciences and Persian literature. A large body of research in the field of translation highlights the valuable contributions of medieval Arab translators to Western education and thought in the greatest operation of knowledge transmission in history. However, a change in the historical circumstances that gave rise to such a movement in translation took place in the Arab and Islamic world. The most drastic of these changes was the fall of Baghdad at the hands of the Mongols. The destruction of Baghdad and the Abbasid Caliphate had a deep impact on learning Arabic and on the translation in the Middle Ages, thus, ended the golden age of Arabic translation. This led to a disruption in the translation movement for a long period, which persisted until the start of the modern age in the early 19th century.

The revival of the translation movement in the Arab world began with the founding of modern Egypt at the hands of Muhammad Ali Pasha (1805-1848 AD). This revival came to be within the framework of Muhammad Ali's policy aimed at promoting education, which included sending scientific missions to European countries, such as Italy and France and establishing higher schools. The interest in translation came as a means of transferring modern European knowledge to Egypt. In 1835, Muhammad Ali ordered the establishment of the Translation School, which was later known as *Madrasat Al-Alsun (the School of Tongues)*, as a higher school specialized in teaching European languages. Rifa'a Al-Tahtawi, who selected 80 students to be enrolled, ran the school. Arabic and French were the first languages to be taught there, then Turkish and English were added. The school succeeded in helping a distinguished cadre of specialized translators graduate, and the number of translated books by the school graduates reached 2,000 books in various fields of knowledge. Muhammad Ali established the "Amiri Press" in Bulaq in 1822 and a number of other printing presses to print the translated books.

The translation movement during the era of Muhammad Ali's successors experienced a relative decline, although it witnessed a small resurgence with the return of Rifa'a al-Tahtawi to manage *Madrasat al-Alsun* during the reign of Said Pasha in 1854. Then, the translation movement underwent a second revival thanks to Khedive Ismail Pasha's reforms in the field of education, with the contribution of al-Tahtawi and Ali Mubarak; it became active again with the return of the missions to European schools. Researchers from the Levant played a prominent role in the translation movement at the end of the nineteenth century, in addition to their role in the press. Among the pioneering experiences was the Khalil Sayegh Library in Lebanon, which published more than 35 specialized dictionaries in all scientific domains. Generally speaking, the translation efforts during this period - especially at the beginning of Britain's occupation of Egypt - turned towards translating Western works that touched on the issues of reform, revival and the relationship between Islam and the West. At the end of the twentieth century, the translation movement became active in several Arab states with the establishment of specialized translation centres, and the interest of some publishing houses in books translated into Arabic.

without being able to access it, learn its true nature, nor delve into its depths".⁶⁶ Any endeavour leading to empowering Arabic and helping it attain the status it deserves in the Arab world has become indispensable, and should not to be under-estimated. There is no path towards achieving the knowledge society without Arabic as the language of education, science, knowledge acquisition, economy, administration, media, industry and technology. If translation is a pre-requisite in transferring and localizing knowledge, then it needs to meet a number of important conditions in order to fulfil this role. The experts, through the three case studies, emphasized the importance of preventing translation from turning into a mere Arabization process that loses the language and its meaning, as well as ensuring that translation takes place from and into Arabic, instead of Arabic being nothing more than a recipient of knowledge, so that translation may work towards transforming Arabic knowledge into global knowledge. This invites an exploration of the realities of translation in the Arab region; how was its beginnings and evolution and what is its current state?

Tracing the history of translation in the Arab region reveals that it was a constant companion to the development of the Arab civilization, especially during its prosperous eras. Perhaps one of the most prominent historical landmarks that illustrate the important role played by translation in shaping Arab civilization was during the Abbasid era, which was characterized by a revival of science and an openness to global knowledge, for which translation was a main channel. Thus, the Arab civilization built on what had come before it and finished the research work started by others in many fields, contributing to the development of

human knowledge. The examples of which include the fields of medicine, mathematics and astronomy. Another important stage in its history is the openness to the world and the serious efforts at a scientific renaissance that took place during the era of Muhammad Ali in Egypt, in which translation played a prominent role. Likewise, the enlightenment attempts in a number of Arab states at the beginning of the last century, as was the case in Lebanon, which also experienced a relative resurgence in translations and in developing dictionaries and lexicons.

The efforts of the Arab states at translation in the modern era: Between progress and needs

Despite the many challenges facing translation in the Arab region, some progress can be observed and should be commended. Translation institutions and projects have spread across many Arab states and have yielded many translated books and publications that have enriched the Arab cognitive knowledge. The governmental and individual motivational efforts that came in the form of multiple awards also contributed to the promotion of positive competition in the field. Annex (3) lists a number of Arab institutions and experiences in the translation field in chronological order, in addition to a survey of an array of incentivizing translation awards established by a number of Arab states, while Table 2-1 illustrates some examples of these experiences.

Several statistics and indicators on the translation state in the Arab region point to an upward trend starting in 1950, and continuing to the present day, particularly since the beginning of the twenty-first century. A report by the Arab Translators Union confirmed that 33 publishing houses

Tracing the history of translation in the Arab region reveals that it was a constant companion to the development of the Arab civilization, especially during its prosperous eras

Table 2-1: Examples of Arab institutions and experiences in the translation field

Country	Translation institutions and projects	Translation awards
UAE	<p>"Kalima" Initiative</p> <p>"Tarjem" Initiative</p> <p>"A Book in Minutes"</p>	<p>Sharjah Award for Translation</p> <p>Sheikh Zayed Book Award (Translation category)</p>
Bahrain	Bahrain Authority for Culture and Antiquities, the "Knowledge Transfer Project"	
Tunisia	<p>Tunis School for Translation</p> <p>National Centre for Translation</p> <p>"Encyclopedia of Islam" Project</p>	
Algeria	<p>Algerian Academy of the Arabic Language</p> <p>Higher School for Translation</p> <p>Supreme Council of the Arabic language</p> <p>Research Unit on Translation, affiliated with the Social & Cultural Anthropology Research Centre</p> <p>Languages, English Literature & Translation Research Centre</p> <p>"Maalim" Journal of Translation</p>	
Syria	<p>Syrian General Organization of Books Projects</p> <p>Arab Centre for Arabization, Translation, Authorship, Publication and Distribution (ACATAP)</p>	Sami Al-Droubi Award for Translation into Arabic
Iraq	Iraqi Project for Translation	
Oman	"Translation Group" in Sultan Qaboos University	Sultan Qaboos Award for Culture, Arts & Literature
Qatar		Sheikh Hamad Award for Translation and International Understanding
Kuwait	<p>National Council for Culture, Arts & Literature</p> <p><i>Ebdaat Alamia</i> (Global Gems) Series</p> <p><i>Alam alMaarifah</i> (The World of Knowledge) Series</p>	
Lebanon	Arab Organization for Translation	

<p>Egypt</p>	<p>Committee for Authorship, Translation and Publishing</p> <p>First and the Second <i>One Thousand Books Initiative</i></p> <p>National Project for Translation</p> <p>"Echourouk-Penguin" Initiative</p>	<p>Rifa'a al-Tahtaoui Award for Translation</p> <p>Youth Award for Translation</p> <p>Scientific Translation Award</p>
<p>Morocco</p>	<p>National Central Institution for Translation Initiative</p> <p>Journal "Turjuman" of the King Fahd Higher School for Translation</p>	<p>Morocco Book Award</p>
<p>Saudi Arabia</p>	<p>King Abdullah bin Abdulaziz International Centre for the Arabic Language</p> <p>Sultan Bin Abdulaziz Al-Saud Foundation Programme for the Arabic Language</p> <p>Centres and institutes of translation in the Saudi universities (King Saud, King Abdulaziz, Imam Muhammad bin Saud, etc)</p> <p>Saudi Observatory on Translated Publications</p> <p>Saudi Global Translation Initiative "Muttasaa"</p> <p>Saudi Scientific Association for languages and Translation</p>	<p>King Abdullah bin Abdulaziz International Award for Translation</p> <p>Arkansas Award for the Translation of Arabic Literature</p> <p>Local Awards such as: the Riyadh International Book Fair Annual Award for Translation, King Saud University Award for Scientific Excellence - Translation category, King Abdulaziz University Translation Award</p>
<p>Arabic/ other efforts</p>	<p>Higher Arab Institute for Translation (Algeria)</p> <p>Arabization Coordination Bureau, affiliated with ALECSO (Morocco)</p>	<p>Ibn Khaldoun-Senghor Translation Award (From Arabic into French and from French into Arabic), ALECSO & OIF</p> <p>Sif Ghabache-Banipal Translation Award (Literary Translation from Arabic into English), Banipal magazine & Banipal Trust for Arab Literature)</p>

Source: Compiled by the report team and adapted from multiple sources.

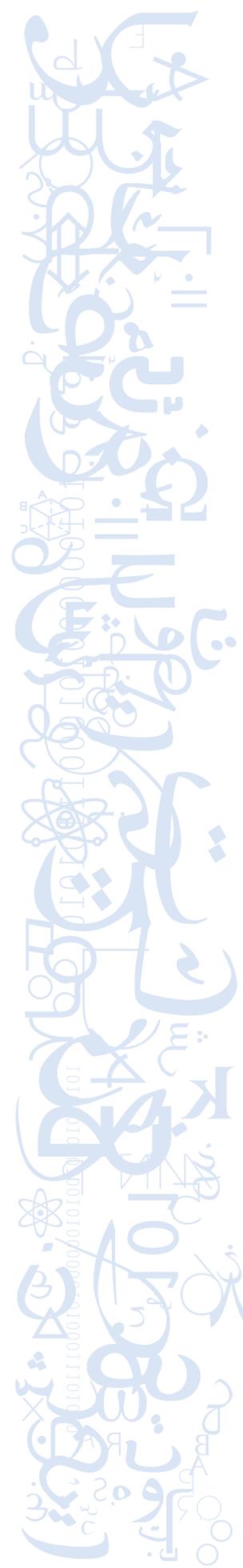
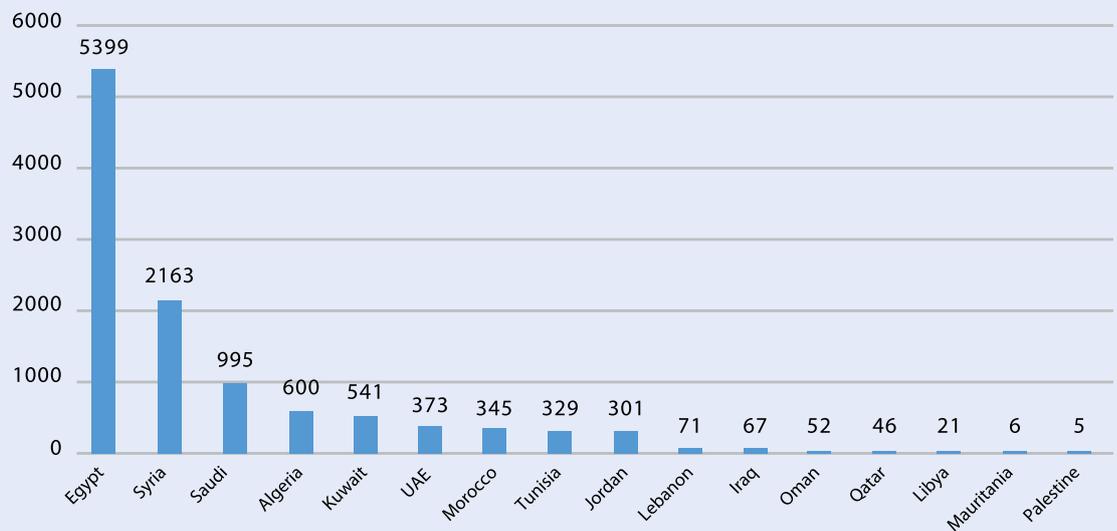


Figure 2-6: Statistics of translated books into Arabic in the Arab region, from 1979 until the latest update of the UNESCO's Index Translationum



Source: UNESCO's Index Translationum (<http://unesco.org/xtrans/>). Accessed on 20 November 2019.

and translation centres operating in Beirut have published more than 3,000 translated books from 2000 to 2009. Moreover, the translation output in 2008 and 2009 was twice the output in 2000.⁶⁷

Despite this increase, the lists published on UNESCO's Index Translationum, which tracked the developments in the publication of translated books around the world from 1979 to 2010, indicate a severe shortage in the number of books translated into Arabic by Arab states (Table A.5 in the Statistical Annex). The cumulative total of the number of books translated into Arabic in the Arab states since 1979 until the last update of the index reached 11,314 books, constituting approximately 85% of the total number of books translated into Arabic in the world (13,417 books). Figure 2-6 illustrates the prominent role that Egypt and Syria played in this regard. In comparison, and according to the same source, Israel has translated 10,838 books into Hebrew during the same period, Turkey has translated 11,197 books

into Turkish, and Iran has translated 10,633 books into Persian.

The data contained in the case studies conducted in the context of the present report in Saudi Arabia, Egypt and Morocco shed light on the translation status as one of the transmission tools of knowledge society in these states. The data of the National Centre for Translation in Egypt reveals that the total number of books published by the Centre until March 2019 amounted to 3,196 books, with literature taking the lion's share (38%), followed by social sciences (approximately 22%), then history (12%), philosophy (8%), arts (5%), and a combination of the pure and applied sciences (at 5,6%). Furthermore, it reveals the diversity of the source languages, which amounted to 35 languages in total.⁶⁸ The case study of Morocco revealed that the sum of translated texts in 2017/2018 increased by 67% compared to the previous year. Moreover, it is concluded from a sample of the translated literature, that Arabic is the target language with the highest number of

Several statistics and indicators on the translation state in the Arab region point to an upward trend starting in 1950, and continuing to the present day, particularly since the beginning of the twenty-first century

translations, and that translation is carried out from various foreign languages, chief among which is French. The lack of translated books in the scientific domains, which have experienced great advancements in recent decades, and which play a prominent role in development, namely natural sciences, economics and technology, is also worth noting. Participants of the debate session in Morocco realized this shortcoming and called for due attention to be paid to translation, and the need to employ rational prioritization.⁶⁹ The Saudi Arabia case study

confirmed that the number of parties concerned with translation in Saudi Arabia exceeds 40, and includes specialized centres, scientific departments in universities, as well as translation units affiliated with research centres, government departments and similar bodies. The statistics from King Fahd National Library in Riyadh indicate that the number of materials translated into Arabic during the past ten years (2009-2019) is equal to 2,167 of the total recorded materials during that same period (57,032), and which represents 4%.⁷⁰

Box 2-6: Efforts of the Higher Arab Institute for Translation

The Higher Arab Institute for Translation is an educational and scientific institution, affiliated to the General Secretariat of the League of Arab States, and headquartered in Algiers. The decision to establish the Institute dates back to 1985. However, it was in 2004 that the Institute was officially inaugurated to become one of the patrons of progress in the field of translation in the Arab world through education, production, and research.

The Institute offers three master's degree programs in interpreting, translation and translation technology, with language combinations that include Arabic, English, French and Spanish, in addition to the recently inducted PhD program. Furthermore, the Institute has signed several cooperation agreements with a selection of the most prestigious Arab and international universities for the purposes of exchanging professors, students and experiences, as well as joint support for academic and translation projects.

The Institute has accomplished several acclaimed translation projects. The most important of these projects includes the translation of more than 120 books into Arabic from French, English and Tamazight in 2007, the publication of the book *Nour Ala Nour* (Light upon Light) in 2010, the translation of set of books in cooperation with the Arab Organization for Translation, as well as an assorted array of documents, studies and reports for the benefit of the League of Arab States and other bodies and institutions, not to mention, organizing four international conferences on translation, Arabic and related fields, in 2008, 2013, 2016 and 2017.

The Institute is currently working on other projects, including developing a machine translation platform, translating a selection of books from children literature, science, as well as francophone Maghreb literature, into Arabic.

The Institute was awarded the 2019 *Gerardo de Cremona International Translation Award* for the best translation institution in the Mediterranean region, which is an award promoted by the Toledo School of Translators; a prestigious school affiliated with the University of Castilla-La Mancha in Spain.

Source: The Higher Arab Institute for Translation

Translation in the Arab region is achieving progress; however, much remains to be done in order to catch up with the world, and in order for it to fulfil its prescribed role in effectively supporting the processes of establishing knowledge societies and economies.

Translation in the Arab region is achieving progress; however, much remains to be done in order to catch up with the world, and in order for it to fulfil its prescribed role in effectively supporting the processes of establishing knowledge societies and economies

Many translation institutions still rely on a fixed pool of translators, which may lead to stagnation and impede the creativity and pluralism development in the field of translation

Obstacles and Issues Facing Translation in the Arab Region

The attitudes of intellectuals regarding the reality of translation in the Arab region range from absolute pessimism to cautious optimism. The state of translation reality, despite the progress achieved, remains poor and lacking in interest and support. Many researchers believe that any creative activity, including translation, can only grow considering a prosperous economic reality and a comprehensive development plan. Their supporting argument being the example of the translation resurgence during the Arab golden ages, as was the case in the Abbasid era, which was discussed above.

The situation is depicted here as if the declining status of translation reflects the actual reality of Arab societies, in addition to a set of other factors that includes the reliance on machine translation, the growing number of Arabs who read in foreign languages, as well as the feeble institutional efforts, the fragmented nature of individual efforts and the lack of support and planning.⁷¹

The translation sector in the Arab region faces several hurdles, including the lack of awareness among decision makers of the high stakes translation presents, whether in the humanities field or in the science domain, knowing that these stakes

play a part in the cultural and intellectual conditions for enabling production and innovation in both fields. This is reflected in the confused perception of the role translation plays in creating the conditions for a cultural renaissance in general, and a scientific renaissance in particular.⁷² Moreover, the issues facing translators in the Arab scene have another aspect, evident in the prevalent linguistic weakness in translations, which is due to a deficient linguistic training in Arabic for some translators.⁷³

Due attention must be paid to the importance of understanding translation as a link in a chain that begins with the acquisition of knowledge in the mother tongue and ends with integrating that knowledge in the culture. Other links in the chain include building a thought system and consolidating the sense of identity, both individually and socially.⁷⁴ Translation cannot be the only factor in thought development and identity building. It rather represents a factor of development and progress in the fields of thought and knowledge, that is, it can serve as a starting point in laying the groundwork for intellectual and cultural development in the society that receives it. The speakers of the target language, into which the intellectual works are translated, must bear what is translated into their language, assimilate and emulate it. This means that they are required to reflect upon its content, criticize it and subject it to research and interpretation until it can integrate their scholarly structure.

From the prior discussions, it is now evident that the translation infrastructure in the Arab world is lacking, as it is emphasized in the following *“Despite the*

Table 2-2: Perceptions around translation, as expressed by the participants in the Discussion Groups that were held in Egypt, Morocco and Saudi Arabia in the context of the case studies

Egypt	Morocco	Saudi Arabia
<ul style="list-style-type: none"> • Translations are insufficient to establish the knowledge society • There is no clear action plan, just individual efforts • Translators do not benefit financially, and there is no fund to promote translation • The great disparity in terminology among the Arab states is a challenge; the intervention of specialized terminologists is imperative for terminological delimitation • Translation from Arabic into foreign languages is indispensable to improve the image of the Arab individual, and herein lies the importance of partnerships with foreign institutions 	<ul style="list-style-type: none"> • The absence of institutional interest in translation and the need to define the translation field • The question of standardizing terminologies across the Arab Maghreb and the Arab states • The weak role of the Arab language academies and research centres, as well as the need to disseminate the new digital and technological terminologies and simplify their use • The issue of children literature and e-publishing, as well as the availability of Arabic material for this category as an alternative to children's books that are only available in French, or other foreign languages 	<ul style="list-style-type: none"> • Translation is weak in quantity and quality; it has become a weakening factor for the Arabic language because of poor translations spread • The importance of supporting and training translators, as well as protecting their rights; preparing an academic program for translation studies (from and into Arabic) • The need for a terminological database for the translated scientific terms, as well as their positive and negative points according to what they refer to • The urgency of employing professional institutions for translation and its management instead of individual efforts; the lack of an official party tasked with overseeing the translation efforts

*large number of meetings and conferences, the Arab states have yet to come up with a vision, a common strategy that can be implemented for both language and translation, and even if they had reached a common perception and recommended some strategies, they are yet to be put into effect.*⁷⁵

Many translation institutions still rely on a fixed pool of translators, which may lead to stagnation and impede the creativity and pluralism development in the translation field. This is in addition to poor wages, the perception of the translator as a second-class intellectual and the severe deficiency in the distribution of translated books.⁷⁶

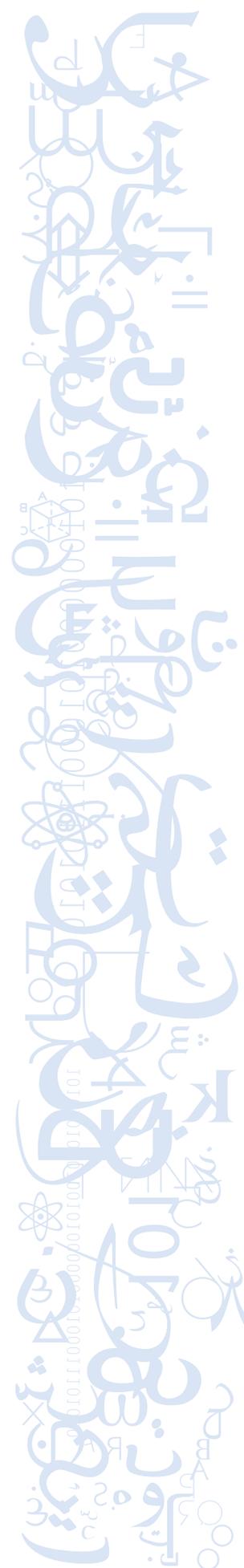


Table 2-2 illustrates the most important perceptions about the state of translation, as expressed by the participants in the focus discussions that took place while preparing this report in Saudi Arabia, Egypt, and Morocco. These perceptions demonstrate a consensus on several important issues, such as the weakness of the translation movement, the lack of institutional interest, and the need to define and standardize terminology in Arab states.

The Arabic language has the possibility of becoming a powerful tool in the process of economic development, considering that the optimal use of the language yields excellent returns and a higher efficiency in achieving the knowledge economy, thus, the economic growth

The usages of Arabic in economy and administration

Language represents a symbolic world of a moral nature; while the economy's questions, including industry, commerce and administration, are material matters. What is then the relationship between these two seemingly distant worlds?

Many scholars, economists, and sociologists believe that language is (symbolic) money. Language is the common denominator of commerce, entrepreneurship and industry, and these components cannot function without some form of horizontal and vertical communication in which language plays the main role. If these areas are completely dependent on technology (in the knowledge society), this technology will turn into a mute instrument without language. Language is the vehicle of the intelligent content on which technology depends for its movement, as well as its functionality. Considering this perception, language represents an added value, or rather; language creates this added value in the national economy.

The Arabic language has the possibility of becoming a powerful tool in the process

of economic development, considering that the optimal use of the language yields excellent returns and a higher efficiency in achieving the knowledge economy, thus, the economic growth. The relationship between language and the economy covers several areas related to the language use in the production, distribution and consumption processes, the demand for one language compared to other languages, the volume of investment in the language through its introduction to the technical field and digitized lexical production, as well as the flexibility in using the language in commercial, productive and communication applications.⁷⁷

In the pursuit of the knowledge society and its early precursors in the Arab region, awareness of the importance of this relationship between language and economy has begun to be crystallized. Thus, a group of scholars have started emphasizing the importance of *"re-evaluating our concepts regarding the economic value of the linguistic discourse employed in trade and business activities, and the manner in which we define the parameters of the appropriate approach in dealing with the linguistic variable as a critical variable in the economic model that governs the economic structures of our digital societies."*⁷⁸ The path towards achieving this goal is through realistic practices that transform the Arabic language into an actual communication tool inside the administrative, commercial, and industrial arenas. The legislative framework for this aim exists, as most Arab states enacted laws that ensure the use of Arabic in government official documents, as well as all commercial dealings and arbitration (see Annex No. 2 on the Arabic language legislation in the Arab region). However, this endeavour is

still at the infancy stage, an issue that will be the subject of a detailed discussion subsequently in this report.

The Arabic language in the field of commerce: a progress that can be maximized

The majority of laws in the Arab region require the use of the Arabic language in commercial advertisements, accounts and invoices across all commercial and industrial fields. Several Arab states have succeeded in computerizing commercial transactions using computer applications in the fields of smart transactions, commercial outlets and tourism services, where Arabic is used to write contracts, invoices, etc. Two important issues arise when researching the position of the Arabic language within the commercial system in the Arab region.

The first relates to standard specifications: the bodies entrusted with monitoring standards in the Arab states hold annual meetings to discuss the unification of these standards. Through these periodic meetings, a working group was formed under the name "Arabic Translation Department", which is affiliated to ISO. This work group is tasked with translating the standards into Arabic, to be then submitted to ISO for adoption. The group has translated 28 standards in 2016-2017, and this number reached 50 standards in 2018.⁷⁹

The second relates to electronic commerce: e-commerce pertains to commercial transactions through the communication networks, which include electronic payment, shopping, contracting, and any other electronic commercial

transactions. E-commerce operations are experiencing a steady growth in the Arab region, and at a faster pace, that occasionally exceeds the global average. The Arab states vary in the extent of their engagement in e-commerce, with the UAE coming at the fore due to the expansion in the use of credit cards there. However, there are significant obstacles to the growth of this commerce form, which is due to weak legal frameworks or a complete absence in some cases, as well as the disparity in customs tariffs among Arab states and their high rates, the lack of investment in the emerging electronic markets, and an attachment to the purchasing's old methods.⁸⁰

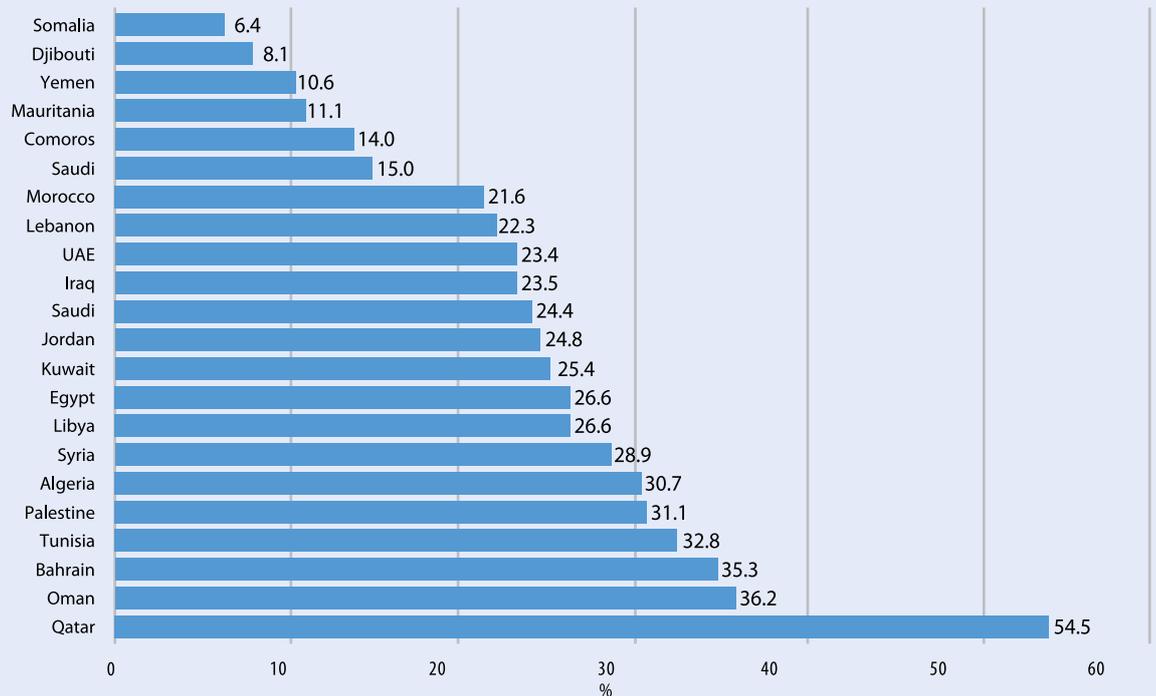
Other factors hinder e-commerce in the region, chief among which is the fear and hesitance surrounding its use, whether due to ignorance of the opportunities it offers or inability to handle the information technology itself.⁸¹ Language can be an additional factor, as well. This is because most transactions in e-commerce are completed in languages other than Arabic through networks owned by international companies that have a monopoly on the modalities of credit card use, itself, the main channel for monetary exchange in e-commerce.

The Arabic language in the industrial field: the role of language in bridging the gap between knowledge and industrial production

Industry is one of the most important pillars of the knowledge economy, as it transforms the creative and innovative capabilities into products that can be exploited in interactions and methods of communication inside the knowledge society. The role of industry in society is

E-commerce operations are experiencing a steady growth in the Arab region, and at a faster pace, that occasionally exceeds the global average

Figure 2-7: Industrial workforce in the Arab region in 2018
(% of the total workforce)



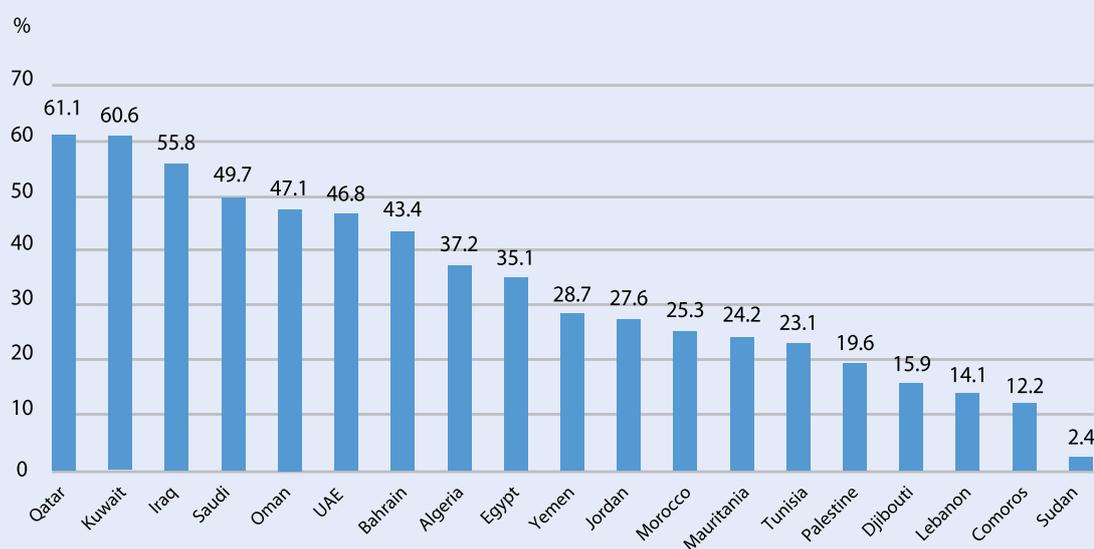
Source: World Bank Database. Wdi.worldbank.org. Accessed on 20 November 2019.

Industry is one of the most important pillars of the knowledge economy, as it transforms the creative and innovative capabilities into products that can be exploited in interactions and methods of communication inside the knowledge society

complemented by its ability to assimilate the national language and integrate it into the economic world, in general and the industry, in particular. The study of the Arabic language usage in the industrial field reveals three aspects that are connected to the question of establishing the knowledge society.

The special nature of the industrial sector: The countries of the region cannot be classified as industrialized states despite the expansion of this sector in recent decades, which commands an increasing share in the volume of economic activity. Statistics indicate that, in 2018, the industrial sector provided job opportunities at rates ranging from 55% in Qatar to 6% in Somalia of the total workforce (see Figure 2-7). In some Arab states, the industry constitutes a high percentage of the gross domestic product that exceeds 50%, as is the case in

Qatar, Kuwait and Iraq (see Figure 2-8 and Table A.6 in the Statistical Annex). However, these numbers must be treated with caution because most industrial economic activities depend on extractive industries, such as oil, gas, phosphate and potash extraction, as well as manufacturing industries, such as the petro-chemical industry, which represent a relatively low added value to knowledge. Therefore, the industrial sector has not led to a qualitative change in the production sector, and it does not represent a true added value despite its frequent large contributions to the national income. Furthermore, the industrial sector in the region suffers from the small size of institutions, considering that the dominant companies are family owned, which may not necessarily rely on modern technology, and which find it difficult to invest in research and development due to their small investments. The situation gets more

Figure 2-8: Industry, the added value in 2018 (% of the GDP)

Source: World Bank Database. Wdi.worldbank.org. Accessed on 20 November 2019.

complicated when the globalization variable and the massive development in information technology (IT) are factored into the equation, as they constitute a great challenge to the Arab industry, which accommodates large numbers of unskilled workers, and which does not always keep pace with the rapid development of the modern technology use. This situation often compels governments to outsource large projects to international enterprises, which weakens local companies.⁸²

It should be pointed out that there is a great gap between the scientific research on one hand and the development of the industrial field on the other hand. This gap, or rather the rift in the relationship between scientific research, industry, and production, represents one of the greatest dilemmas in the processes of establishing knowledge economies and societies. Scientific research

in the Arab region rarely communicates with the productive sectors, especially those operating in the industrial sector. This lack of communication contributes to the weakness of scientific research due to a paucity in interest and funding from the productive sectors, which in turn deprives the productive sectors themselves of the scientific research's innovations and contributions in the effective adaptation to the challenges of developing the industrial sector, and maximizing the added value, not to mention, achieving progress in the competitive arenas at a local and global levels. This was indicated in several reports on the state of knowledge in the Arab region. In addition to the severe lack of funding for scientific research and development in general, these reports also indicated the paucity of private funding for scientific research compared to government funding, which is mostly allocated to sectors that may

It should be pointed out here that there is a great gap between the scientific research on one hand and the development of the industrial field on the other hand

not contribute to the support of industry and production. As such, it can be said that the Arab industry is, thus, dependent on international parties that control knowledge, and transmit it in their own languages, which compels the Arab industry to interact in a language other than its own.

Language computerization and e-governments: an opportunity to evolve language and services

Language computerization is one of the most important issues related to the use of the Arabic language in the digital space and the Internet within the economic and industrial fields. The advancements in the digital sciences and artificial intelligence in recent years have contributed to the emergence of new and innovative technologies in language operations, such as optical character recognition, digital dictionaries, and voice recognition. However, the digital age remains inaccessible to the Arabic language.⁸³ Arabic experienced an early interest in natural language processing technologies in the Arab region, which made the transition from discourse, expressed through the research efforts of the Arabic Academies and prominent intellectuals interested in digitization issues,⁸⁴ to the scientific and practical reality with the emergence of Arab initiatives to computerize the language, which began in the nineties of the twentieth century; efforts that moved from the regional level to the global level through the contributions of Google, Microsoft and Apple. These local and international efforts helped launch an array of models and applications for the natural processing of the language, such as grammatical and morphological analysis, text analysis,

translation, building dictionaries, re-publication of ancient texts and release of applications for use in the commercial and industrial fields. This has led to the emergence of a large number of websites

Box 2-7: The Language Conflict Inside the Industrial Sector

The Arab industry relies on technologies imported from the developed societies in Europe, Japan, China, among others, and it also lacks internal resources. Furthermore, management systems inside the major industrial companies depend on foreign languages, especially English. This situation creates a measure of linguistic conflict within the industry. All the codes and smart software that the industry relies on, as well as all the technical specifications of the equipment and its operating manuals, are all written in other languages, and if an Arabic version is available, it is often incomprehensible. This creates a linguistic burden on workers, in particular, and forces engineers and administrators to learn foreign languages. Another aspect of this language conflict emerges through the interactions inside the factories and companies: Interviews with job applicants are conducted in foreign languages, training takes place in foreign languages, in addition to all the daily interactions within the companies, including presentations, delivery reports, and audits, which are conducted in the languages in use inside the company.

Language computerization is one of the most important issues related to the use of the Arabic language in the digital space and the Internet within the economic and industrial fields

where the Arabic language is the main tool for communication. It also encouraged the launch of civil society initiatives represented through the Language Computing Associations.⁸⁵

The computerization of the language has had a positive impact on the administrative and organizational fields, as well, especially with regard to the establishment of e-governments in several Arab states, where the use of the Arabic language was emphasized in the administrative communications, even in countries that still suffer from a linguistic duality. Among the manifestations of progress in the administrative field are the

endeavours to digitize the internal and external communications of the state's administrative apparatus, so that all communications will become electronic, as well as the efforts to provide electronic services for the population, especially in relation to requesting civil status records and in the payment of electricity, water, Internet, land and mobile phone bills and all the official documents; a goal that is achieved through e-government systems. Several Arab states have made a great progress in this field, especially among the Gulf Cooperation Council states, according to the E-Government Development Index of the United Nations Department of Economic and Social Affairs (UNDESA).⁸⁶

The computerization of the language has had a positive impact on the administrative and organizational fields, as well, especially with regard to the establishment of e-governments in several Arab states

Box 2-8: Artificial Intelligence: An Opportunity or a Challenge for the Arabic Language?

Artificial Intelligence (AI) systems derive a significant part of their "intelligence" or data from what is available in the digital space after it is processed by specialized programs.

For instance, programs' development based on artificial intelligence, such as *virtual assistants*, or any other program designed to simulate conversations with people, requires programs to have an ability to *learn* the Arabic language in an autonomous, continuous and cumulative manner. This *learning* in turn takes advantage of the translations available in the digital space. Through the alignment of exceptionally large amounts of these parallel corpora, AI systems *learn* the equivalents between two specific languages, thus, gaining the ability to run fast translation operations between the two languages.

Given the insufficient available translations, the weakness of the Arabic digital content in quantity and quality, in addition to the scarcity of specialized programs in the Arabic language processing, the Arab region will benefit only partially from the existing scientific progress in the artificial intelligence field. Indeed, it may lose access unless it redoubles its translation efforts and maximizes the presence of Arabic in the digital space.

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اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ وَصَحْبِهِ أَجْمَعِينَ

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Chapter 3

The Arabic Language and the Pillars of the Knowledge Society

Education is viewed as a cornerstone in achieving the knowledge society, given that it is the true path towards building sustainable development

The previous section of this report illustrated some of the challenges the Arabic language is facing in the processes of knowledge production, transfer, localization and usage, despite all efforts being made to overcome these obstacles. However, these challenges must be perceived against the backdrop of the knowledge society's cornerstones. We need to feel our way towards answering an important question: To what extent is the Arabic language considered a part of the knowledge society's cornerstones from education to innovation, creativity, scientific research and information technology? Several questions arise from this question about the state of education in the Arab region, the status of the Arabic language therein and the extent to which scientific research and creativity are related to Arabic, in addition to other questions pertinent to Arabic digital content on the Internet, the status of Arabic in the media and communication with the world. Dealing with these questions and other related topics has a particular significance in revealing the depth to which the Arabic language is bonded with the components of the knowledge society and the extent to which it is capable of contributing positively to establishing those societies.

Arabic Language and Human Development: Education and Training

The 2030 Agenda for Sustainable Development has set education as the fourth out of its seventeen aims, considering that achieving high-quality education is one of the pillars of sustainable development and that it contributes to achieving success in many other aims. It also contributes to eradicating poverty, narrowing the gender gap, increasing equality, creativity and innovation rates, improving the quality of healthcare and achieving social well-being. Against this background, education is viewed as a cornerstone in achieving the knowledge society, given that it is the true path towards building sustainable development. Therefore, Arab Human Development Reports have emphasized that despite possessing the cultural traditions that have stood the test of time and having an abundant human capital, the Arab world's human development is still facing several constraints obstructing the acquisition, production and usage of knowledge.¹ The Arab Knowledge Report of 2009, titled *"Towards Productive Intercommunication for Knowledge"*, emphasized the urgent need for an appropriate resource to supply the Arab region with the human competencies capable of achieving its ambitions and development aims. It also stressed the need to build *"the critical mass"* required of those

working in the fields of science, technology and knowledge, as well as those capable of establishing the knowledge economies and societies.² There is no doubt that the way to achieve this noble goal is training in education, knowledge, skills and values through teaching. The Arab Knowledge Report 2011 reflected the issue of education in the Arab region, which has not brought about the anticipated results in terms of achieving education for all, meeting the global standards concerning vocational, technical and higher education, as well as completely eradicating illiteracy, as a considerable proportion of adult people in the region are still unable to read or write. Also, a huge number of children are still out of school.³ As the report indicated, based on field studies conducted in four Arab States, education systems in these countries failed to prepare young people in the manner required to access the knowledge societies and economies. The studies showed that most of the students at the end of the school cycle lack the required knowledge and societal skills.⁴

Researching the educational situation in the Arab region is a review of the possibilities of attaining the knowledge society in light of the current circumstances. The issue would become more persistent if the Arabic language was incorporated, especially considering what has been agreed upon in respect of teaching in mother tongue being more effective and faster than teaching in foreign languages. The risk here lies in the possibility that the Arabic language could lose its role in the educational training system as the gateway to the knowledge society; a society built on the basis of education, receiving information through analysis and critique, perceiving the information's denotation

and pondering over its meanings, to attain the level of innovation and deduction. High-quality education is certainly a necessary variable to establish the knowledge society. Also, that quality requires an education in the national language which works on strengthening its presence as a tool for learning and communicating.

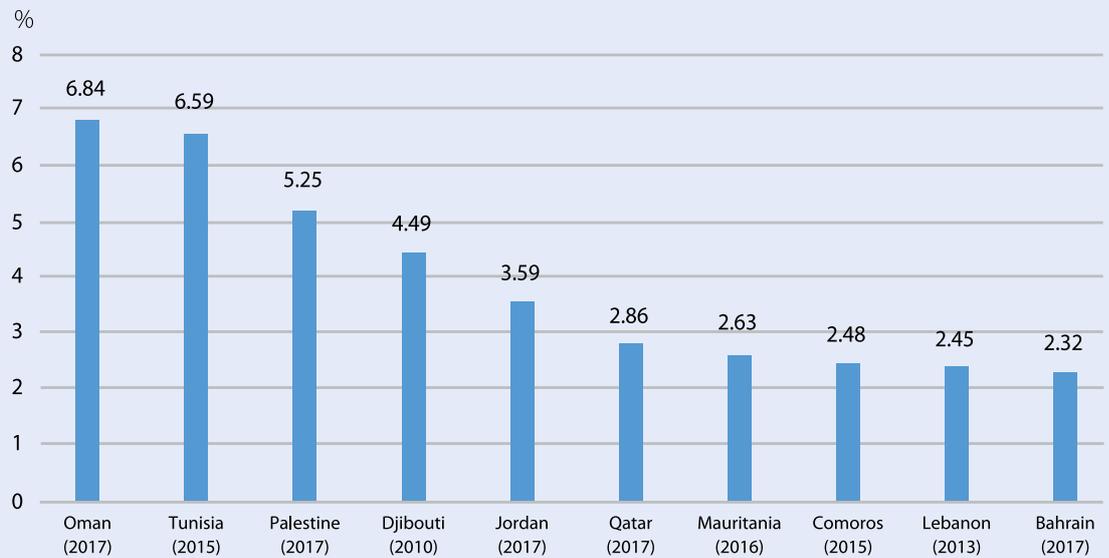
General Characteristics of the Arab Educational System: Quantitative progress not matched by qualitative improvement

Despite the diverse educational systems in Arab states, there are common features of the Arab educational systems, such as dual systems being fundamentally dependent on public education while making room for private education. Public education is free, save for some nominal fees, and it is subject to a legal and constitutional system emphasizing that Arabic is the language of education. There are also some traditional systems, such as religious educational systems, which in some countries operate in parallel with civil education. Moreover, education in almost the entire Arab region is subject to a system of governance built on centralization, which confers upon the ministries of education a fundamental role in organizing curricula and administering educational institutions and examinations conducted at a general national level, while granting local authorities the competency to regulate, supervise and cooperate in managing educational institutions. Therefore, a great deal has been said about decentralization, as well as civic and societal participation in governing educational systems in the Arab region.

Researching the educational situation in the Arab region is a review of the possibilities of attaining knowledge society in light of the current circumstances

Despite the tremendous efforts that have been exerted to update the educational systems in the Arab region, they are still experiencing several problems

**Figure 3-1: Public expenditure on education in some Arab states
(% of GDP)**



Source: World Bank data www.worldbank.org. Accessed on November 11, 2019.

Arab states vary in the rate of government allocations to education from the gross domestic product (GDP). In the countries on which the data is available, that rate ranged from 6.3% in the highest countries to 2.3% in the lowest

Despite the tremendous efforts that have been exerted to update educational systems in the Arab region, they are still experiencing several problems. A World Bank report indicated the so-called internal tensions in the educational systems of Middle Eastern and North African (MENA) countries. The report identified four tensions: (1) tension between skill requirements and the job market, as education is largely detached from the actual needs of the labour market; (2) tension between the style of discipline that adopts corporal punishment as a means, and freedom of inquiry and expression; such tension leads the educational system to focus on memorizing rather than moving towards looking for solutions to problems through research and interdisciplinary transition; (3) the tension between central control and local autonomy, as Arab educational systems suffer from severe centralization; and finally, (4) the tension between tradition and modernity, as education cannot meet the pressing needs of modernity against the traditional requirements.⁵

Expenditure on Education: Underfunding Affecting Language Teaching

Arab states vary in the rate of government allocations to education from the gross domestic product (GDP). In the countries on which the data is available, that rate ranged from 6.3% to 2.3% (see Figure 3-1 and Table A.7 in the Statistical Annex).

These rates should not be absolutely taken in this order, as they are determined considering other factors, the most important of which are the population and the size of GDP. If these two variables are taken into consideration, the order that has been presented here may change, especially regarding the volume of expenditure relative to the population. It can be said that despite the need to increase the financial allocations for education in most Arab states, the issue is more pressing in some countries, such as Sudan, Mauritania, Yemen and Iraq. The lack of funding in the educational sector has a direct impact

on teaching Arabic to young people, be it in terms of curricula, training teachers or providing teaching aids.

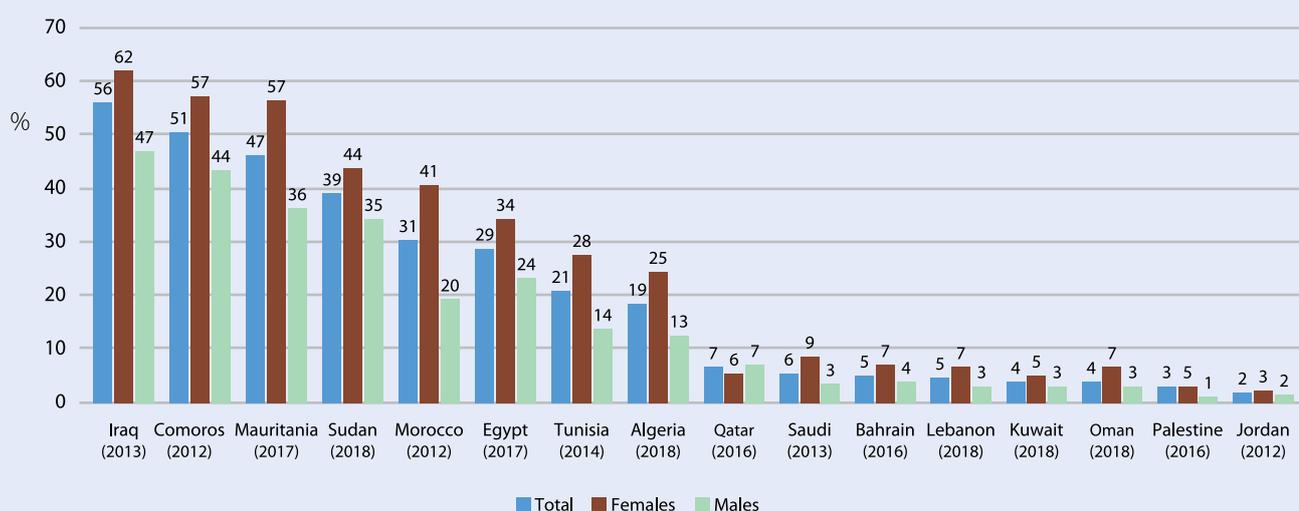
Illiteracy Status: A Problem that must be tackled

Several regional and international reports have pointed to the precariousness of having numerous illiterates outside education in the Arab region. The available data revealed that most Arab states suffer from the problem of illiteracy, with various

rates ranging from a minimum of 2% to a maximum of 56% with an average of 25% for the whole region. The data clearly shows that illiteracy is more common among females than males in all Arab states on which data is available, except for Qatar (see Figure 3-2).

This status has a direct impact on the conditions of the Arabic language. Illiterates are deprived of reading and writing in Arabic, unable to use technological aids and deprived of the chances to learn, as

Figure 3-2: Illiteracy rate in some Arab states in 2018 (%)



Source: World Bank data. www.worldbank.org. Accessed on November 20, 2019.

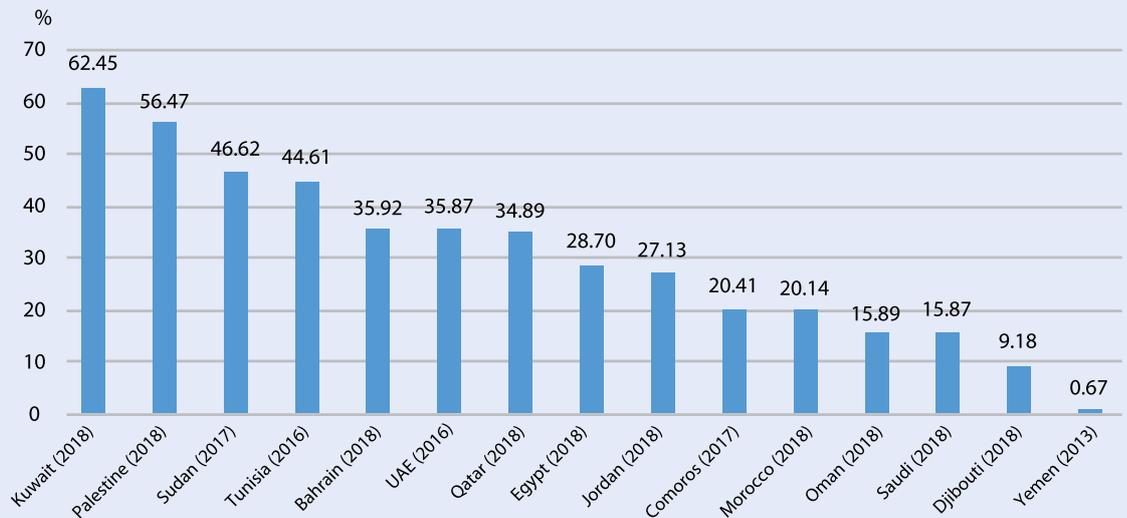
UNESCO Institute for Statistics database. <http://uis.unesco.org>. Accessed on November 26, 2019.

Box 3-1: Reading Books in Arab States

The 2016 “Arab Reading Index” report, issued by the UNDP and Mohammed Bin Rashid Al Maktoum Knowledge Foundation, showed that the rate of reading books in Arabic is higher than that in foreign languages in most Arab states included in the report. According to an online questionnaire that comprised of 148,294 participants from the Arab states, the report indicated that the rate of reading books in Arabic ranged from 1.23 books per year in Somalia to 20.4 in Lebanon, with an Arab average of 10.94 per year. While the rate of reading in languages other than Arabic (English and French) ranged from 0.9 books per year in Somalia to 10.22 books per year in Morocco, with an Arab average of 5.90 books per year (see Table 20 in the Statistical Annex).

Source: UNDP and Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2016. Arab Reading Index 2016. <http://knowledge4all.com/admin/uploads/files/ARI2016/ARI2016Ar.pdf>

Figure 3-3: Gross enrolment rate in early childhood education (2013 - 2019) (%)



Source: UNESCO Institute for Statistics database. <http://uis.unesco.org>. Accessed on November 26, 2019.

Box 3-2: Learning Arabic according to Taha Hussein

If the Arabic language is really difficult because its grammar is still out-of-date and complicated, its writing is still old and complex, its curricula are still unsuitable for children’s capacity and its teachers are ill-prepared to attend to it or to their pupils, if all of that is true, which in fact it is without a shadow of a doubt, we had better take care of the Arabic language, ensure that pupils are devoted to it and not distracted by foreign languages they do not currently need, since they can learn them in depth when their minds, bodies and competences grow up becoming capable of combining learning a foreign language with mastering their national language and moving forward in the culture they already have learned.

Source: Taha Hussein. 1996. *Mustaqbal althaqafa fi masar* (The future of culture in Egypt). Cairo: Dar Al Maaref, second edition, p. 162.

There is no doubt that taking care of early childhood is the foundation of educational training

well as access and acquire knowledge. If we bear in mind that the spread of learning in other languages alienates several societal groups from using Arabic, illiteracy, on one hand, and the incoming foreign languages, on the other, lead to the erosion of Arabic in several ways.

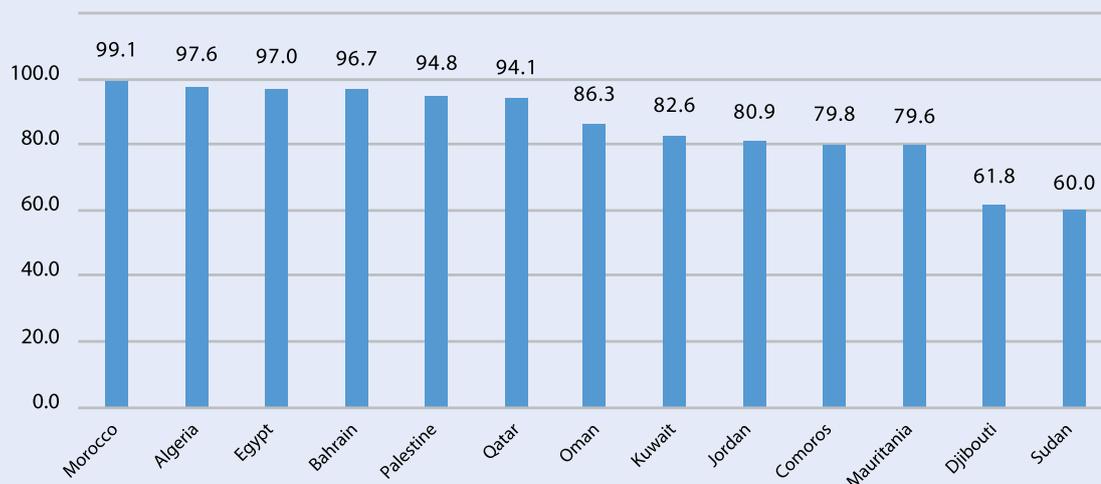
Early Childhood Education: The Basis of Lingual and Educational training

There is no doubt that taking care of early childhood is the basis of pedagogical education. In this regard, educators emphasize that family is the most

influential actor in the lingual development process of children. Therefore, educational institutions must act at an early age before the process of enrolment in school, so that they may complement the family’s efforts in planting the basic seeds of the national language and in the process of preparing children for enrolment in school.⁶

The data of the UNESCO Institute for Statistics reveals a noticeable decline in taking care of pre-school education in several Arab states. The number of countries in which the total enrolment in early childhood education programs

Figure 3-4: Net enrolment rate in primary education in some Arab states (2017 - 2018) (%)



Source: World Bank data. Wdi.worldbank.org. Accessed on October 20, 2019.

exceeded 50% is limited to only two countries: Kuwait and Palestine. The overall enrolment rate in early childhood education programs from 2013 to 2019 in the Arab states, where data are available, ranged from 62.5% in Kuwait to 0.7% in Yemen (see figure 3-3).

When many Arab children fail to enrol in pre-school education, they also miss out on learning the basic principles of the Arabic language. On the other hand, many pre-school programs belong to private institutions that adopt non-Arabic languages, such as English. Children who learn other languages before mastering their mother tongue may experience pressures limiting their ability to learn both languages. Therefore, attending to the Arabic language entails, as Taha Hussein directed us, ensuring that the children are not distracted from it *“by a foreign language that they do not need and which they can learn and deepen their knowledge of once their minds, bodies, and competences have developed”*.⁷

General Education (Pre-University): The Basis of Education

General education (which includes the primary, preparatory, and secondary cycles, both general and technical) is the solid foundation upon which the educational system is built. By examining the data of enrolment rates in primary and secondary education in the Arab states in 2017 and 2019 (Table 8 in the Statistical Annex), we notice that the number of Arab states that achieved 90% or more in net enrolment rate in primary education is only six and the net enrolment rates in the rest of the countries range from 60% to 86% (Figure 3-4).

It is imperative to take the enrolment rates with a pinch of salt, since a considerable number of those who enrol in primary education do not complete their educational journey. The dropout rate varies from one country to another, as the cumulative dropout rate in all cycles of general education during 2013-2018 ranged from 1.6% in Oman to 33.5% in

When many Arab children fail to enrol in pre-school education, they miss out on learning the basic principles of the Arabic language

Figure 3-5: Cumulative dropout rate at all levels of general education (2013 - 2018) (%)



Source: World Bank data. Wdi.worldbank.org. Accessed on October 20, 2019.

Comoros (see Figure 3-5). The dropout rate was even more severe in some countries where enrolment rates are basically low, in which case the situation becomes doubly precarious since in addition to the huge number of students who fail to join primary education, many of those enrolled end up dropping out of schools. As a result, a significant number of students would be out of public education.

Moreover, the quality of primary education is low, as indicated by the Quality of Primary Education indicator issued by the World Bank in 2017. That index showed that the ranking of most Arab states was low in this indicator (see Table A.9 in the Statistical Annex), as ten countries ranked between 60 and 135 out of an international list of 137 countries. Qatar and Lebanon come at the forefront of Arab states, ranking 10 and 15 respectively, followed by the UAE and Bahrain, ranking 16 and 34 respectively.

When it comes to secondary education, the enrolment rates decrease. Table A.8 in the Statistical Annex shows that the

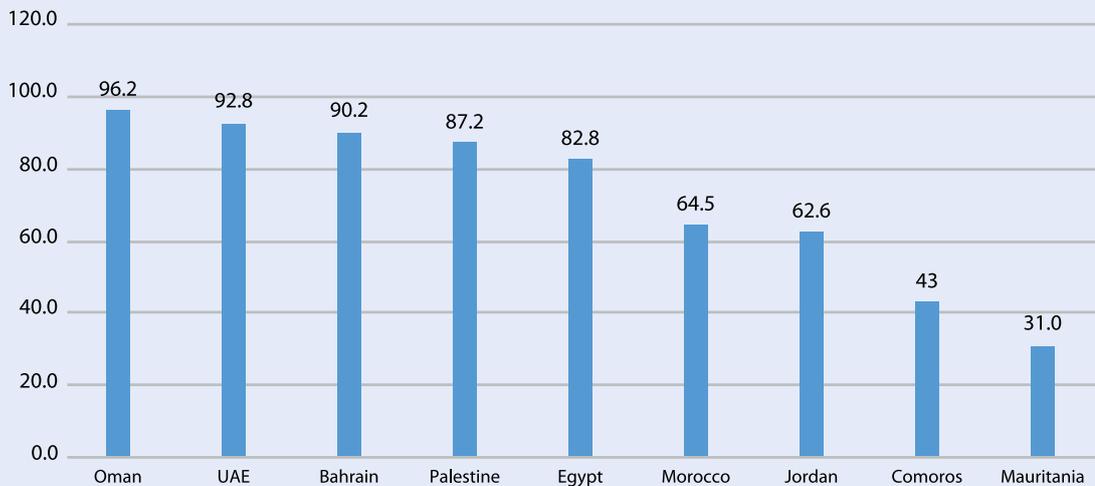
percentage of net enrolment in secondary education increased to more than 80% only in five countries. The percentage in the other countries varies between 31% and 65% (see Table 3-6). This decrease in enrolment rates in secondary education is due to two reasons. The first is dropout during the educational process, as many students are content with compulsory education only; perhaps because they enter the labour market at a young age. While the second is the change, of course, in the educational process, as many students opt for technical secondary education, a trend which is increasingly expanding in most Arab states.

Higher Education

The average enrolment in higher education in the Arab region reached 32% in 2017. The enrolment rates in most Arab states in the same year ranged from 5% in Mauritania and Djibouti to 69% in Saudi Arabia (see Figure 3-7). The Global Competitiveness Report indicates that while the enrolment rate in general

The average enrolment in higher education in the Arab region reached 32% in 2017

Figure 3-6: Net enrolment rate in secondary education in some Arab states (2017-2018) (%)



Source: World Bank data. Wdi.worldbank.org. Accessed on October 20, 2019.

education in the Arab region is close to the global rates, the rates of enrolment in higher education in 2017 are; however, lower than those of Europe, Central and East Asia, Latin America, and the Caribbean. They are only higher than the countries of South Asia, and sub-Saharan Africa⁸.

The data clearly shows that the educational ladder begins in early childhood (pre-school levels) with low rates and ends in higher education with low rates as well, which reflects some inconsistency in the ascending educational paths and the inability of educational institutions to fully absorb the increasing numbers of Arab youth.

If we added the problems of education quality to what has been mentioned, the issue would become more complicated. The 2018 Quality of the Education System Index issued by the World Bank revealed that several Arab states lacked quality standards in university education. Most Arab states had low rankings in this index (see Table A.10 in the Statistical Annex), as

eight Arab states ranked from 75 to 137 (out of an international list of 137 countries). Qatar and the UAE topped the Arab states list, as they ranked 5 and 12 respectively, followed by Lebanon and Bahrain which ranked 18 and 24 respectively.

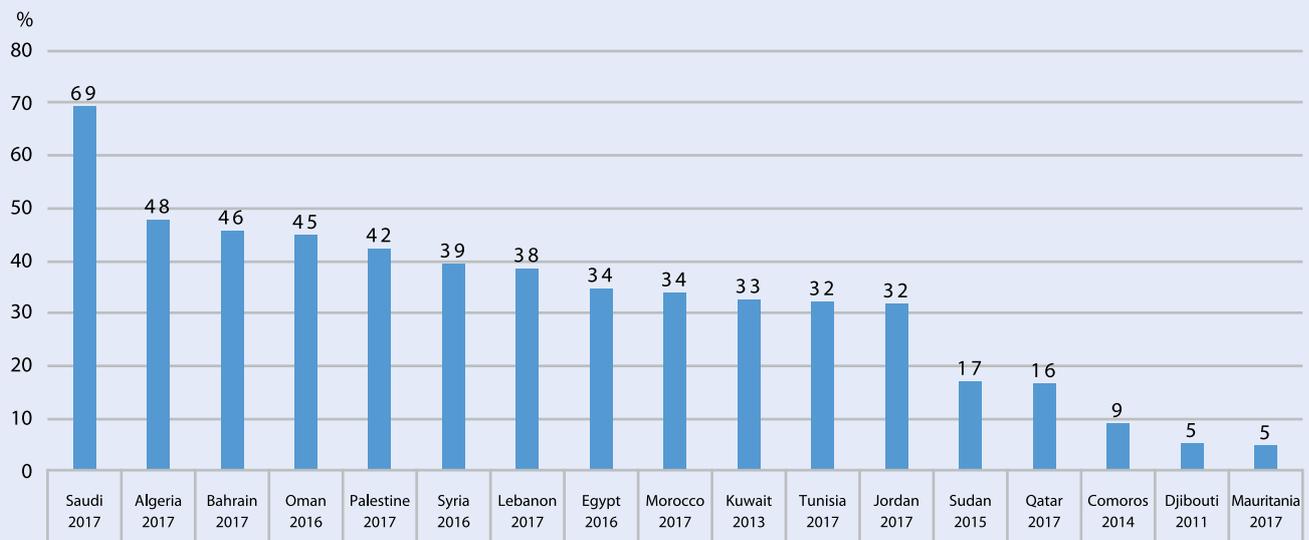
The Status of Arab Universities: A Reservoir of Science and Knowledge

Universities are a reservoir of knowledge that prepares rising youth and provide them with the skills and values needed in various fields of knowledge. They are also a lever that contributes to developing creativity and innovation capabilities through scientific research. Higher education in the Arab world has expanded significantly in terms of the number of universities, especially with the private sector joining the fray and investing heavily in university education. In the period between 1981 and 1996, Arab higher education witnessed what was so-called a “students explosion”, as the number of enrolled students in higher education multiplied three and a half times,

The data clearly shows that the educational ladder begins in early childhood with low rates and ends in higher education with low rates as well

Universities are a reservoir of knowledge that prepares rising youth and provides them with the skills and values

Figure 3-7: Enrolment rate in higher education, most recent available year (%)



Source: World Bank data. Wdi.worldbank.org. Accessed on October 20, 2019.

Higher education in the Arab world has expanded significantly in terms of the number of universities, especially with the private sector joining the fray and investing heavily in university education

reaching about 1.3 million students in 1996⁹. The data of the Association of Arab Universities indicates that the number of universities in the Arab region, which are members in the Association, reached 351 universities in 2018 (see Table A.11 in the Statistical Annex). The universities affiliated to the Association cover the Arab states in varying proportions. Egypt comes at the top of the list with 48 universities (14% out of the total Arab universities affiliated to the Association), followed by Iraq with 45 universities (13%), then Sudan with 41 universities (12%)¹⁰. These universities are divided into public and private universities. Rather, the number of private universities exceeds that of public universities in some countries, as is the case in Jordan, Lebanon, the United Arab Emirates, and Qatar. In addition to this number of universities, the Arab region has several other higher institutes specialized in specific professional studies, such as computers, management, accountancy, and engineering.

It is worth mentioning that the number of universities registered with the Association of Arab Universities is far less than the total number of universities declared by various sources. The Association was established in 1961 to support and connect universities in the Arab world, promote their scientific, pedagogical and research level and enhance cooperation among them. The low number of affiliated universities may indicate a low level of networking among Arab universities and that the possibilities of cooperation among them are incomplete.

Arab universities have achieved a significant development in terms of enrolment and capacity, but they have not achieved the same level in terms of education quality and scientific research. Although Arab universities have been endeavouring since the beginning of the third millennium to adopt quality standards and enter the international rankings by encouraging scientific research and foreign scientific publishing, the scientific,

pedagogical and research quality standards in Arab universities are still low. That could be noticed through the international rankings of Arab universities. Although some Arab universities have entered international rankings, they are, however, still under par. Saudi, Egyptian, Jordanian, Emirati, and Qatari universities have entered international rankings, such as the Times Ranking and Shanghai Ranking, but their rankings were not as high as it had been expected, even though they were within the top five hundred universities.

The Arabic Language within the Educational System

The Arabic language is the primary language of education in the Arab region, by virtue of the legislative reality that stipulates its use in most Arab states. Nevertheless, education in Arab states suffers from a great deal of duality, which stems from many factors, the most important of which is the existence of bilingualism in society, as is the case in the Maghreb societies, the tendency of some countries to make more room to private education at all educational levels, a free rein to choose the teaching language and the tendency of public universities to launch distinct programs in which teaching is in English, in addition to the presence of various types of private schools, as well as the schools of expatriate communities. The transformation of education in some Arab states into a mosaic with several colors, different shapes and sizes threatens the Arabic language as a means of educational communication.

This does not only limit the already-weak capability of competitiveness of Arabic against foreign languages, but also threatens its adoption in educational

institutions in the Arab region. The focus discussions that took place in three Arab states in the context of preparing this report asserted that students often neglected the Arabic language modules and paid attention to other modules. Moreover, the Arabic language teachers are neither adequately trained, nor their skills are properly enhanced to help them fulfil their basic mission of teaching Arabic language. Furthermore, society looks down on Arabic language teachers. In fact, Arab films and series often ridicule Arabic language teachers and standard Arabic language. When students move to higher education, they do not find any interest in the Arabic language at the university; it is not a compulsory module in all universities. Moreover, the tendency growing within Arab universities towards adopting English or French is not only limited to natural sciences but also includes social sciences, and it contributes greatly to turning the Arabic language into a secondary language within the university educational system.

When debating the problem of the Arabic language, we observe several miscellaneous discourses defending it, its status and importance in the communication and learning process, since it was once *“the language of science and authoring in the whole civilized world”*¹¹. Most Arab constitutions stipulate the Arabic language as the official language, as well as the language of education, litigation, arbitration and advertising. Nevertheless, the reality of education reveals quite the opposite, as there are still societies that apply foreign languages not only to education but also to media, management and scientific research, as is the case in the Maghreb societies.¹² This contradiction, as per the Moroccan case, is ubiquitous in

Arab universities have achieved a significant development in terms of enrolment and capacity, but they have not achieved the same level in terms of education quality and scientific research

The Arabic language is the primary language of education in the Arab region, by virtue of the legislative reality that stipulates its use in most Arab states

Table 3-1: Perceptions about the Arabic language and education as expressed by the participants in the focus discussion groups organized in Saudi Arabia, Egypt and Morocco within the preparation of this report

Saudi Arabia	Egypt	Morocco
<ul style="list-style-type: none"> • The weakness and inconsistency of the educational content and evaluation mechanisms, including the linguistic evaluation (in both the general and university education) • The weakness of students' communication skills • The Arabic language teaching methods focus on grammar and memorizing more than appreciating texts, which is in part related to the weakness of training and formation of the Arabic language teachers • The weakness of university researchers' language, which indicates a defect in their formation during the early years of education. • The absence of the Standard Arabic language in general and university education • Higher education policies (including promotion policy) do not underpin the Arabic language. Even when there are policies supporting Arabic, there is a great gap between the policy and the application 	<ul style="list-style-type: none"> • The status of the Arabic language has been declining in all educational cycles • Sometimes, Arabic is taught using the local dialect, which leads to students' level deterioration • There is a real problem in the poverty of Arabic language curricula in schools and its weak relevance to the reality of contemporary society; thus, it contributes poorly to increasing the student's linguistic repertoire • The methodology of literary history in teaching the Arabic language has to be changed • The participants argued on teaching Arabic in private schools. Some participants think that the new models of private education have contributed to the decline of the Arabic language, which might not be taught at all. Others believe that the development of Arabic teaching methods in private schools contributes positively • It is necessary to arabize all teaching materials, even gradually, in parallel with developing appropriate means and curricula. Not to forget that the chances of success will be greater if that is done with Arab cooperation 	<ul style="list-style-type: none"> • Bilingualism and the swing of science education from Arabic to French due to the multiple quarrels negatively affect the learners' competencies, namely in the primary cycle • It is necessary to teach sciences in Arabic rather than in foreign languages with enhancing teaching foreign languages • Teaching methods are still traditional because of the length of the courses and the insufficient classes' time. Teachers pay attention to transferring knowledge at the expense of building higher-order thinking skills and logical thinking skills, which negatively affects the quality of education and the level of children's mastery of basic language skills • Despite the development in preparing and authoring textbooks and despite the status of the Arabic language in terms of the number of classes allocated to it in various educational cycles and disciplines, its stature remains short of expectations • Students do not master any language (neither Arabic nor French)

Box 3-3: The State of Education in Conflict-ridden Arab States

Arab states that have suffered from violent conflicts face many problems in education. The war in Syria, for instance, has led to the displacement of large numbers of the population and the deprivation of other numbers of basic services. Some 2.1 million children are out-of-school and another 1.3 million are at risk of dropping out, most of whom are females.

Source: UNESCO Young Syrians learn to convert fear into hope with education, 2019.

all Arab states, though to varying extents. Even in monolingual societies, the Arabic language has been significantly regressing and the main ambition of all families is having their children enrolled in a foreign education system. This situation produces hazardous social phenomena, which are evident in Arab daily life, because this tendency creates, in the long term, further class division, as the rich can obtain a distinguished foreign education while the poor and mainly middle class learn in the Arabic language. The risks of these phenomena to social and cultural cohesion in society are clear.

Scientific Research, Innovation and Development: A Lever of the Knowledge Society Building

The Arab World Competitiveness Report¹³ 2018 emphasized that the analysis of the strengths and weaknesses related to competitiveness in the Arab region compared to the countries of the Organization for Economic Co-operation and Development (OECD) at the current time shows that higher education and training, innovation fields, technological aptitude and labour market efficiency are the four areas in which the region lagged behind the advanced economies.¹⁴

The next section of this report presents the trends and conditions of scientific research and innovation in the Arab world, how it represents a lever for building knowledge society and to what extent the Arabic language has contributed to shaping innovation, creativity, research and development, through identifying the most important relevant elements.

Box 3-4: Scientific and technological creativity in the history of Arabs

With the launch of the new civilization that arose with the dawn of Islam, the Arabs began to deal directly with ancient civilizations that had been neighboring them for centuries. No sooner the Umayyad state had been established under the leadership of Abd al-Malik ibn Marwan, who actually established the state and built its general structure, then the Arabs resorted to the science and technology tricks and harnessed them to manage the apparatuses of their emerging state, which extended from Sindh in the east to the Atlantic coastline in the west. The Arab-Islamic civilization continued in its scientific and technological innovation in various forms, as this civilization was an environment producing and exporting knowledge.

Source: George Saliba. 2011. *Aloulum al 'isalamia waqiam alnahda al eurupia* (Islamic sciences and the rise of the European Renaissance). Beirut, Lebanon: Arab Scientific Publishers Inc.

The Reality of Scientific Research, Innovation and Development: A Weak Link

Scientific research has a principal place in the processes of establishing the knowledge economies and societies, as it is the main tool by which knowledge is researched, upgraded and adapted to deal with various development issues. Also, scientific research is the main factor of developing innovations in all fields, including industrial and technological ones. Thus, scientific research is an essential pillar in the progress of states, an engine for their institutions and a supporter for their progress towards prosperity and well-being.

Scientific research has a central place in the processes of establishing knowledge economies and societies, as it is the main tool by which knowledge is researched, upgraded, and adapted to deal with various development issues

Box 3-5: Innovation or Extinction

Focusing on the activities of scientific research, technological development and innovation, as well as their relationship with comprehensive and sustainable development, is only a scientific need required by this era's notions and requirements; an era of knowledge-based and knowledge-based economy, where an organic relationship is established between producing and investing in knowledge on the one hand, and economic growth on the other. In this context, information technology plays a main role. The knowledge society generates, disseminates and invests in knowledge for the prosperity of nations and the well-being of their citizens.

Source: Khaled Al-Faisal in the presentation of the Tenth Arab Report on Cultural Development: Innovation or Extinction. Arab Scientific Research: Its Reality, Challenges and Prospects. 2018. Lebanon, Beirut. Arab Thought Foundation.

Many studies confirm that Arab states have not yet built a critical mass of human capital in science and technology

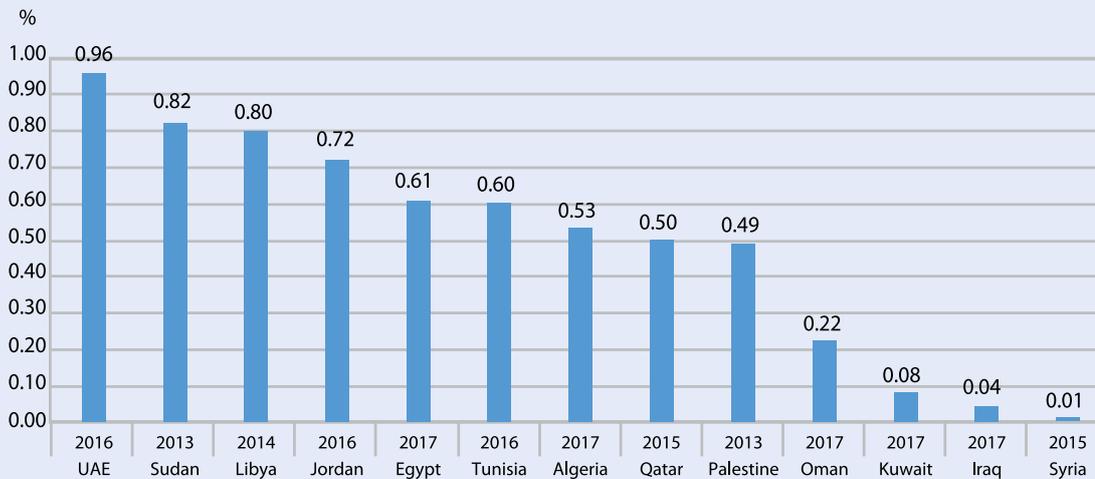
Scientific research has received Arab attention¹⁵. The Arab League Summit in its 22nd session, held in Sirte, Libya, in March 2010, issued a declaration stipulating the following: *"We, the leaders of the Arab states... express our determination to increase spending on technical and scientific research, modern technology transfer, encouraging and taking care of researchers and scientists, developing Arab scientific and technological potentials, and promoting scientific research institutions"*. The Council of the League of Arab States also adopted its resolution number (537) regarding *"The promotion of scientific and technical research in the Arab States"*. The General Secretariat, in coordination with the specialized Arab organizations concerned in scientific research, was entrusted to take the measures necessary to develop a strategy for scientific and technological

research in Arab states. In implementation of this resolution, the "Arab strategy for science, technology, and innovation" was developed by the specialized organizations, after consulting the Arab states, as well as Arab regional and international organizations, bodies and unions related to research, development and innovation. This strategy has gone through many twists and turns before being finally adopted at the 28th Arab summit, held in March 2017, in the Dead Sea area of the Hashemite Kingdom of Jordan¹⁶.

Table A.12 in the Statistical Annex shows a set of facts related to the state of scientific research in the Arab states, which can be summarized as follows:

Regarding spending on scientific research and development as a percentage out of GDP during the period from 2013 to 2017, the UAE topped the Arab states with 0.96%, followed by Saudi Arabia with 0.82%. Although spending on scientific research and development is meagre in these countries, it is higher in comparison to Syria (0.01%), Iraq (0.04%) and Kuwait (0.08%) (see Figure 3-8)¹⁷. The meagre Arab spending on scientific research and development, in general, becomes clear if we compare it to the global figures, as the United States of America spends 2.7% out of GDP on scientific research, China 2.1% and the European Union 1.9%, while the global average reached 1.68% in 2016¹⁸.

The UAE, Tunisia and Morocco (respectively) topped the list in terms of the number of researchers and technicians, as it exceeded one thousand researchers and technicians per million people (see Figure 9-3). Many studies confirm that Arab states have not yet built a critical mass of human

Figure 3-8: Research and development expenditure in some Arab states (% of GDP)

Source: World Bank data. Wdi.worldbank.org. Accessed on November 24, 2019.

capital in science and technology. This may be due to several factors including the meagre spending on higher education, scientific research and technical formation, the lack of networking among Arab research centres and universities, the lack of coordination among research groups at the national level and the low opportunities motivating young people to engage in the research and scientific and technical fields, not to mention the absence of effective policies that shape and drive towards forming this critical mass. Even when new graduates seek to engage in the research field, the doors are slammed shut in their faces due to the research system's inability to absorb them and the unreadiness of the senior researchers to guide, adopt and refine the young minds in many instances. Moreover, unemployment among researchers is widespread, especially among females who represent 35% of the researchers according to the estimates of the UNESCO Institute for Statistics. Besides, it is not easy to estimate accurately the number of actual researchers in the science and technology sector in the Arab region

because it is quite difficult to know the number of researchers who devote most of their time to scientific research¹⁹.

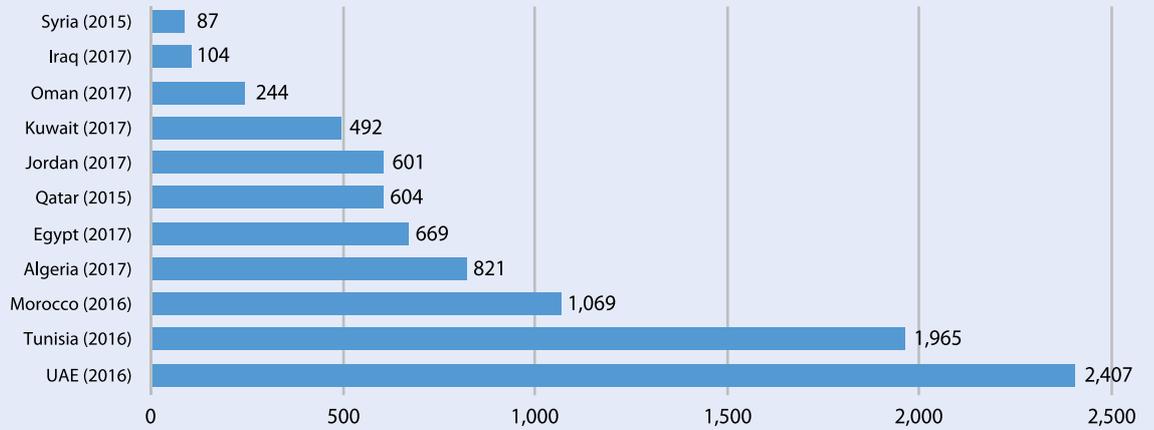
As for the outputs of scientific research concerning the submitted applications and patents²⁰, Saudi Arabia, Egypt, the UAE and Morocco topped the list of Arab states (see Figure 3-10).²¹

In view of this data and despite the progress made in scientific production and publishing in the Arab states, the reality of global statistics suggests that the Arab states' total share of global scientific production and publishing is less than 1%, while the share of the United States is 35% of the globally published scientific researches.

In addition to the aforementioned lack of critical mass cadres, the lack of funding and the weak policies, scientific research, production and publishing experience an Arab brain drain. Every year, about 100,000 scientists, doctors, and engineers leave Arab states per annum, and only 70% of

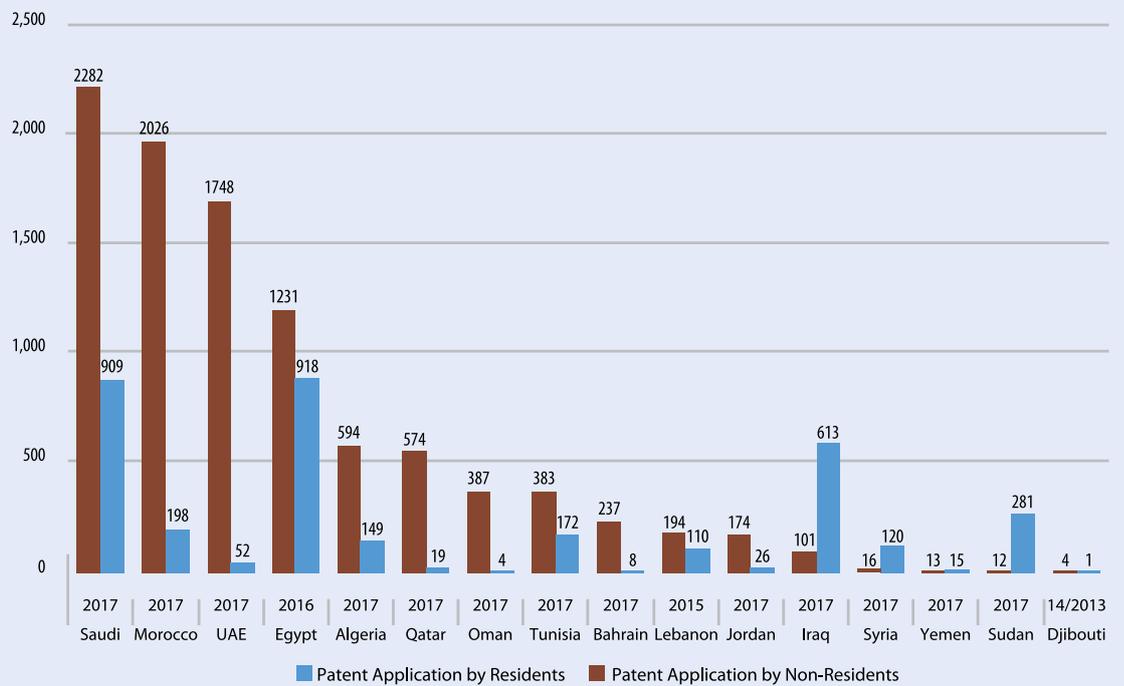
Scientific research, production and publishing suffer an Arab brain drain. Every year, about 100,000 scientists, doctors and engineers leave Arab states per annum, and only 70% of them return to their homeland

Figure 3-9: Number of researchers - full-time equivalent (FTE) (per million inhabitants, most recent available year)



Source: World Bank data. Wdi.worldbank.org. Accessed on November 24, 2019.

Figure 3-10: Patent applications, residents and non-residents (most recent available year)



Source: World Bank data. Wdi.worldbank.org. Accessed on November 24, 2019.

them return to their homeland. Also, about 50% of doctors, 23% of engineers and 15% of scientists from Arab states move to live in Europe, the United States and Canada²².

The challenges facing the scientific research in the Arab region can be summarized as follows:

- The lack of funding, as the data shows a huge gap in the spending on scientific research between the Arab region and the developed world.
- The weakness, if not disconnection, in the relationship between scientific research and production sectors in the economic fields, including industry and agriculture. This is perhaps one of the most important missing links, although it is a prerequisite for establishing the desired knowledge economies and societies.
- The stagnation of the administrative frameworks and governance of scientific research institutions. On the premise that good governance of scientific research tends to frame, guide and protect this sector, bridging this gap is a crucial matter.
- The brain drain, as the available data indicate the major hemorrhage from which the Arab region has been suffering. This hemorrhage not only includes the costs of preparing these cadres, but also the missed opportunities of their contributions, of which the Arab world has been deprived, not to mention the anguish of their families when they see their children leave their homeland.

- The severe lack of support and incentives for researchers and those who work in science, who may be frustrated in the absence of material and moral incentives, which may lead them to emigrate or move away from working in the scientific field.

Research and development processes require an ethical and legislative framework by which they are guided, shaped and protected. Among the positive steps is the launch of the Arab Charter of Ethics of Science and Technology²³ in coordination with UNESCO and in cooperation with the League of Arab States and a number of Arab scientific organizations. This charter steers the role of science and technology in advancing the development process, protecting the contexts of science and technology, products thereof and scientific workers and steering them away from unethical trends and practices that are harmful to humans and the surrounding environment. The Council of the League of Arab States adopted this charter as a guidance document, at the summit level in Tunis on 31 March 2019, calling on Arab States to disseminate the charter among their research institutions (Resolution S.R. 772 O.S. (30) – S 3 – 31/03/2019).

Research and development processes require an ethical and legislative framework by which they are guided, shaped, and protected

Innovation and Development: the Coveted Goal

The Global Competitiveness Report of the World Economic Forum 2019²⁴ indicated that some Arab states were in a relatively advanced rank in terms of innovation capacity, as is the case in the UAE, Saudi Arabia, Qatar, Oman and Egypt, while the others were still making extensive efforts in this quest (see Table 2-3). However, some Arab states lagged behind in the ranking in terms of potential for innovation, as is the

Table: 3-2: Ranking of some Arab states according to the Global Competitiveness Index 2019 and its Pillars

State	Global Competitiveness Index	Institutions	Infrastructure	ICT adoption	Macroeconomic stability	Health	Skills	Product market	Labour market	Financial system	Market size	Business dynamism	Innovation capability
UAE	25	15	12	2	1	92	39	4	34	31	32	31	33
Qatar	29	35	24	8	40	39	40	13	47	22	53	39	38
KSA	36	37	34	38	1	58	25	19	89	38	17	109	36
Bahrain	45	38	31	46	117	44	52	18	33	37	90	48	65
Kuwait	46	65	66	37	1	12	77	51	101	34	54	94	108
Oman	53	39	28	66	119	69	38	26	97	59	62	56	57
Jordan	70	46	74	82	111	45	58	61	84	33	80	88	64
Morocco	75	45	53	97	43	91	111	60	119	49	52	71	81
Tunisia	87	73	85	83	124	49	84	92	133	94	71	74	92
Lebanon	88	113	89	95	121	59	63	99	100	53	81	110	66
Algeria	92	111	82	76	102	56	58	125	131	111	38	93	86
Egypt	93	82	52	106	135	104	99	100	126	92	23	95	61
Mauritania	134	136	137	113	104	103	135	139	137	139	132	135	128
Yemen	140	140	135	139	138	121	134	123	141	141	94	136	130

Source: The Global Competitiveness Report

http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf 2019

Accessed on: November 21, 2019

Note: The ranking included 141 states

case in Yemen, Mauritania, Kuwait, Tunisia and Algeria. These results showed that many Arab states sought to stimulate innovation and improve competitiveness. Although some Arab states have made significant progress in this field, many are still in the early stages of progress in terms of the innovation and competitiveness fields required to establish the knowledge societies.

Institutional Structures Engaged in Scientific Research and Innovation in Arab States

Table A.13 in the Statistical Annex about the institutions engaged in scientific and technological research in Arab states shows that the responsibility of scientific research in eight Arab states is borne by the ministries of higher education and scientific research, while in five others, this responsibility is borne by the scientific research councils and governmental scientific academies. The same responsibility is upheld by research centres, besides the universities obviously, in four countries and by the ministry of planning in one. If we attempted to clarify the role of the institutions engaged in scientific research and innovation, some Arab states could be cited as an example.

In Egypt for instance, the current scientific research policies in science and technology are vital for the country's future. The constitution adopted in 2014 authorizes the government to allocate 1% of GDP for research and development. It also stipulated that the state should guarantee the freedom of scientific research and encourage its institutions, as a means toward achieving national sovereignty and building a knowledge economy that supports researchers and

inventors²⁵. For decades, scientific and technological research in Egypt has been largely centralized, and under the control of the public sector, as research and development activities were mostly conducted by public universities and research centres, which are run by the Ministry of Higher Education and Scientific Research. Egyptian research centres used to belong to different ministries, but they are currently being organized under the umbrella of the Supreme Council for Research Centres and Institutes with the purpose of improving coordination among them. The Egyptian Science, Technology and Innovation Observatory (ESTIO) is one of the most important bodies responsible for gauging and analyzing the indicators of science, technology and innovation annually, as it provides basic indicators and data about researchers, including their specialties, the expenditures level on research and development, patents and the research published locally and internationally. The Egyptian Innovation Bank also encourages innovations and inventions leading to generating national technology, by providing marketing outlets for innovations and supporting innovators, inventors and civil society organizations²⁶.

In Saudi Arabia, King Abdulaziz City for Science and Technology (KACST) assumes the role of the National Science Agency, as well as serves as a focal point for national laboratories. The City is involved in policy making, data collection and funding external research. It also acts as a technological incubator by strengthening the links among research universities and the public and private sectors to encourage innovation, as well as transfer, and implement the technology with commercial potentials²⁷.

These results showed that many Arab states sought to stimulate innovation and improve competitiveness

In the UAE, the United Arab Emirates University is the main source of scientific research in the country, in addition to a large number of centres supporting scientific research, including the Mohammed bin Rashid Centre for Future Research. In 2018, the government launched the UAE Platform for Scientific Laboratories. Mostaqbal (The Future) observatory was launched in 2016 as a result of a strategic partnership between Dubai Future Foundation and Futurism.com²⁸. Moreover, a diploma in innovation has been established in cooperation with the University of Cambridge in the United Kingdom.

In Qatar, Qatar National Vision 2030 calls for an optimal balance between the current oil-based economy and the knowledge economy characterized by innovation, entrepreneurship and excellence in education, as well as providing public services efficiently. Qatar Foundation established Qatar Science & Technology Park, which became the main Qatari incubator for technology development, research marketing and entrepreneurship support. As the park is in the Qatar Foundation Education City, it has access to resources collected from the leading research universities.

In Lebanon, although there are more than 50 universities, most of the scientific researches are conducted in only three universities, which are the Lebanese University, Saint Joseph University, and the American University of Beirut²⁹. These universities sometimes cooperate with one of the four research institutions run by the National Council for Scientific Research (CNRS) (established in 1962) and/or the Lebanese Agricultural Research Institute. In Lebanon, there are several

NGOs that are active in scientific research, including the Arab Academy of Sciences (established in 2002), the Lebanese Association for the Advancement of Science (LAAS) (established in 1968) and the Lebanese Academy of Sciences, which was established by a government decree in 2007. Since there is no ministry responsible for formulating science and technology national policies, the National Council for Scientific Research (CNRS), under the authority of the Prime Minister, performs an advisory function to the government as it sets the general framework of the Lebanese national policy for sciences. It also initiates, encourages and coordinates research projects. The council also runs the National Centre for Geophysics, the National Centre for Marine Sciences, the National Centre for Remote Sensing (NCRS) and the Lebanese Atomic Energy Commission. In 2006, the Council finalized a draft of the Science, Technology and Innovation Policy (STIP), with the support of UNESCO and the United Nations Economic and Social Commission for Western Asia (UN-ESCWA). The Council also established the Lebanese National Observatory of Science, Technology and Innovation in 2014 for the inputs and outputs of research and development activities, with the support of ESCWA, and with a view to track the main indicators³⁰.

In Bahrain, the Higher Education Council (HEC) recently developed a strategy for scientific research for the period from 2014 to 2024. Bahrain's strategy is based on the need to develop scientific research in the heart of Bahraini society and economy³¹.

In Jordan, the Royal Scientific Society (RSS) was established in 1970 as a reference centre for knowledge, science and technology to conduct applied scientific research and provide advice and technical services through mobilizing scientific and research capacities in Jordan and the Arab states, as well as link them to local, regional and international institutions to serve development in Jordan. The Royal Scientific Society (RSS) is the largest scientific institution concerned with applied scientific research and providing scientific advice and technical services in Jordan. It is also a leading centre at the regional level in the science and technology fields.

All of these examples show that there is a legal and logistical interest in innovation; however, the question remains as to why this interest is not reflected in real innovation processes and why innovation does not take the communities towards achieving knowledge society? Here, the problems, which we mentioned when monitoring the state of scientific research, are apparent. In all cases, the major problem, related to the inconsistency between words and deeds, between speech and practice and between formal institutional frameworks and the actual practice on the ground, remains.

The participants in the focus discussions, which were organized in three Arab states in the context of preparing this report, shed light on some aspects of these problems when they referred to a number of issues, including the weak production of knowledge, the absence of thinking tools in educational curricula, the lack of scientific journals, the lack of catalyzing innovation and even the weak knowledge system as a whole (see Table 3-3).

Box 3-6: Examples of Some Aspects of Stimulating Scientific Research in Arab States

- Qatar National Research Fund (QNRF)⁽¹⁾
- The Kuwait Prize for Advancement of Sciences⁽²⁾
- Mohammed bin Rashid Arabic Language Award⁽³⁾
- The Abdul Hameed Shoman Award⁽⁴⁾
- The State Awards in Science, Social sciences, Arts and Literature in Egypt⁽⁵⁾
- The Grand Hamdan International Award⁽⁶⁾
- Hamdan Award for Medical Research Excellence⁽⁷⁾
- Hamdan Award for Volunteers in Humanitarian Medical Services⁽⁸⁾
- The Kingdom of Saudi Arabia Award for Environmental Management⁽⁹⁾
- Technology Innovation Award for Arab Young Researchers: The Arab League Educational, Cultural, and Scientific Organization (ALECSO)⁽¹⁰⁾
- The Arab Creativity Award: Arab Thought Foundation⁽¹¹⁾
- The Rashid Bin Humaid Award for Culture and Science⁽¹²⁾
- The King Faisal Prize⁽¹³⁾
- The Mohammed Bin Rashid Innovation Fund (MBRIF)⁽¹⁴⁾
- The Sultan Qaboos Award for culture, Arts, and literature⁽¹⁵⁾

Sources:

- (1) <http://www.qnrf.org/ar-qa>
- (2) <http://www.kfas.org/ar/Prizes/KFAS-Prizes>
- (3) <https://arabicaward.ae>
- (4) <https://shoman.org/>
- (5) <http://scc.gov.eg/activities/competitions/>
- (6) http://hmaward.org.ae/ar/the_awards.php
- (7) http://hmaward.org.ae/the_awards.php
- (8) http://hmaward.org.ae/award_details.php?id=72
- (9) <https://www.ksaaem.org/>
- (10) <http://www.alecso.org/nsite/en/>
- (11) <https://arabthought.org/en/arabcreativity/about>
- (12) <http://rsh-award.org.ae/al-nishaa>
- (13) <https://kff.com/ar/King-Faisal-International-Prize>
- (14) <https://www.mof.gov.ae/en/About/programsProjects/Pages/MohamedBinRashidInnovationBox.aspx>
- (15) <https://sqhccs.gov.om/?lang=english>

Table 3-3: Perceptions about the Arabic language, research, development and innovation, as expressed by participants in the Discussion Groups organized in Saudi Arabia, Egypt and Morocco in preparation of this report

Saudi Arabia	Egypt	Morocco
<ul style="list-style-type: none"> • The need to catalyze scientific research • Most of what universities' researchers publish is a scientific publication, not a scientific research • The lack of scientific journals published in Arabic, as well as the disinterest of society in these journals, which are limited to specialists • The spread of unscientific phenomena in the Arabic journals, such as publishing non peer-reviewed scientific publications for a fee • Publishing Arabic industry is a field that can generate many jobs if dealt with properly and economically. Also, there is a need to enhance the Arabic language through providing economic incomes 	<ul style="list-style-type: none"> • The lack of catalyzing innovation and creativity • The ability of Arabic to contain scientific neologism is relative and varies from one field to another. (For example, the challenge is great in the information technology field as it progresses very fast and the Arab region does not contribute to this progress) • When the Arab region becomes a knowledge producer, it can impose its language. There is no harm in producing in another language as a beginning until reaching the competitiveness stage • Research published in Arabic does not receive much attention and remains local, as research papers submitted in Arabic for promotion are sometimes rejected • University professors should not accept linguistically weak research and stress on writing correctly 	<ul style="list-style-type: none"> • The weak entire knowledge system makes it difficult to move from the knowledge transfer stage to knowledge localization and production stage • The educational curricula do not help in producing knowledge and innovation, while innovation, research, creativity and development should grow within the education and formation system • It is impossible to talk about innovation without the thinking tools in the educational curricula, due to the lack of specialists in didactics, curricula, pedagogical and assessment psycho-linguistics • Most universities have neither a database nor an index for their research and studies, which are not marketed or published • The necessity of publishing and using dictionaries, as well as granting access to the universities and research centres • It is important to develop the information technology reality and provide the required technological means to support innovation and creativity

It is clear that there is a huge gap between the demand for establishing knowledge societies and the situation of scientific research and innovation. This link is one of the weakest in the process of anticipated transition. We are here speaking about a non-innovative and non-developmental economy, which cannot move to knowledge economy without a real and massive leap in research, development and innovation, as that transition creates the great leap towards the coveted objective of attaining the knowledge society.

Information and Communication Technology and Bridging the Digital Divide

The world has witnessed in the last two decades some radical changes in the field of information and communication, which reached their peak when computer technologies were paired

with communication technologies. This scientific and technological leap resulted in the creation of the so-called information economy, in which information is the main and strategic resource. Many information scientists believe that the development that occurred in the last two decades in the information and communication technologies field will lead, or has already led, to a new gap among three types of societies. The first type is societies that are active and involved in producing, transferring, localizing and using knowledge. These societies are capable of producing new technologies in the communication and information field. The second type is societies that use and consume knowledge and information. These societies communicate with the world via modern technologies that do not contribute to its industry. The third type is backward societies that lag behind modern technologies, and get only very little.

It is clear that there is a huge gap between the demand for establishing knowledge societies and the situation of scientific research and innovation. This link is one of the weakest in the process of anticipated transition

Figure 3-11: ICT Index in some Arab states (2016-2017)



Source: International Telecommunication Union. 2017. Measuring the Information Society Report 2017- Volume 1. Note: The value of the index varies between 1 and 10. The higher the index is, the higher the level of development is as well.

There is no doubt that the efforts exerted in the Arab region and the endeavour to narrow the digital divide separating it from developed societies and to create an Arab information and knowledge society can contribute to achieving sustainable and equitable economic and social development for its individuals

Indeed, there is progress in the ICT field, especially in the Gulf Cooperation Council countries (GCC)

There is no doubt that the efforts exerted in the Arab region and the endeavour to narrow the digital divide separating it from developed societies and to create an Arab information and knowledge society can contribute to achieving sustainable and equitable economic and social development for its individuals³².

The ICT Development Index (IDI), which has been published annually by the International Telecommunication Union (ITU) since 2009, occupies a pivotal place in most indicators gauging the economic environment of knowledge society, as it evaluates and compares ICT performance across countries in terms of three pillars (access to ICT, use of ICT and ICT skills)³³. According to the latest update of this index in 2017, Bahrain ranked first in the Arab world and 31st globally out of 176 countries, followed by Qatar and the UAE which ranked 39th and 40th respectively, while Saudi Arabia ranked 54th globally and fourth in the Arab world (see Table A.14 in the Statistical Annex).

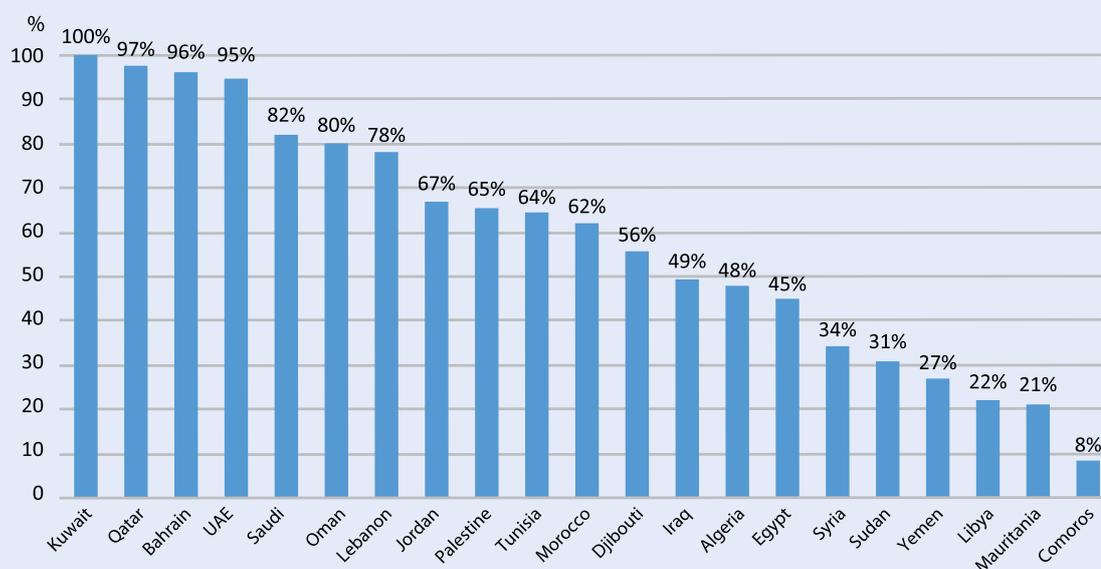
The ICT Development Index shows the progress made by the countries during 2017, based on access, use and skills factors, according to the ITU's official website. Table (15) in the Statistical Annex, which presents the ICT sub-indicators, including the Arab states ranking, indicates that Bahrain ranked among the first of Arab states in most ICT indicators, as it remained the first in the Arab world in the indicators of access and use, and the third in the indicator of skills. Bahrain's ranking also improved in the global ranking in terms of access indicator (as it moved up from the 27th rank in 2016 to the 22nd rank in 2017), though there was a decline in the indicators of use and skills.

Bahrain, the UAE, and Qatar maintained their ranking in the indicators of access and use to be consistent with their ranking in the general index, while Saudi Arabia rose to the first ranking in the Arab region in the indicator of skills, with clear progress during the period from 2016 to 2017.

Indeed, there is progress in the ICT field, especially in the Gulf Cooperation Council countries (GCC), but the data also indicates that the ICT field still suffers from some contradictions. Progress in a certain field of ICT coincides with a decline in another field. Also, the time dimension reveals that this progress is not going through a major breakthrough stage that gives society a clear quantum leap. In addition, the indicators of progress remain static as long as they do not depend on local technology emanating from the innovations of the Arab states. Low rates of technological innovation create significant impediments to technological progress.

Internet in Arab States: A Gateway to Exchange Ideas and Knowledge

Communications transferring data have replaced voice communications as the most important type of fixed and mobile networks. Accessing and using the Internet have become a particularly important matter, not only in terms of ICT, but also in terms of economic and social perspectives, including achieving Sustainable Development Goals³⁴. According to Internet World Stats, specialized in statistics of Internet users around the world, Egypt continues to lead the Arab world in terms of Internet users in 2017 and 2019, while Saudi Arabia ranked second in both years. Algeria ranked fourth in 2017, advancing to the third rank in 2019 (Table

Figure 3-12: Percentage of Internet users in 2017 in all Arab states (2016 - 2017)

Source: International Telecommunication Union. 2017. Measuring the Information Society Report 2017- Volume 1

A.16 in the Statistical Annex). According to the ITU, the Gulf countries top the list of Arab states in terms of the percentage of individuals using the Internet in 2017, while the percentage in other Arab states ranges from 78% in Lebanon to 12% in Comoros (see Figure 3-12).

Based on these indicators, we can say that the Arab region is witnessing a revolution in the field of data transmission via the Internet. This revolution creates a situation that has significant social and cultural effects, as it strengthens the networked society within the Arab region and becomes a cultural gateway for exchanging thoughts and knowledge. Thus, it positively contributes to the process of producing, transferring, localizing and using knowledge.

Access Indicators to Information Society

Table A.17 in the Statistical Annex presents the indicators of accessing information and communication technology,

as it shows the individuals' subscription in landline and mobile services, available Internet speed, households' ownership of computers and home Internet connection. Household access to the Internet is the most effective means of enabling an inclusive information society in which all people, irrespective of age, gender, disability, or economic or social context, can have access to the Internet and the resources it provides. Many of the broadband strategies that have been adopted by governments seek to enable access for all households nationwide as a means of achieving universal access to the Internet³⁵. The data indicates that Bahrain topped most indicators of access to communication and information technology (the number of landline phone subscriptions in 2018, mobile phone subscriptions in 2016, Internet capacity in 2015 and 2016, the ratio of households acquisition of computers and the ratio of home use of Internet in 2016). It is remarkable that most Arab states have made progress in these indicators from year to year, especially in the indicators of Internet capacity, household acquisition

We can say that the Arab region is witnessing a revolution in the field of data transmission via the Internet

The great progress in modern communication technology has opened broad horizons and wide fields for the media, whether in terms of coverage or access to all social segments at an almost instantaneous speed

Media represents excellent platforms that reach all segments of society, which – if effectively used – could promote using the correct Arabic language and developing it, in accordance with modern-day requirements

and home use of the Internet. On the other hand, we find that most countries have had a decrease in the number of landline telephone subscriptions. This indicates the great dependence of individuals on mobile phones compared to landlines, while some other states have preserved their status on the different dimensions.

Media and Communication Technology: A Key Role in Disseminating Knowledge and Correct Language

The great progress in modern communication technology has opened broad horizons and wide fields for the media, whether in terms of coverage or access to all social segments at an almost instantaneous speed. While it seems to be positive for the media, it has, however, placed big challenges at social, practical and legislative levels. TV channels, for instance, have broken all barriers and entered all homes until they became partners of the family and educational institutions in raising youth. At a later stage, social media brought complete openness to the entire world. Thanks to its easy access and participation of everybody, it has set TV channels aside and became the most important element of life in modern society. These conditions are accompanied by many challenges and opportunities related to establishing the knowledge societies and economies, and the role of Arabic in this process.

Arab Satellite Media

It was necessary for the Arab world, in the context of contemporary communication technology, to establish satellite channels. In 1985, a satellite communications corporation was established. Then, it launched several Arab satellites ever since. The Arab satellite

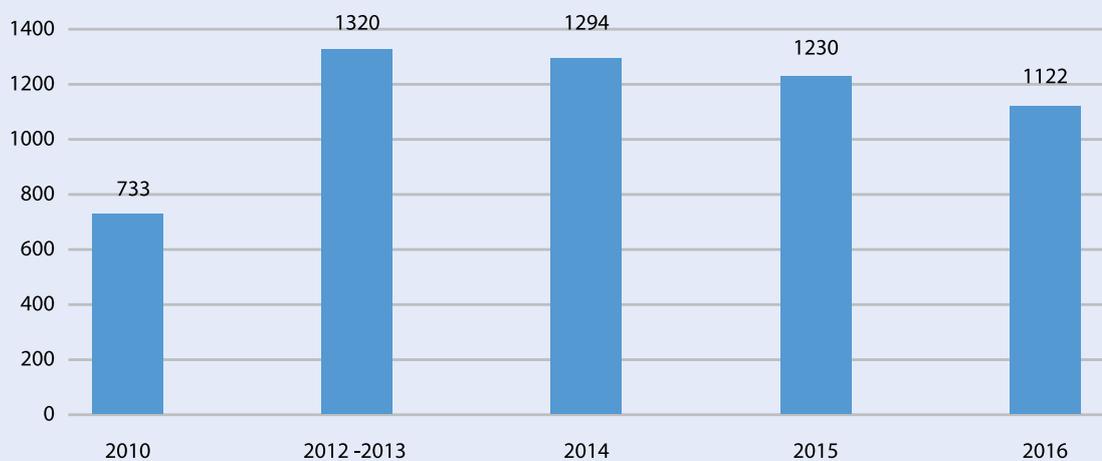
contributed to pushing Arab states towards establishing their own satellite channels. This was accompanied by the expansion of the systems and activities of the Arab Satellite Communications Organization (Arabsat)³⁶. In 2016, the Arab region had many satellite channels, reaching 1,122 public and private channels. It is also worth mentioning that the Arab region receives foreign channels that mainly speak in Arabic and are oriented to their residents, in addition to several other foreign channels oriented to the Arab region that broadcast in other languages or are owned by private foreign institutions. Table A.18 in the Statistical Annex shows the number of satellite channels from 2010 to 2016, including their types, whether public or private. It is clear from the table that the number of Arab satellite channels has been decreasing from year to year. While the number of channels from 2010 to 2012 jumped from 733 channels and 1,320 channels, their number began to gradually decrease until it reached 1,122 channels in 2016 (see Figure 3-13).

Satellite media is not limited to satellite channels only, but also news portals (online newspapers) via the Internet. Table A.19 in the Statistical Annex shows the average of online news portals per million people, which ranged from 9.35 news portals per million people in Kuwait and Bahrain with 8.67 portals to 0.1 portals in Sudan.

Arab Media and the Arabic Language

Many researchers have a positive view about the role that the media can play in supporting the Arabic language. Media represents excellent platforms that reach all segments of society, which – if effectively used – could promote using the correct Arabic language and developing it, in

Figure 3-13: Number of satellite channels (2010 - 2016)



Source: Arab States Broadcasting Union. 2016. Arab Satellite Broadcasting: Annual Report 2016, The High Committee for Coordination among Arab Satellite Channels.

accordance with modern-day requirements. So, were those in charge of Arab media outlets able through their media discourse in harnessing their Standard language, which reflects their identity?

The dilemma of the Arabic language is most evident in mass media. Considering that the Arabic language is the interface reflecting the various cultural and value-based interactions in any society, it becomes, therefore, one of the “front-line” factors instituting and shaping the public perception, where media plays a dominant role. It also represents the strongest party in its relationship with language, as its influence is so great that it could undermine the distinctive characteristics of the language and cause damage, sometimes to the point of distortion³⁷. This fact was confirmed by the focus discussions held in Saudi Arabia, Egypt and Morocco in the context of preparing this report. The participants pointed out to the prevalence of grammatical errors in used Standard Arabic, colloquial writing in articles and advertisements, vernacular in TV and

radio programs, the excess use of foreign vocabulary within the discourse addressed to the Arab citizens and publishing advertisements in the newspapers in foreign language, in addition to the presence of Arab magazines and Arab radio and television programs that bear foreign names and titles written in Arabic letters (see Table 3-4).

However, the focus discussions clearly indicated some positive aspects that can be maximized, such as the high demand of Arabic applications, the emergence of websites for teaching Arabic language and the progress in using Arabic in social media.

Some observers suggest that media has become blatantly and explicitly promoting vernacular, as most of the programs presented on satellite channels are presented in vernacular. That use of vernacular was not limited to only dramas, series and films, but also some cultural and educational programs, political comments and even news bulletins on some satellite channels. Vernacular in the media has

Some observers suggest that media has become blatantly and explicitly promoting vernacular

Table 3-4: Perceptions about the Arabic language in the means of communication and media as expressed by the participants in the Group Discussions organized in Saudi Arabia, Egypt and Morocco within this report

Saudi Arabia	Egypt	Morocco
<ul style="list-style-type: none"> • The disinformation campaigns of the media against Standard Arabic, with an orientation towards vernacular • Developing entertainment content for children that serves the Arabic language • Progress in using Arabic in social media, as well as serious initiatives to enrich Arabic digital content 	<ul style="list-style-type: none"> • There is a decline in the level of the Arabic language in the media resulting from the attempts to link the media to the language of the street and everyday language • Recently, we have been witnessing a demand for applications in Arabic and an increase in producing these apps (albeit by foreign companies). There is no longer a technical obstacle to dealing with the Arabic language on the Internet • The emergence of websites to teach Arabic via multimedia has begun, and these positive aspects should be invested in overcoming some education challenges • The level of Arabic digital content has decreased in terms of quantity and quality • The challenge of the spreading Franco-Arabic phenomenon • Information and communication technologies can be a contributing factor to the spread of the Arabic language (if used correctly) and can accelerate its extinction (unless there is good knowledge production in Arabic) • The failure of some Arabic websites is due to poor content (the reason is not technical) 	<ul style="list-style-type: none"> • The media does not contribute to the development of the Arabic language, but rather to marginalizing it. There is an absence of a national strategy in this field • There is linguistic chaos in the various audio-visual media in terms of programs, whether in French or slang (or both), as well as on social media • The media and communication means have drifted from the references of belonging and spreading science knowledge and values into domesticating youth • The weak awareness of the importance of Arabic in the media field and the lack of training media professionals in the field of language skills • Most of the correspondence, advertisements and marketing processes in management and constructions are made in French, despite the legal texts that oblige the use of the official language of the state

been increasing day by day, to the point where diverse dialects, including Egyptian, Levantine, Iraqi, Moroccan, Gulf and others, have become increasingly dominant, as if it is meant to be imposed as a linguistic reality on the recipient, instead of Standard Arabic language. One of the experts has indicated the absence of the Arabic language or the state of destroying Arabic in the media and believed that the reasons go back to *“the insensitivity towards the importance of Standard Arabic and unappreciation of its role in preserving the nation’s personality, dignity, identity and unity”*³⁸.

There is no doubt that the way which the Arabic language is dealt with in mass communication, television, radio broadcasts or advertisements leads to further deterioration of the language and undermines its capacity to compete with other languages. News’ editors, newspapers and program presenters have gone as far as replacing Arabic terms with foreign ones, such as bibliography, topography, propaganda, physiology and psychology³⁹. Using the Arabic language in mass communication could be enough to make it a renewable language that faces all contemporary challenges. Media has entered every home and is able - if properly used - to endear Arabic to the individuals and make it a strong language that protects itself from the dominance of vernacular on the one hand and the challenges of language competitiveness on the other.

The Arabic Digital Content: Steps towards Cognitive Reality

The Arabic digital content is any content in digital format on the Internet, on CDs, DVDs or others in Arabic. It also includes the Arabized software interfaces,

such as text processing software, texts and speech recognition software, databases, search engines and translation software⁴⁰. The Arabic digital content is quite poor compared to the number of Arabic language speakers and the computer users in the Arab region⁴¹.

Measuring Arabic digital content on the Internet is still a difficult task due to the limited mechanisms and methods that enable measurement and multilingualism. Most of the reports published on the Internet focus on estimations and indirect indicators⁴². An examination of the Arab websites on the Internet shows an increasing spread of Arabic digital content, as the number of Arabic websites reached at least one trillion pages. Despite the presence of various types of available content, there is a gap between the level of Arabic content and that of foreign content, not to mention the poor content in many cases. While the English content represents 68% of the global content of the Internet, the Arabic content represents only 3% of the global content, not to forget the inaccuracy of Arabic digital content, as well as the poor design and lack of interest in the aesthetics that attract visitors⁴³.

However, there are serious steps to improve Arabic digital content reality, which are undertaken by several regional and Arab organizations and bodies, such as the initiative of the UN ESCWA launched in 2003 to improve Arabic digital content, the Saudi initiative launched in 2009 and Digital Arabic Content National Strategy launched by Egypt in 2014. Jordan has also established a national system to support innovation and entrepreneurship, including supporting Arabic digital content.

There are serious steps to improve Arabic digital content reality, which are undertaken by several regional and Arab organizations and bodies

Box 3-7: Arabic Digital Content Crisis

Statistics indicate that the number of Arabic speakers has reached about 420 million, which represents 6% of the global population, while the Arabic content on the Internet represents only 3% of the total digital content. The ratio of Arabic content increased to 4% in 2013 before decreasing to 2% in 2014. The use of Arabic on the Internet during the decade from 2001 to 2011 increased twenty-five times, while the increase of English content was only 3 times, which calls into question the accuracy of the information which provides hasty or outdated assessments of Arabic content. However, the availability of Arab research production within the free access presupposes two things, firstly, the existence of digital information production, and secondly, the produced content should be classified as scientific content. In addition, its availability requires the existence of several factors, conditions and mechanisms to ensure its transformation from theoretical concept into practical application. In other words, there ought to be what could be referred to as knowledge readiness. In this context, the researchers considered that Arab states have not possessed this knowledge readiness for free access yet. Arabic digital content suffers from several crises, in addition to still being weak compared to the global research production. Moreover, researchers' awareness of its concept is still weak.

Source: Nozha Ibn Al-Khayyat. 2013. *Almilakia alfikria fi alalam alarabi bayna alhaq fi alhimaya walhaq fi alwusul alhor: almuhadidat alnazaria walmaydania* (Intellectual property in the Arab world between the right to protection and the right to free access: Theoretical and field determinants). In the role of national associations and libraries in supporting freedom of information availability under intellectual property rights laws. Doha, Qatar: Qatar Foundation.

There are several attempts to publish scientific journals online and establish databases for intellectual production in the field of social sciences and scientific theses

Some researchers point out that the most active Arab states in the digital content industry are the Arab Gulf states, especially Saudi Arabia and the UAE, which are at the forefront of the states that fund this industry. In Jordan, the Jordanian "Mawdoo3" encyclopedia is the largest available Arabic encyclopaedia on the Internet. Palestine is witnessing several initiatives of self-employment, blogging and producing various forms of content. Egypt is pivotal in the Arabic content industry field since it is the largest in terms of Internet users. Lebanon is an ideal arena to hold conferences and meetings about Arabic content. The events organized in the annual Arabic Language Week sum up this fact. In addition, there are initiatives and projects which this country often manages

to fund on its own or through Gulf and foreign investments.

There are several attempts to publish scientific journals online and establish databases for intellectual production in the field of social sciences and scientific theses. A good example is the attempt to create databases for Arabic research abstracts in the sociology and anthropology field, known as "Qabas" database in the web link of the Centre for Social Research and Studies in the Faculty of Arts at Cairo University. The establishment of this database started as a hard version in 1994, then a soft version by the beginning of the third millennium. There was a second attempt to establish a repository of scientific thesis and conference researches

in the Supreme Council of Universities in Egypt, which has not been completed so far. This project will result in establishing the digital library at the Supreme Council of Universities, which will be used to detect citation rates in scientific works submitted to promotion committees.

These efforts have increased at the Arab regional level in parallel with the establishment of databases for the researches published in Arabic throughout the Arab region. Among these databases is the following: "Dar Al-Mandumah" database, launched in 2004, which includes databases of theses, conferences and research published in many Arab scientific journals in the fields of education, social studies, economics, administration, Islamic sciences, legal studies, languages, literature and human sciences (<http://www.mandumah.com/>) and "Al-Manhal" database, established in 2010, which includes databases of e-books, scientific theses, scientific journals and children books published in Arabic in both Asia and Africa (<https://www.almanhal.com/>).

These two databases have achieved a great development in digitalizing Arab publications and organizing them into electronic databases.

These efforts culminated in an attempt to internationalize the journals published in Arabic by establishing an impact factor for these journals via a new project called Arab Citation & Impact Factor ("ARCIF"); a project launched by a new database of Arab journals known as "e-Marefa database for Arab academic and research journals" (<https://emarefa.net/>), which is the first measure of its kind for the Arab academic production according to international standards.

The Arab Books Database "Rashf" also provides a comprehensive database of more than 41,000 books in Arabic, including all information about each book including title, abstract, author, publisher, ISBN and number of pages. It also allows downloading and reading thousands of free books for free (<https://rashf.com>).

Notes

- 1 United Nations Development Programme. 2003. Arab Human Development Report, Towards Knowledge-Based Society.
- 2 The United Nations Development Programme and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2009. Arab Knowledge Report 2009: Towards Productive Intercommunication for Knowledge.
- 3 The United Nations Development Programme and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2011. Arab Knowledge Report 2010/2011: Preparing Future Generations for the Knowledge Society, pp. 8.
- 4 Ibid, pp. 85 and 95.
- 5 World Bank Group. 2019. Expectations and Aspirations: A New Framework for Education in the Middle East and North Africa, pp. 5-12.
- 6 Shibl Badran. 2000. *Al-i'tijahat al-haditha fi tarbiyat tifl ma qabla al-madrasah* (Modern trends in raising a pre-school child), Egyptian-Lebanese Publishing House, pp. 46.
- 7 Taha Hussien. 1996. *Mustaqbal al-thaqāfah fi Miṣr* (The Future of Culture in Egypt), Dar al-Ma'arif, pp. 161-162.
- 8 World Bank Group. 2018. Arab World Competitiveness Report, pp. 40.
- 9 The Arab Administrative Development Organization. 2010. Studies in the reform of Arab universities, Research and working papers of the Third Arab Conference "Arab Universities - Challenges and Prospects", Sharm El-Shaikh, Egypt.
- 10 Association of Arab Universities, <http://www.aau.edu.jo/Lists/ArabUniversities/Countries.aspx>. Accessed on October 20, 2019.
- 11 By the Indian scholar Abu al-Hasan Ali Nadwi, as stated in Belqasim al-Youbi. 2014. *Al-lughā al-arabiya wa al-baḥth al-ilmi al-jamii fi al-watan al-arabi* (Arabic language and university scientific research in the Arab world), Juthoor Magazine, Issue number 36, pp. 267-298. <https://archive.alsharekh.org/Articles/174/19786/445975>
- 12 See Morocco case study.
- 13 The competitiveness index has eight components: (1) Secondary education enrolment rate (2) Tertiary education enrolment rate (3) Quality of the education system (4) Quality of math and science education (5) Quality of management schools (6) Internet access in schools (7) Local availability of specialized training services (8) Extent of staff training.
- 14 World Bank Group. 2018. Arab World Competitiveness Report, executive summary, pp. xiii.
- 15 Abd al-Qader Mohamed Abd al-Qader El- Sayyid. 2018. *Al-baḥth al-ilmi fi al-watan al-arabi: Alwaqī' wa muqtarahat altatwir* (Scientific research in the Arab world: reality and development proposals). International Journal of Research in Educational Sciences, Gr. 1(2): 69-82.
- 16 To view the Arab Strategy for Scientific Research and Innovation and the Executive Plan for the Arab Strategy for Scientific and Technological Research and Innovation, visit the following website: <http://www.fasrc.org/index.php/pages/pageDetails/79>
- 17 World Bank data, wdi.worldbank.org. Accessed on November 24, 2019.
- 18 UNESCO Institute for Statistics data. uis.unesco.org. Accessed on November 24, 2019.
- 19 Munif Al-Zoubi. 2019. *Tafīl mandumat al-ulum wa tiknulujiya wa al-ibtikar min ajl tanmiya mustadama* (Activating science, technology and innovation systems for sustainable development in the Arab world). Studies in the humanities and social sciences, University of Jordan, Volume 46, Issue 1, pp. 58.
- 20 The number of filed patents is the number of patents granted and indexed in the US Patent and Trademark Office's PATSTAT database. Patents are allocated to countries according to the country of inventors listed in the submitted applications.

- 21 World Bank data, wdi.worldbank.org, Accessed on November 24, 2019.
- 22 Nader Ghazi. 2019. *Al-jamia al-arabia tabhath tahdith al-istratijyah al-arabia lilbahth al-ilmii* ("The Arab League" is looking at updating the Arab strategy for scientific research). Akhbar Elyoum portal, <https://akhbarelyom.com/news/1/newdetails/2882409>
- 23 See the paragraph on the Code of Ethics for Science and Technology in the Arab Region in Chapter Four on Enabling Environments.
- 24 The report assesses the level of competitiveness in 141 countries through a composite index that includes 103 indicators distributed to 12 pillars, one of which measures the capacity for innovation. 47 of these indicators represent 30% of the total value of the competitiveness index, which is based on the Executive Opinion Survey of the World Economic Forum.
- 25 See the constitutional text on this link: <http://www.sis.gov.eg/Newvr/Dustor-en001.pdf>, Quoted from UNESCO Science Report. https://en.unesco.org/sites/default/files/usr15_the_arab_states_ar.pdf
- 26 For more information about Egyptian Innovation Bank, the following website can be consulted: <https://eib.eg/about/>
- 27 UNESCO. 2015. UNESCO Science Report, Towards 2030, pp. 433. https://en.unesco.org/sites/default/files/usr15_the_arab_states_ar.pdf
- 28 For more information about Mostaqbal (The Future) observatory, the following website can be consulted: <https://government.ae/ar-AE/about-the-uae/science-and-technology/inspiration-behind-the-advancement>
- 29 UNESCO. 2015. UNESCO Science Report, Towards 2030, pp. 437. https://en.unesco.org/sites/default/files/usr15_the_arab_states_ar.pdf
- 30 Ibid, pp. 438.
- 31 Munif Al-Zoubi. 2018. *Qiraah fi naql al-tiknulujiya wa diblumasiya al-ilmiiya* (Reading in technology transfer and scientific diplomacy). The Tenth Arab Report on Cultural Development. *Albahth al-ilmii al-arabi: Waqiouhu wa tahadiyatuhu wa afaquhu* (Arab Scientific Research: Reality, Challenges and Prospects). Arab Thought Foundation, Chapter Four, pp. 330.
- 32 Imad bin Yahya. 2012. *Mashhad tiknulujiya al-maalumat wa al-italat wa shabakat atawasul al-ijtimai fi al-alam al-arabi, alam atiqniyah* (The landscape of information and communication technology and social media in the Arab world, the world of technology). <https://www.tech-wd.com/wd/2012/12/22/arab-ict-use-report-2012/>, Accessed on November 7, 2019.
- 33 The Federal Competitiveness and Statistics Authority. 2017. Report of the ICT Development Index issued by the International Telecommunication Union, <https://fcsc.gov.ae/en-us/Pages/Competitiveness/Reports/ICT-Development-Index-by-International-Telecommunication-Union.aspx?rid=5> Accessed on November 7, 2019.
- 34 International Telecommunication Union. 2017. Measuring the Information Society Report 2017 Volume 1. (p. 13). https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2017/MISR2017_Volume1.pdf. Accessed on November 7, 2019.
- 35 Ibid, pp. 15.
- 36 Arab States Broadcasting Union. 2016. Arab Satellite Broadcasting: Annual Report 2016, The High Committee for Coordination among Arab Satellite Channels.
- 37 Jumana Asaad Shami. 2012. *Allugha al-arabia fi al-i'lam* (The Arabic language in the media, Symposium No. 56, *Al-i'lam wa al'ugha al-arabiyah* (Media and the Arabic Language). 22 March 2012. pp. 2. https://www.alarabiahconferences.org/wp-content/uploads/2019/04/conference_research-959515761-1527759097-1969.pdf. Accessed on November 7, 2019.
- 38 One of the participants in the in-depth interviews in the Egypt case study.
- 39 Jumana Asaad Shami. 2012. *ibid*.

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اللَّهُمَّ صَلِّ وَسَلِّمْ
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Chapter 4

Enabling Environments

There is no way to meet the requirements of the knowledge society with its various components without an enabling context that embraces all of these components and knowledge dimensions

Regional and international reports and indicators refer to the presence of a weakness and few gaps in the enabling environments in most Arab states

There is no way to meet the requirements of the knowledge society with its various components – including knowledge production, localization and use and with its various dimensions, including education, innovation, scientific research and information technology - without an enabling context that embraces all of these components and knowledge dimensions. Knowledge is an integrated system that requires the mobilization of various efforts and the participation of many parties so that they may all contribute to the sustainable development system¹. This mobilization makes knowledge possible since it creates an enabling context and an environment for knowledge, which drives knowledge forward and makes it a reason for every progress. Hence, to what extent does the Arab region have an enabling environment with the ability to create this mobilization status to achieve knowledge society? The enabling society is a sum of economic, social and cultural context that embraces all policies aiming to achieve the knowledge society².

Regional and international reports and indicators refer to the presence of a weakness and few gaps in the enabling environments in most Arab states. The Human Development Report 2003 pointed to this weakness in the enabling environments, showing the need for addressing them as a necessary condition for the success of efforts to establish the

knowledge economies and societies. The subsequent reports, including those issued by the United Nations Development Program and the World Bank, have come roughly with the same conclusions and recommendations. The Arab Knowledge Report 2010-2011 – which initiated from a broad concept of preparing young people for knowledge that depends on the trilogy of skills, values and enabling environments – has indicated the inability of the Arab enabling environments to provide the necessary conditions to equip the generations with the characteristics required for a transition towards the knowledge society. The deficiency of these environments, as stated in the report, is due to several factors including poor corporate governance, high rates of corruption, high rates of poverty and unemployment, restricting women's freedom and the failure of economic reform policies to achieve social justice. This fact was corroborated by subsequent regional and global reports.

The Political Will: Prerequisite

Establishing the knowledge societies is a societal issue par excellence, in which the roles are not merely limited to the State, as it requires the involvement of all societal segments, including knowledge producers, transmitters and users from all developmental and productive sectors, and citizens in general. Based on this perception, it can be said without hesitation that the

political will is a cornerstone in establishing knowledge economies and societies and in achieving sustainable development as it puts in place the building blocks of governance, directs the human and financial resources, mobilizes the energies and frames and protects development processes. However, the political will must be accompanied by societal action that interacts with it properly to mobilize all community resources and direct them towards establishing the desired knowledge societies.

The political discourse at the highest levels in Arab states includes a clear orientation on the necessity of striving to establish the knowledge society, as it affirms the importance of transforming Arab societies into creative, innovative and productive societies of sciences and knowledge and of enhancing the main pillars of the knowledge societies and economies including education, communications, supporting innovation and creativity within general perceptions to advance sustainable human development in each of these countries.

The political will to establish the knowledge economies and societies has been clearly translated into practice in development strategies that have been adopted by many Arab states to advance the economic and social reality in those countries, as well as to achieve sustainable human development. Several Arab states have developed future strategies that set the establishment of the knowledge economies and societies as declared strategic goals, as in the strategies of Egypt 2030, the UAE 2030, Qatar 2030, KSA 2030, and Algeria 2030.

Legislation as a Fortress for Empowerment in a Knowledge Society³

The constitutions of most Arab states were keen to stipulate in their articles the adoption of the Arabic language as the official language. That was stipulated in the constitutions of fifteen Arab states: Bahrain, Egypt, Jordan, Kuwait, Libya, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, UAE, Yemen, Mauritania and Sudan, while four other countries have adopted a second official language in addition to Arabic, namely: Morocco (the Amazigh language), Iraq (the Kurdish language), Lebanon (the French language, it defined the conditions in which it is used under the law) and Algeria (the Amazigh language). Some Arab states have enacted a host of laws pertinent to protecting the Arabic language, as is the case in Jordan (The Law for the Protection of Arabic Language No. 35/2015) and in Qatar (Law No. 7/2019 concerning the Protection of Arabic Language). The issue was not confined to corroborating the officialness of using the Arabic language, as a host of general laws were enacted in addition to the special laws, to express the eagerness to protect and enhance the use of the Arabic language in various fields. In the educational field, Arabic has been adopted as the language of education in most Arab states, such as Egypt, Kuwait, Syria, Saudi Arabia, Oman, Jordan, Palestine, the UAE, Qatar, Tunisia, Lebanon and Yemen. Some countries took into consideration other languages, whether it was a local language for a group of people, such as the Kurdish language and Syriac languages in Iraq, Amazigh in Algeria, or languages that entered the country due to the colonial presence, such as English in Sudan, and French in the Maghreb countries. Likewise,

The political will to establish the knowledge economies and societies has been clearly translated into practice in development strategies that have been adopted by many Arab states to advance the economic and social reality

The constitutions of most Arab states were keen to stipulate in their articles the adoption of the Arabic language as the official language

The development of legislative frameworks is only a first step that must be followed by several steps, to help enforce these laws and translate them into protective actions that are framed and directed to establish the knowledge societies and enhance the role of Arabic

Arab laws have focused on Arabic as the language of litigation and contracting. A big number of Arab states (Bahrain, Egypt, Jordan, Kuwait, Libya, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, the UAE, Yemen, Sudan, Morocco, Lebanon and Algeria) have adopted Arabic as an official language for courts and litigation procedures. Some countries adopted other languages besides Arabic in courts. In Mauritania, for example, English was adopted as an optional official language of courts besides Arabic. Iraq has also adopted Arabic as the language of courts unless the law provides otherwise. In addition, a number of Arab states, namely Bahrain, Egypt, Jordan, Kuwait, Libya, Oman, Palestine, Qatar, Saudi Arabia, Syria, the UAE, Yemen and Lebanon have adopted Arabic as an official language for employment contracts and collective agreements. Most of the laws in the Arab states stipulated that Arabic is the language of arbitration. The laws of some countries allowed the parties to agree on the language to be used in the arbitration procedures. Despite this constitutional and legal momentum, the reality that has been presented in this research reveals that these laws are not enforced as required. (see Annex No. 2).

The development of legislative frameworks is only a first step that must be followed by several steps, to help enforce these laws and translate them into protective actions that are framed and directed to establish the knowledge societies and enhance the role of Arabic. This could be done first by enforcing laws, developing implementing regulations, upgrading the efficiency of legislators and law enforcers, in addition to raising awareness among knowledge producers, transmitters, and users of these laws and regulations and ways to adhere to them.

The Economic Context of Enablement

There is no doubt that the level of economic development in a society is beneficial to the development of knowledge and technology and to the development of public policies in various fields. Economic development has a great impact on the knowledge society's pillars, including enhancing the capabilities of information and communication technology and developing human capacities, especially creativity and innovation capabilities, and on developing educational performance at schools and universities. The Arab region has enormous economic potentials that, if employed and directed in an effective manner, could enable the region to achieve a major leap in the development field as it has economies whose GDP value exceeded 2,283 billion dollars (in the current currency rate) in 2018⁴. The total GDP value at current currency rates in Arab states increased in 2018 by 7.5% compared to 2017. Although the Arab economy relies in general on a rentier system that is based largely on the revenues of extractive industries, especially oil, gas, some manufacturing industries and agriculture, there is a general trend in almost all Arab states towards economic diversification, expanding resources, transition to production and increasing dependence on high-value-added goods within declared policies, most of which call for establishing the knowledge economies.

Arab Cultural Heritage

Arab society has a deep historical and cultural heritage that extends over time. Despite the efforts being exerted to develop the cultural system in the Arab

world, including arts, thought, literary and scientific creativity and what is pertinent to them in terms of education, information systems, culture and scientific research, the Arab Reports on Cultural Development (of which ten reports were issued, each focusing on a specific topic)⁵ always emphasize that there is some under-development in different cultural aspects. The recent changes in society did not lead to establishing a modern culture that values creativity, innovation, achievement, time, work and science as required. All these cultural components and others still do not represent general cultural frameworks, as opposed to traditional cultural frameworks, such as patriarchy, masculinism and tribalism. Here we have to look at the style of modernity in general and how it has been formed in a conflict between tradition and modernity that has not yet been resolved. It has even evolved in many cases into a hybrid cultural style that accommodates everything without producing anything.

The Central Role of Family

Family life plays an important role in the processes of language transfer, as it serves children from their early days, so that they may grow up within the family and learn the first words, sentences, expressions, until they become able to establish language contact with others. Therefore, the language becomes more prosperous if the family takes care of it, but declines if it loses its relevance within the family. If preserving the language means preserving the community's identity, then the family is the leading institution in preserving the identity as long as it is primarily responsible for language learning.

Accordingly, the family has to be strengthened in dealing with language

changes and challenges. Research has confirmed that language acquisition within the Arab family in modern society is subject to many pressures, including over-reliance on communication techniques (Internet, mobile phones and social media), the spread of wars and armed conflicts, the prevalence of consumerism and the over-reliance on foreign servants and babysitters in some Arab states⁶. In fact, the role of family as an enabling environment in preserving Arabic language is greatly affected not only by these factors, mentioned before, but also by the family itself. Some families are keen to teach their children foreign languages. The Arab experts who participated in the focus discussions in the three case studies emphasized this phenomenon, which is linked to the widespread use of Franco-Arabic language on social media. Many Arab families come under the influence of the prevailing culture that encourages learning in foreign languages. This culture has pushed the members of some Arab families to be proud that their children learn in foreign languages, and that their Arabic language is weak. The Arab family is requested to play its important role as an incubating environment for Arabic, thus, as an enabling environment that helps young people to acquire values and skills, including linguistic skills, above all mastering the mother tongue, to equip them to contribute effectively establishing the knowledge societies and economies, and benefiting from their outcomes. Then, families are required to encourage their children to open up to the world and to learn foreign languages, as well as inculcate passion for the Arabic Language in their children's minds. This is the knowledge society's wager. If the latter is based on innovation and creativity, then both of them do not thrive without the embrace of the mother tongue.

The language becomes more prosperous if the family takes care of it but declines if it loses its relevance within the family

The family has to be strengthened in dealing with language changes and challenges

Table 4-1: Perceptions about the Arabic language in the family and society as expressed by the participants in the Discussion Groups organized in Saudi Arabia, Egypt and Morocco within preparing this report

Saudi Arabia	Egypt	Morocco
<ul style="list-style-type: none"> • The young generation has a fragile confidence in the Arabic language: Standard Arabic is no longer the mother tongue of students today • The success of non-Arabic speakers in learning Arabic language contradicts the weakness of Arabic language among its people • Foreign language has become a condition for hiring in the private sector • The need to highlight the value of Arabic language with a political decision that works on restoring the status of Arabic at the social level 	<ul style="list-style-type: none"> • Arabic language today is not competitive. Families take pride in teaching their children foreign languages at the expense of Arabic • The weak role of the Arabic language has led to the weak Arab sense of belonging and identity • The linguistic conflict reflects the economic materialistic conflict in the world • Multilingualism does not threaten Arabic, but rather a source of richness; Arabic lives and develops as society develops • The audience does not accept ads in Arabic and may not appreciate a local product if its advertisement is in Arabic. This contrasts with the increasing efforts of foreign companies to deliver products to the Arab market in Arabic • Some young people are still interested in reading Arabic and stick to their mother tongue 	<ul style="list-style-type: none"> • The Arabic language doesn't lack creativity and innovation, but it is vulnerable to ideologies and interests • Parents think in a manner affected by cultural dominance and labour market in their children's future • For families, the use of French in particular is regarded as an expression of social status • Language illiteracy must be combated in families and society • The need to change the misconceptions prevalent in some social circles suggesting that Arabic is a difficult language and unable to express science, technology and daily life • Developing and encouraging Arabic language depends on a political decision, not an affiliative, educational or prospective decision

Civil society in the Arab region encounters many challenges and obstacles, but it can play a significant role in creating an enabling environment for the knowledge society

Civil Society and the Public Sphere

Civil society organizations constitute one of the pillars of enabling environments. Parties, trade unions, non-profit voluntary organizations and all social networks established independently by individuals within the existing legal systems are included in the civil society. Civil society stands in a middle ground between official state institutions and individuals, and it plays an important role in engineering communicative actions. For that reason, civil society is

important in building the public sphere, which is considered a field for dialogue and debate for the sake of public interest.

Civil society in the Arab region encounters many challenges and obstacles, but it can play a significant role in creating an enabling environment for the knowledge society. For example, civil society has a great role through local partnerships in supporting education. It can also play an important role in reviewing the quality of the educational process, supporting steering towards the

future and keeping up with the times. Civil society plays a major role in productive communication within and outside the country with the aim of supporting the establishment of knowledge societies.

Moreover, civil society plays a major role in promoting the language through discussions taking place in the public sphere. The strength and freshness of social discussions in the public sphere come from the quality of the language used in these discussions, which allow the broadest cross-section of society to engage in them in an open and effective manner. Considering what has been mentioned above, if Arab societies are truly seeking to achieve the knowledge society, then any progress along this path is necessarily related to the quality of language used by civil society.

Good Governance: A Path to Enabling Environments

In its definition of governance in 2004, the United Nations Development Program (UNDP) focused on important dimensions in establishing the governance process, including decentralization, broadening participation and the role of women, while linking governance to the Millennium Development Goals⁷. The Worldwide Governance Indicators presented reports that included governance indicators for more than 200 countries, including those in the Arab region during 1996-2018. These indicators dealt with six dimensions of governance, including expression and accountability (which reflect perceptions about to what extent the citizens of a country are able to participate in choosing their government, as well as freedom of expression, freedom of forming associations and freedom of media), political stability

and absence of violence (which measures the perceptions about potential political instability and/or politically motivated violence in addition to terrorism), government effectiveness (which reflects the perceptions about the quality of public services, the quality of civil service, its independence from political pressures, the quality of policies formulation and implementation and the government's credibility in committing to these policies), organizational quality (which discusses perceptions about the government's capability to formulate and implement policies, as well as the existence of proper regulations that allow and encourage developing private sectors), the rules of law (which reflects the perceptions about to what extent the citizens trust and adhere to society rules, especially the quality of contract enforcement, property rights, police and courts, as well as the impossibility of potential crime and violence) and fighting corruption (which reflects the perceptions about to what extent the public power is used for private gains, including all forms of corruption, as well as the state being controlled by the elites and special interest groups). In general, the position of most of the Arab region countries, over most of these indicators, was low compared to developed countries (such as European countries and Japan)⁸. In recent years, many Arab governments have been trying to take steps to achieve good governance in many ways and approaches, including decentralization and digitization of the bureaucratic process through designing electronic platforms to facilitate citizens and the public's access to government information. Many governments promote e-government initiatives to coordinate and clarify bureaucratic processes, reduce corruption and improve efficiency. The

Enabling environments for establishing the knowledge society are closely linked to good governance. Any system, program or endeavour to establish the knowledge economies is an integral part of the prevailing management and governance systems, as they have a mutual impact

Data clearly shows that several Arab states are still encountering big challenges in the indicators of macro-economic stability, the high unemployment rates in the labour market and the slow progress in adopting technologies in the communication and information field

decentralization process can be one of the ways that facilitate the government's work at the local level, provided that the appropriate resources and political will are available.

There is no doubt that enabling environments for establishing the knowledge society are closely linked to good governance. Any system, program or endeavour to establish the knowledge economies is an integral part of the prevailing management and governance systems, as they have a mutual impact. Hence, any reform or rationalization for governance systems will have a direct reflection on the effectiveness of the processes of establishing the main pillars of the knowledge economies and societies, including governance of education, information technology, communications, innovation and creativity. Since good governance plays the directing role in the knowledge society's pillars and overall development process, Arabic has a great role in the societal dialogue on this governance and in setting its frameworks and approaches in a proper Arabic language that is understood by all segments of society, thus, translating its approaches to achieve the coveted goal.

Competitiveness as a Motivating Environment for Enablement

A competitive environment has an important role to play in producing, transferring, establishing, localizing and using knowledge, especially with regard to stimulating innovation and creativity. Many Arab states are working on enhancing and enabling these competitive environments as one of the key drivers that may play a major role in reviving the economy and creating new jobs. The Global Competitiveness Report 2019 issued by the World Economic Forum points out the factors affecting the elements of

economic competitiveness which each country enjoys, in terms of productivity and capacity for long-term economic growth. These elements enable countries to progress and upgrade the services provided to its citizens, which is known as the Global Competitiveness Index. The index is related to the economy's transformation to "digital economy" or "knowledge economy", to engage in the fourth industrial revolution and to benefit from its results. This composite index depends in its ranking for the countries on data of one hundred and three sub-indicators that are grouped into twelve topics: institutions, infrastructure, adaptation of information and communication technologies, macroeconomic stability, health, skills, labour market, production market, financial system, market size, business vitality, and innovation capacity.

Given Arab states status in these indicators in 2019 compared to their status in 2018, it is clear that most of them have advanced in their ranking, as Kuwait advanced eight places, Bahrain five places and Saudi Arabia three places, achieving the biggest progress in the ranking in the last seven years. Also, Jordan and Algeria advanced three places, UAE two places and Egypt and Qatar one place. Some countries maintained the same ranking, such as Morocco, Tunisia and Yemen. Others fell back in the ranking, such as Lebanon, which fell back from the 80th to 88th, Oman, which fell back from the 47th place to the 53rd and Mauritania, which fell from the 131st to the 134th⁹.

This data clearly shows that several Arab states are still encountering big challenges in the indicators of macro-economic stability, the high unemployment rates in the labour market and the slow progress in adopting technologies in the communication and information field.

The Global Competitiveness Report 2019 recommended a number of policies and measures for the countries desiring to improve their competitiveness abilities: continuing open-door and international economic cooperation policies, changing tax systems, so that they may place compulsions on the economic activities that are harmful to the environment and encouraging environmentally-friendly activities, increasing motivations to develop research, development and innovation capabilities, implementing policies that increase social mobility and equal opportunities, as well as reducing income inequality and social protection for marginalized and vulnerable groups and enhancing fair competition to encourage investments flows that support competitiveness¹⁰.

In order to bridge the innovation gap and be able to compete and create a competitive environment, Arab states are required to increase investments in supporting innovation, establishing new mechanisms to transfer knowledge and skills, provide and connect a supporting infrastructure network, increase private-sector investments, guarantee the free flow of talents and knowledge, ensure using intellectual rights property to facilitate accessing the innovations and enhance innovation efficiency, as well as link it to the market¹¹.

Enabling Environments and the Charter of Ethics of Science and Technology

A conscious discourse on science and technology ethics currently prevails in the Arab region, as they are the driver for sustainable human development and

an environment for advancing societies towards knowledge. These ethics frame science and technology as a major driver for development, protect science and technology products and personnel, as well as guide sciences to avoid the immoral practices that harm humans and the environment. Also, they are a social enabling frame to disseminate knowledge. The Arab region is rich in many successful experiences in setting ethics rules for scientific research and technological applications, although there are clear differences between these experiences, in terms of scope and adoption level (Law, decree, charter, application at the national level, application at individual research agencies level, medical field and various research fields, etc.)¹². Consequently, several Arab states sought to create this enabling environment for scientific research. Tunisia (1990) put forward a ministerial order about drug testing procedures, Jordan developed a Clinical Research Law (2001), Egypt established a Medical Research Ethics Committee at the Academy of Scientific Research and Technology (2005), Sudan developed the Ethical Conduct of Research Involving Human Experimentation (2008), Qatar prepared guidelines of controls and policies for research on human experimentation (2009), which explicitly stated their applicability to both medical and behavioural sciences, Saudi Arabia issued the Code of Ethics of Research on Living Creatures (2010), Morocco issued the Act of the Protection of Persons Participating in Biomedical Research (2015) and Lebanon developed the Charter of Ethics and Guiding Principles of Scientific Research (2016). At the regional level, the Arab League Educational, Cultural and Scientific Organization established the "Arab Committee for the Ethics of Science

In 2017, several institutions in the Arab region, under the umbrella of the League of Arab States and with the support and coordination of UNESCO Regional Bureau for Sciences in the Arab States, embarked on elaborating the Charter of Ethics of Science and Technology in the Arab Region

and Technology” in 2003 and launched the “Arab Network of the Ethics of Science and Technology” in 2013, in order to achieve a number of objectives, including raising the awareness on the ethics of science and technology and contributing to developing a joint Arab vision in this regard¹³.

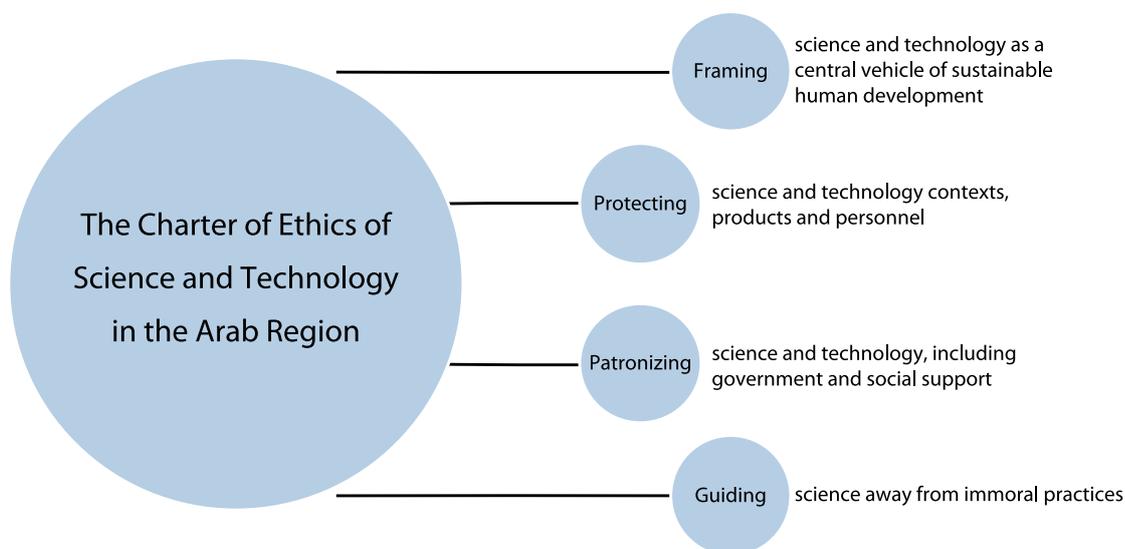
In 2017, several institutions in the Arab region, under the umbrella of the League of Arab States and with the support and coordination of UNESCO Regional Bureau for Sciences in the Arab States, embarked on elaborating the Charter of Ethics of Science and Technology in the Arab Region. The Charter would be an overarching umbrella for the different scientific disciplines and technology applications and would reflect the specificities of the region. These efforts culminated in March 2019, with the approval of the Council of the League of Arab States at the summit level on “The Charter of Ethics of Science and Technology in the Arab Region” as a guiding document. This work must be completed by guiding Arab states with this

charter to adopt it according to each state’s reality and in line with its laws and regulations.

The charter includes the principles of integrity, safety, respect for human dignity, animal welfare and the preservation and protection of the environment, benefit and no-harm, openness, and productive communication, in addition to justice and protection of rights and freedom. All these enabling practices aim to establish an ethical framework that guides science and technology into the right direction, support science and technology, build competitive capabilities and establish scientific and innovative work on an ethical basis (see Figure 4-1)¹⁴. The charter did not overlook the important role of the Arabic language in establishing knowledge societies and developing the legal framework of this process. It clearly indicated the necessity of publishing in Arabic as a moral duty within the general framework for providing knowledge and promoting the utilization of it by all relevant groups.

The Charter of Ethics of Science and Technology in the Arab Region indicated the necessity of publishing in Arabic as a moral duty within the general framework for providing knowledge and promoting the utilization of it by all relevant groups

Figure 4-1: The Charter of Ethics of Science and Technology in the Arab Region Objectives



Source: UNESCO. 2019. The Charter of Ethics of Science and Technology in the Arab Region.

Notes

- 1 Soham Badi. 2017. *Annamudaj al-mafahimi litawtin al-ma'rifah fi al-watan al-arabi wa istratijiyat tamkin ashabab* (The conceptual model for the localization of knowledge in the Arab world and the strategy of youth empowerment), Reading in the 2014 Arab Knowledge Report, citing Ahmed Ouza's study '*allugha al-arabia wa mujtama' al-ma'rifah bilmaghrib* (The Arabic language and the knowledge society in Morocco), 2019, pp. 29, http://www.journal.cybrarians.org/index.php?option=com_content&view=article&id=790:sbadi&catid=307:papers&Itemid=111. Accessed on November 7, 2019.
- 2 The United Nations Development Programme and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2015. Arab World Knowledge Index 2015, <http://www.knowledge4all.com/ar/Arab-World-Knowledge-Index/2015>. Accessed on October 10, 2019.
- 3 See Annex No. 2 on the charters and legislation of the Arabic language in Arab states.
- 4 World Bank data, wdi.worldbank.org. Accessed on November 20, 2019.
- 5 Arab Thought Foundation. 2018. The Tenth Annual Arab Report on Cultural Development: Innovation or Extinction? Scientific Research in the Arab World: Realities, Challenges and Perspectives, <http://www.arabways.org/images/TAKRIR10.pdf>. Accessed on November 7, 2019.
- 6 Ahmed Zayed. 2011. *Al-usrah al-arabia fi alam mutaghayir* (The Arab family in a changing world), Social Research Centre, Cairo, pp. 50-61.
- 7 Tariq Farouk Al-Hosary. 2018. *Al-hawkamah fi al-jihaz al-idari li'dawlah* (Governance in the State's administrative body), Cairo, <http://www.eces.org.eg/MediaFiles/events/c9072e1a.pdf>. Accessed on November 7, 2019.
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- 9 World Economic Forum. 2019. The Global Competitiveness Report 2019, http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
- 10 Ali Eddin Hilal. 2019. *Al-arab fi taqirir a'tanafusiyah al-alamiyah* (Arabs in the Global Competitiveness Report). Al-Ain News. <https://al-ain.com/article/arabs-global-competitiveness-report>. Accessed on November 7, 2019.
- 11 Anabel Gonzalez and Ganesh Rasagam. 2015. 5 ways to close the global innovation divide, World Bank Blogs.
- 12 For more information about Arab experiences in the field of preparing ethics for scientific research and technology, see the background paper prepared by Baha Darwish commissioned by UNESCO for the Regional Consultation on "Ethics in Scientific Research and Technology Applications in the Arab Region" (Beirut, 11-12 July 2017).
- 13 The Arab League Educational, Cultural and Scientific Organization. 2017. The Statute of the Arab Ethics Network for Science and Technology.
- 14 UNESCO. 2019. The Charter of Ethics of Science and Technology in the Arab Region, <https://unesdoc.unesco.org/ark:/48223/pf0000372170>

اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ الطَّيِّبِينَ الطَّاهِرِينَ

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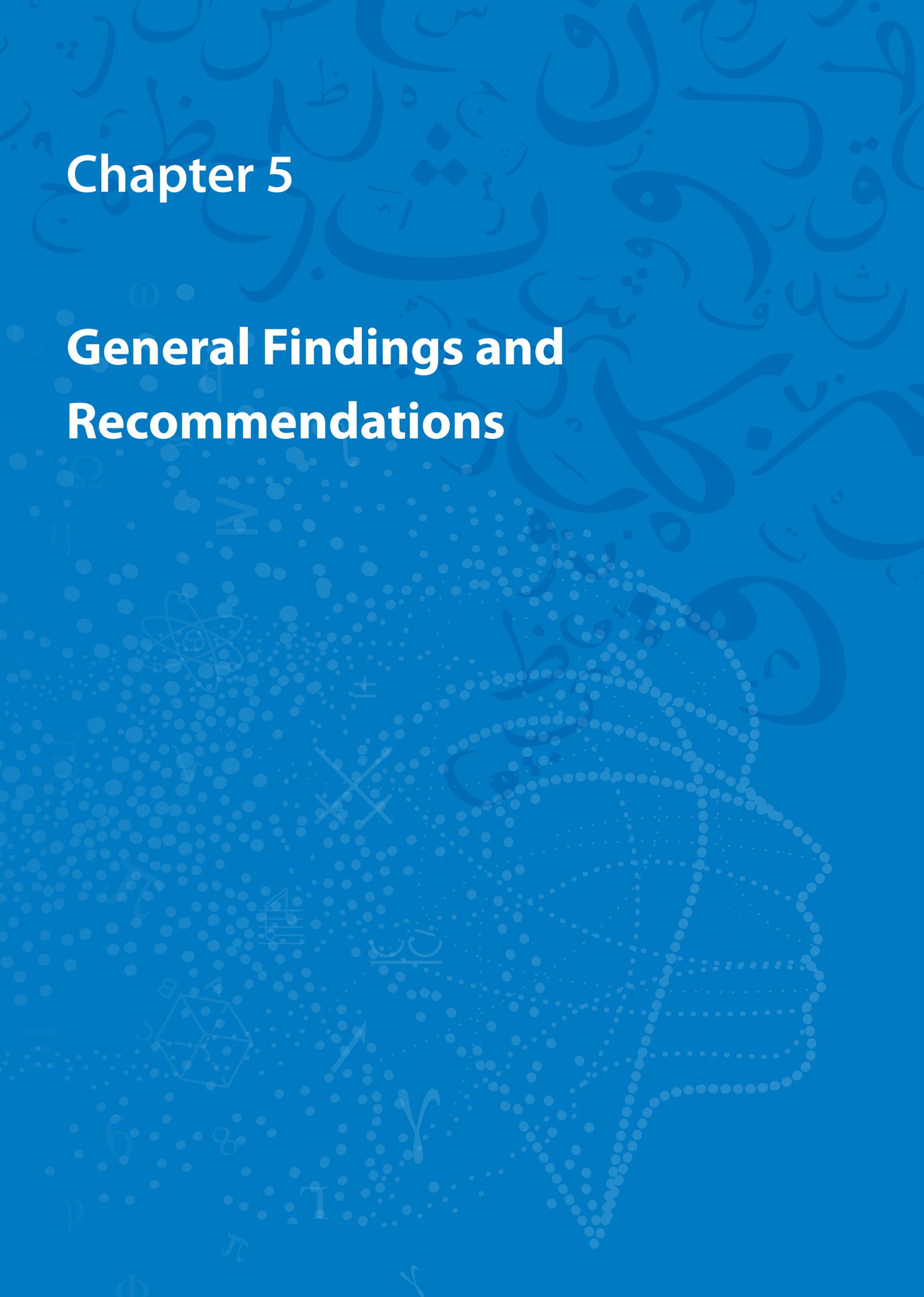
اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ الطَّيِّبِينَ الطَّاهِرِينَ

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Chapter 5

General Findings and Recommendations





Chapter 5

General Findings and Recommendations

The Arab society is still in the throes of the transition towards modern society, as it stands at the crossroads between the culture of modernity and the culture of preserving its identity

This report has been premised on the fact that establishing knowledge societies and economies in the Arab region is a necessary factor for progress in all areas of sustainable human development. The report has highlighted that despite this developmental fact, the reality on the ground clearly indicates an expanding knowledge gap separating the Arab region from the developed world, which has adopted establishing knowledge societies as an essential approach. The report has also proceeded from the basis that language is the incubator of culture and the carrier of knowledge. The desired knowledge societies and economies cannot be established without improving the language status to play the required cognitive and cultural role. Since the Arabs, especially the youth, are the ones who shoulder the responsibility of establishing the desired knowledge societies, since they are the ones destined to benefit from their outcomes, and since the production, transfer, localization and use of knowledge and technology are more feasible and effective using the mother Arabic tongue, the report has focused on the close organic relationship between the efforts to establish knowledge societies and the pivotal role of the Arabic language in this process.

The report has revealed that the Arab society is still in the throes of the transition towards modern society, as it stands at

the crossroads between the culture of modernity and the culture of preserving its identity. This confusion was reflected in the Arab community's endeavours to transform into a knowledge society, and in the language status and its place in this transformation. The Arab community has not yet achieved the required progress to catch up with the global knowledge landscape, and its Arabic language is still captive of the past on one hand, and to the challenges posed by the prevailing global languages on the other hand.

The report has pointed out that there are two divergent trends in developing the Arabic language to keep pace with the times: The first is a rhetorical trend that defends the language and shows its richness, cultural role and unlimited capabilities; the second is a practical direction that works on developing a computing language, drafting dictionaries, and developing digital content. The second trend appears weaker than the first due to the lack of technological and financing capabilities, as well as innovation and research capabilities.

The report has disclosed that knowledge society, with its tremendous progress in information technology and research and development capabilities, poses great challenges to the Arabic language with external and internal

manifestations. On the external level, the language is being marginalized compared to the dominant languages in the world (especially English). Internally, it is being neglected by its people in terms of teaching and learning, which further increases its marginalization and vulnerability. Although the Arabic language played a great historical role as a carrier of science and culture, especially in the first ages of the Arab-Islamic civilization, this role has considerably declined in modern times with the encroachment of globalized languages, such as English and French, the adoption of these languages in teaching basic and applied sciences, the expansion of educational paths that are not interested in Arabic, and the prevalence of an emerging societal culture that does not favor the Arabic language and gives more interest instead to other languages.

The Arabic language, as a vessel for the production, localization and use of knowledge, encounters a number of general challenges, such as the bilingual education, the widening gap between natural sciences and human and social sciences, the faltering processes of the definition and standardization of the Arabic terminology, in addition to the challenge posed by the vernacular and local dialects, the inability to produce large comprehensive dictionaries, and establish an information and technological infrastructure that helps in computing the Arabic language, as well as the specific challenges that are associated with each region of the Arab world.

The report has disclosed the fact that the percentage of books translated is still below the global level, despite the great efforts made in the processes of localizing

knowledge through translation, the steady increase in the number of books translated into Arabic, the increase in the number of institutions sponsoring translation efforts in the Arab world and the provision of a supportive environment by increasing the number of awards allocated in this field. The traditional challenges that hinder translation efforts, such as the paucity of standardized dictionaries, the lack of standardization of terminology, the shortage of translators and the inadequacy of capacity for training them, are still pressing in many Arab states.

The report has indicated that despite the increase in Arab publishing levels, most publications are on human and social sciences, while publishing on natural sciences is directed towards other languages. This creates a huge gap between publishing in Arabic and in foreign languages, and deepens bilingualism and the divide between natural sciences and social and human sciences.

There are early endeavours to use the Arabic language in the administration, commerce, and industry areas. However, this path is still in its infancy, and is more evident in the government administrative sector and the provision of electronic services. Its use in commerce appears in next place through attempts to use electronic applications in commercial transactions, translation of specifications and standards and electronic commerce. The Arabic use in the industrial field comes last, as foreign languages are still dominating management in industrial companies.

The report has disclosed that knowledge society, with its tremendous progress in information technology and research and development capabilities, poses great challenges to the Arabic language with external and internal manifestations

The rates of scientific research, creativity and innovation in the Arab region is still low compared to global levels, and this may be the weakest point in the Arab knowledge situation

As for education, which is one of the most important pillars of knowledge through which young people acquire the required values, skills and knowledge, headed by language learning, the report has indicated the decrease in the education quality, in general, and the low level of the used language. It has also showed that the status of the Arabic language in the Arab educational system is still weak in terms of the nature and content of the curricula, and the number of hours allocated to it at all stages of education.

The rates of scientific research, creativity and innovation in the Arab region are still low compared to global levels, and this may be the weakest point in the Arab knowledge situation. This naturally reflects on the position of the Arabic language as a vector for the creativity and innovation processes. The low level of scientific research, development and innovation imposes restrictions on innovations in the field of technology. Technology, in general and ICT, in particular, are still produced mostly by non-Arab states. Here, the paradox, referred to in this report, is clearly revealed, as we note the relative backwardness in the development and production of information and communication technology, compared to developed countries, despite its widespread use in the Arab region.

Consumer ICT usages reveal another challenge facing the Arabic language. At a time when digital Arabic content is increasing, this content is still less than the target needed to meet the development needs in terms of quantity and coverage, not to mention, the quality of this content, which is still in many cases below the required levels.

At the end of the report, it has emphasized the importance of incubating enabling environments in promoting the establishment of knowledge societies and the role of the Arabic language in them. With the significance and centrality of the political will to create these environments, the report has clarified the importance of community work to support and interact with them as required, and in a way that ensures the mobilization of all community resources, then directing them towards establishing knowledge societies. The report has also asserted the importance of legislation, both in protecting and spreading the Arabic language use and in supporting efforts to establish knowledge societies. Additionally, the importance of the economic, cultural, and societal contexts has been demonstrated, while highlighting the vital role of the family in inculcating the values and skills of knowledge and the sound Arabic language, and in entrenching them in the hearts of their children. The report has concluded the importance of promoting good governance as a general framework and a basic requirement in this process.

Within these descriptions, we can summarize several general recommendations and procedural action steps as proposed for implementation on the short, medium and long terms.

General Recommendations

General recommendations include the following:

- Adopting a clear language policy by the state, while working towards implementing the constitutional and legislative texts and the texts included

At a time when digital Arabic content is increasing, this content is still less than the target needed to meet the development needs in terms of quantity and coverage, not to mention, the quality of this content, which is still in many cases below the required levels

- in the national strategies and charters related to educational, cultural and linguistic instruction (including affording interest to local languages if they exist).
- Encouraging efforts being made by Arabic language academies across the countries of the Arab world, as well as schools and centres working in the Arabic language field to ensure the language protection, development and integration into the requirements of knowledge society.
 - Harnessing efforts to change the prevailing societal culture in some social circles about the Arabic language difficulty, low position among languages or inability to express natural sciences. This requires giving the Arabic language a central role in the everyday discourse at homes, places of worship and public and private institutions. It also requires working on increasing the Arab citizens' awareness of their Arabic language, and its historical and current importance, and linking it to sustainable development programs and the strategic directions of Arab states.
 - Spreading awareness of the linguistic hybridization danger over identity and instilling a culture of pride in Arabic, verbally and in writing, theoretically and practically. Working on designing extra-curricular activities in schools to inculcate a passion for the Arabic language, such as groups of poetry, story and theater, and working on setting aside a day for speaking in Standard Classical Arabic during the school day, paying attention to school radio and training children in recitation skills.
 - The efforts exerted in engineering and computerizing the Arabic language, in developing its communication capabilities and in organizing its digital content require more cooperation, with the need to coordinate efforts between international companies and local authorities, while affording greater support to entrepreneurs in this field.
 - Exerting efforts at the linguistic level and at the information technology level in order to enable Arab institutions to use the Arabic language in their daily dealings. This is one of the challenges to encounter in the near future so that the Arabic language can be active with major international languages as a means of transmitting information through advanced technologies.
 - Working to make the Arabic language a productive language of knowledge, to occupy a high position among the world's languages, while preparing it to cope with the globalization challenges.
 - Dealing with language on the basis that it is a living organism capable of development according to what the people of the language decide and tightening the relationship between the process of language development, reform, improvement and renewal on one hand and the changes that society experiences on the other hand, in a way that makes the language development process responsive to the society development.

It is necessary to work on making the Arabic language a productive language of knowledge, to occupy a high position among the world's languages, while preparing it to cope with the globalization challenges

- Working towards forming a scientific and research base, which would be the starting point for contributing to technical progress, so that the Arab region becomes a participant in the making of technology, not just its consumer in terms of terminology and products.
- Working towards ridding the Arab educational systems of bilingualism, so that the Arabic language becomes the first language of education, followed by learning and mastering foreign languages.
- Promoting the enabling environments that stimulate and incubate the establishment of knowledge societies, and activating the role of the Arabic language within them, in addition to focusing on the crucial role of good governance at all levels.

Procedural Recommendations

In the following, we present a number of procedural recommendations that can be implemented by all Arab states or through the mechanisms of joint Arab action. These recommendations are divided according to the three contexts of the knowledge society's establishment; from the knowledge production, to its transfer and localization, and its use for sustainable development purposes. These recommendations are also sorted out according to a proposed timeframe for their implementation on the short term (within three years), the medium term (within five years) and the long term (within ten years). We do not claim that these proposed measures are complete and comprehensive in all relevant aspects, but rather they are a humble attempt to define our perceptions about future actions and to stimulate thinking and discussion about working methods to deal with gaps and to move towards achieving the stated goal, which is establishing knowledge economies and societies and activating the role of the Arabic language within them.

Procedural Recommendations on Knowledge Production

The list below presents several procedural recommendations related to knowledge production processes and enhancing the role of the Arabic language in them, distributed according to the proposed timeframe for their implementation on the ground.

Recommendations on Knowledge Production	To be implemented on the short term (within 3 years)	To be implemented on the medium term (within 5 years)	To be implemented on the long term (within 10 years)
Establishing a database that contains a comprehensive definition of the various studies that deal with the Arabic language (books, research or articles), as well as introducing specialists in the study and in teaching the Arabic language, in addition to their efforts in this field.			
Striving to establish a major Arab publishing house interested in publishing Arabic scientific works in Arabic and other languages, so that knowledge products are transferred from the national domain to the global domain.			
Establishing an institution for Arab patents that would be able to market these patents or turn them into products or services.		Continuous	Continuous
Encouraging innovation and creativity in the research and cultural field by expanding the Arab prizes awarded by Arab states, organizations and institutions.		Continuous	Continuous
Presenting radio and television programs on Arab satellite networks to combat rigid cultural frameworks against creativity and innovation.		Continuous	Continuous
Developing an Arab strategy for language computing, and implementing it in cooperation with international expertise in major information systems companies.			
Creating an Arab website for the Arabic language that publishes the most important terms approved by the Arabic language academies, and the most important Arabic cognitive contributions. It also introduces researchers in the field and provides innovative and simplified methods of teaching Arabic to its native and non-native speakers.		Continuous	Continuous
Providing awards to researchers in the field of natural sciences who submit their research reports and patents in Arabic.		Continuous	Continuous

Procedural Recommendations on Knowledge Transfer and Localization

The list below presents several procedural recommendations related to enhancing the role of the Arabic language in supporting processes of knowledge transfer and localization, distributed according to the proposed timeframe for their implementation on the ground.

Recommendations on Knowledge Transfer and Localization	To be implemented on the short term (within 3 years)	To be implemented in the medium term (within 5 years)	To be implemented on the long term (within 10 years)
Reviewing the Arabic language curricula of schools and universities across the Arab world within the concept of activating the role of language in the knowledge transfer and localization processes.			
Working, through the Association of Arab Universities, to compel universities in all Arab states to introduce the Arabic language as a compulsory course in all scientific disciplines.			Continuous
Working to produce books to teach the Arabic language in an accessible way that suits the learners' needs and their age groups.		Continuous	Continuous
Coordinating efforts between Arab organizations, institutions and centres working in the translation field, and creating bridges for coordination and cooperation between them regarding the choices of books to be translated.		Continuous	Continuous
Training and raising the efficiency of translators.			Continuous
Urging governments to allocate higher budgets for translation from and into the Arabic language, and in all disciplines.		Continuous	Continuous
Creating a comprehensive Arabic website devoted to teaching the Arabic language to its native and non-native speakers, using modern means.			Continuous
Creating an Arabic website that provides various terms approved by the Arab linguistic academies and that makes them available to all learners, as well as research and international studies transmitted/ translated into and from Arabic.			
Urging the ministries of education in the countries of the Arab world to expand reading classes and school radio systems, and to train students to master the speaking and good listening skills in the Arabic language.		Continuous	Continuous
Urging the ministries of education and higher education in the Arab world to compel foreign schools and universities operating in their countries to teach the Arabic language, and not to accredit their certificates if their graduates fail to achieve high proficiency in the Arabic language.		Continuous	Continuous
Creating a unified Arabic dictionary that combines the language vocabulary in its classic and contemporary forms, so that it covers most of the terms related to knowledge society and keeps pace with their continuous development.			
Establishing translation units in universities and research centres to translate research completed in these institutions from and into Arabic.		Continuous	Continuous
Compelling local companies to transform into Arabic the imported knowledge frameworks on which they depend.		Continuous	Continuous

Procedural Recommendations on Knowledge Use

The list below presents several procedural recommendations related to enhancing the role of the Arabic language in supporting processes of knowledge use, distributed according to the proposed timeframe for their implementation on the ground.

Recommendations on Knowledge Use	To be implemented on the short term (within 3 years)	To be implemented on the medium term (within 5 years)	To be implemented on the long term (within 10 years)
Working to lay down an Arab code of honor regulating the Arabic language use in the Arab media, while applying symbolic and material penalties for those who misuse or denigrate it.			
Encouraging international companies operating in the Arab world to use the Arabic language in their dealings and training programs, while preserving other languages, as well.			
Developing an Arab strategy for e-commerce based on the Arabic language and urging Arab states to pass legislation that establishes trust in this field.			
Disseminating the successful experiences in the Arab world in the electronic governance field that relies on the Arabic language.		Continuous	Continuous
Working through the League of Arab States and the Arab Labour Organization to issue a code of conduct that contains principles and ethics for writing advertisements and how to publish them, so as to preserve the Arabic language.			Continuous
Laying down an Arab strategy to expand the Arabic digital content and broaden the base of its beneficiaries in the cultural and research fields.		Continuous	Continuous

The ethical process comes as a common factor that must be rooted in all stages of establishing knowledge societies, including the knowledge production, localization and use. Hence, it is necessary to work on adopting and institutionalizing a Charter of Ethics in Science and Technology in the Arab region, and then on making it a binding national document in the form that States deem appropriate. It is important, as well, to raise awareness among all workers in science, including individuals and knowledge-producing institutions of the need to adhere to this Charter.

There is no way to establish knowledge society without the existence of a productive economy, a knowledgeable active man, a valuable language capable of achieving flexibility and self-development to adapt to the rapid changes in the era of globalization era and the autonomy that enables the governance and management of the development process in a sensible and rational manner

Conclusion

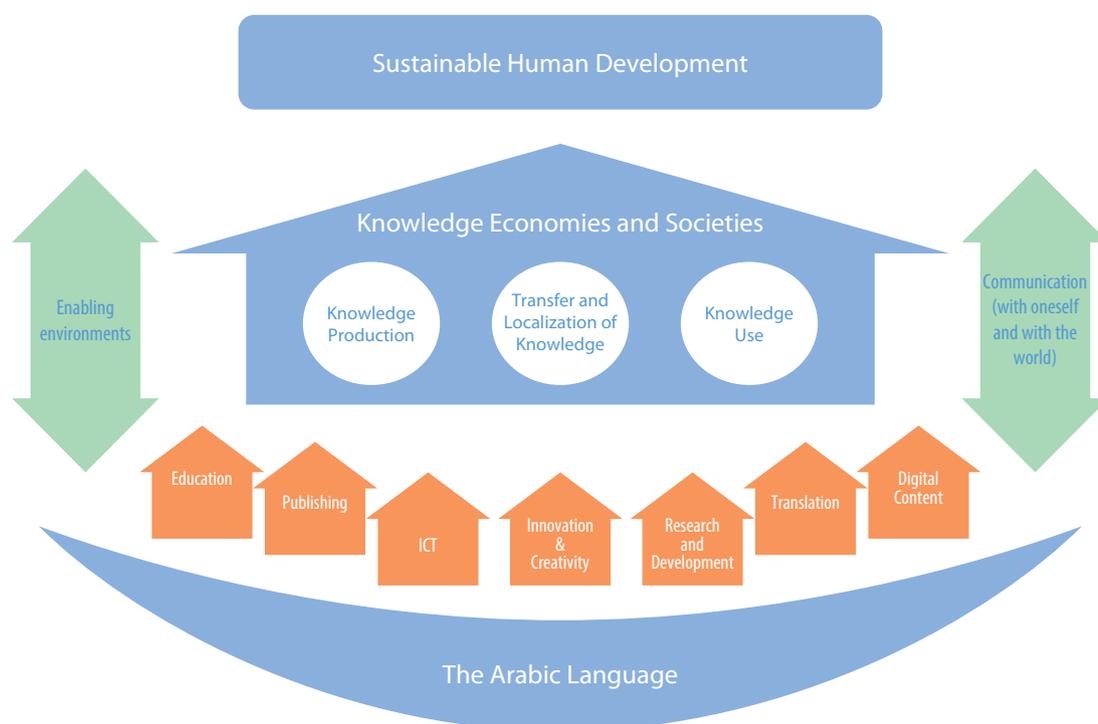
What might be the relationship between the reason and the tongue? It is this question that reflects the deeper intellectual dimension of this research on knowledge society in the Arab region, and the position of the Arabic language therein. The way to knowledge is reason because it depends on its production, transmission, localization and use on the products of the mind and the accumulation of its intellectual and research endeavours, together with the accumulation of its economic, political and cultural accomplishments. The means of language, on the other hand, is the tongue, which transforms the products of reason and its endeavours into useful utterances, as well as meaningful and significant sentences and phrases that can only be understood by reason. Here, we get to the inevitable conclusion that knowledge remains imprisoned if the language does not bring it to life by publishing, using, localizing and teaching it. Reason receives the knowledge that the language provides, then processes and considers it, which consequently allows it to produce more knowledge and ideas to form the knowledge and intellectual accumulation, leading to creativity and innovation in a way that ensures the pride and well-being of the Arab people in an enlightened cognitive society.

There is a circular relationship between knowledge and language that this report has attempted to explore by studying the status of knowledge in the Arab region on one hand, and the problems of the Arabic language on the other hand. The report has shed light on the different contexts of knowledge society, from the production of knowledge to its transfer, localization and use, and the role of the Arabic language in

this society through publishing, translation, and the integration of language in various developmental areas, including the commerce, economy and industry sectors. This analysis has naturally led to identifying important aspects in the processes of establishing knowledge societies, such as education and scientific research, information and communication technology and digital Arabic content. It has also identified the nature and contributions of the enabling environments in forming the appropriate base and providing the imperative elements and requirements for the emergence of knowledge society, and the capabilities it provides for the Arabic language to penetrate to the structure of this knowledge society and support its building processes.

The report has presented several findings that reveal an important structural specificity in the Arab societal formation, which is the apparent contradiction between the call for establishing knowledge society and the decline of the Arabic language's role against other languages. This contradiction is increasingly deepening due to another contradiction between the strong defense of the Arabic language and the deterioration of its teaching conditions and the shrinking of its role and position in the societal system, in general and educational one, in particular. There is no way to establish a knowledge society without the existence of a productive economy, a knowledgeable active man, a valuable language capable of achieving flexibility and self-development to adapt to the rapid changes in the era of globalization, and the autonomy that enables the governance and management of the development process in a sensible and rational manner.

Figure 5-1: Arabic Language as an Incubator for Knowledge Economies and Societies



Even though all Arab states have earmarked establishing knowledge societies and economies in their announced development plans, and although this call has been constantly reiterated by the highest officials and representatives of the political administration, the reality of the situation indicates limited progress towards knowledge societies, which is not commensurate with the declared political discourse. Here lies a fundamental controversy, which is reflected in the gap between the discourse and the declared political will, and the ability of states to translate this political will and visions into practical reality. This also includes a series of administrative, legislative, and societal challenges that affect the absorptive capacity and the ability of Arab societies to advance towards the desired knowledge societies. Hence, it is important to generate enabling

environments that stimulate, support and incubate the efforts of Arab societies and states in their endeavor to establish knowledge societies. Political will, with its importance and centrality as a basic requirement in setting and implementing policies to establish knowledge societies and economies, coupled with community actions and practical steps on the ground, is an essential means and approach for creating enabling environments for Arab societies, for providing basic requirements, including education, and for stimulating innovation.

The above figure displays our expressive conception of the Arabic language status and its role in interacting with knowledge economies and societies. It is the incubator in which the cognitive pillars of education, publishing, and technology are nurtured, and it is the means by which knowledge is transmitted

It is hoped that the Arab youth generations will follow this path, which will restore the glory of the Arabic language, enhance its role in embracing culture and science and build knowledge societies and economies in a way that promotes the well-being and pride of people in the Arab region

and accumulated from one generation to the next. Also, it is the language of research and development that expresses innovation and creativity. It is the juncture linking the pillars of knowledge societies and helping to frame and activate them, whether in the knowledge production, transfer and localization, or use in various human development activities. The effectiveness of all these contexts, whether related to language or knowledge society and its pillars, is maximized by the availability of appropriate enabling environments to move towards the aspired knowledge societies and towards sustainable human development.

We should not overlook the importance of communication and openness, whether with oneself through the transparent dealing with challenges and seizing available opportunities or with the global cognitive and linguistic space with its richness, which we can draw from and contribute with our knowledge and our beautiful Arabic language. It is hoped that the Arab youth generations will follow this path, which will restore the glory of the Arabic language, enhance its role in embracing culture and science, and build knowledge societies and economies in a way that promotes the well-being and pride of people in the Arab region.

اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ الطَّيِّبِينَ الطَّاهِرِينَ

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Annexes



Annex 1 Statistical Tables¹

Table (A.1): Global Knowledge Index 2018 in Arab states

State	Global Knowledge Index Value *	Value of sub-indexes						
		Pre-University Education	Technical Education and Vocational Training	Higher Education	Research, Development and Innovation	Information and Communication Technology	Economy	Enabling Environments
Jordan	44	48.4	44.0	45.5	19.5	51.1	48.5	56.3
UAE	61	72.7	63.4	53.4	31.3	74.1	67.7	70.7
Bahrain	51	58.9	55.5	45.6	18.0	62.8	56.8	59.2
Tunisia	43	48.9	46.4	43.4	24.2	46.3	43.1	52.9
Algeria	38	50.6	38.0	36.6	24.8	37.2	36.1	47.4
Comoros	-	-	-	-	-	-	-	-
Djibouti	-	-	-	-	-	-	-	-
Saudi Arabia	47	52.9	41.0	40.1	30.3	56.8	49.9	57.7
Sudan	-	-	-	-	-	-	-	-
Syria	30	19.8	44.0	19.9	20.7	30.5	38.4	38.3
Somalia	-	-	-	-	-	-	-	-
Iraq	-	-	-	-	-	-	-	-
Oman	47	54.9	45.2	39.5	23.7	53.7	50.2	67.6
Palestine	-	-	-	-	-	-	-	-
Qatar	51	45.1	51.4	47.2	24.8	64.0	50.9	75.7
Kuwait	49	60.2	48.1	45.7	26.1	53.7	49.9	65.5
Lebanon	45	54.1	58.6	37.6	23.0	44.1	46.9	52.1
Libya	-	-	-	-	-	-	-	-
Egypt	39	41.0	41.5	41.7	17.2	44.2	41.3	46.4

Morocco	41	48.8	42.0	33.2	20.3	49.2	44.8	50.5
Mauritania	30	23.3	41.1	25.8	15.8	28.2	36.6	38.9
Yemen	24	35.1	28.3	17.6	17.7	21.1	28.2	25.7

* The value of the Global Knowledge Index and its sub-indicators is distributed on a scale ranging from 0 to 100, so the higher the value, the greater the progress towards possessing the potential knowledge components for development.

Source: United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2018. Global Knowledge Report 2018. <http://www.knowledge4all.com/ScoreCard2018.aspx?id=1&language=ar>. Accessed on October 20, 2019

Table (A.2): Distribution of Arabic periodicals according to type and discipline

State	Number of periodicals	Type		Discipline	
		General	Specialized	Social and Human Sciences	Natural and Applied Sciences
Jordan	83	25	58	77	6
UAE	43	6	37	41	2
Bahrain	17	2	15	15	2
Tunisia	45	7	38	45	-
Algeria	180	21	159	171	9
Saudi Arabia	218	25	193	199	19
Sudan	85	15	70	84	1
Syria	38	9	29	36	2
Syria	94	13	81	89	5
Oman	15	1	14	14	1
Palestine	36	12	24	35	1
Qatar	28	3	25	27	1
Kuwait	32	5	27	31	1
Lebanon	59	3	56	58	1
Libya	64	16	48	61	3
Egypt	359	24	335	339	20
Morocco	218	18	200	217	1
Mauritania	2		2	2	-
Yemen	44	12	32	41	3
Total	1,660	217	1,443	1,582	78

Source: A survey made by the author by reference to the lists of periodicals indexed in the Dar-Mandumah database. (<http://mandumah.com>). Accessed on October 20, 2019

Table (A.3): Number of papers published in Arab states in the period 1996-2018, according to the Database of the SCImago Journal & Country Rank Portal

State	Number	Arab Ranking
Jordan	40,325	7
UAE	52,931	6
Bahrain	6,662	16
Tunisia	86,600	3
Algeria	65,714	4
Comoros	157	22
Djibouti	266	20
Saudi Arabia	182,753	2
Sudan	9,133	13
Syria	7,348	14
Somalia	222	21
Iraq	28,091	9
Oman	19,318	12
Palestine	6,885	15
Qatar	25,985	10
Kuwait	24,752	11
Lebanon	31,650	8
Libya	5,689	17
Egypt	203,952	1
Morocco	62,636	5
Mauritania	682	19
Yemen	4,299	18
Total	865,405	

Source: Database of the SCImago Journal & Country Rank Portal.

<https://www.scimagojr.com/countryrank.php?order=itp&ord=desc>. Accessed on October 20, 2019

Table (A.4): Number of publishing houses in Arab states

State	Number of publishing houses that are members of the Arab Publishers Association *	Number of publishing houses according to other sources (source number)
Jordan	78	122 ⁽¹⁾
UAE	30	-
Bahrain	1	-
Tunisia	9	-
Algeria	13	80 ⁽²⁾
Comoros	-	-
Djibouti	-	-
Syria	88	32 ⁽³⁾
Sudan	2	-
Somalia	2	-
Iraq	9	-
Oman	4	-
Palestine	10	113 ⁽⁴⁾
Qatar	3	-
Kuwait	20	-
Lebanon	92	195 ⁽⁵⁾
Libya	14	-
Egypt	227	260 ⁽⁶⁾
Morocco	9	80 ⁽⁷⁾
Mauritania	3	-
Saudi Arabia	21	111 ⁽⁸⁾
Yemen	4	-
Total	639	993

Sources:

*Arab Publishers Association: <http://www.arab-pa.org/Ar/shared/Publishers.aspx>

(1) Publishing houses in Jordan: The National Library Department:

<http://www.nl.gov.jo/Ar/Publishers.aspx#myContent>

(2) The People of Hadith Forum: directory of Algerian publishing houses:

<https://www.ahlalheeth.com/vb/showthread.php?t=206102>

(3) The Syria Guide: Publishing Houses:

http://www.aleppochamber.com/ar/Cat/354/%D8%AF%D988%D8%B1_%D986%D8%B4%D8%B1.aspx

(4) Palestine: Licensed Publishing and Distribution Houses: The Palestinian National Information Centre, Wafa:

http://info.wafa.ps/ar_page.aspx?id=9384

(5) Lebanon: List of publishing houses in Lebanon: <https://bit.ly/348okWf>

(6) Egypt: Publishers Union in the Arab Republic of Egypt:

<https://www.egyptianpublishers.org/publishers.php>

(7) International Publishing and Book Fair: Publishers' Guide, Casablanca, 2017.

(8) Directory of publishing houses in Saudi Arabia: publishing and distribution houses: <https://www.dar-nashr.com>.

The above websites were accessed on November 21, 2019

Table (A.5): Number of books translated into Arabic in Arab states from 1979 until the last update, according to the Index Translationum Database

State (date of last update)	Number of books translated into Arabic
Jordan (2010)	301
UAE (2009)	373
Bahrain	-
Tunisia (2010)	329
Algeria (2006)	600
Comoros	-
Djibouti	-
Saudi Arabia (2010)	995
Sudan	-
Syria (2008)	2,163
Somalia	-
Iraq (1989)	67
Oman (2008)	52
Palestine (1998)	5
Qatar (2011)	46
Kuwait (2009)	541
Lebanon (1997)	71
Libya (1985)	21
Egypt (2009)	5,399
Morocco (2007)	345
Mauritania (2001)	6
Yemen	-
Total	11,314

Source: UNESCO. The Index Translationum database. <http://www.unesco.org/xtrans/bsstatexp.aspx>. Accessed on November 21, 2019.

Table (A.6): Contribution of industry and manufacturing to the GDP in Arab states (%)

Stat	Contribution of industry to GDP (%)	Manufacturing contribution to GDP (%)
	2016-2018	2014-2018
Jordan	28	19
UAE	47	9
Bahrain	43	18
Tunisia	23	14
Algeria	37	35
Comoros	12	-
Djibouti	16	4
Saudi Arabia	50	13
Sudan	2	-
Syria	-	-
Somalia	-	-
Iraq	56	2
Oman	47	38
Palestine	20	11
Qatar	61	9
Kuwait	61	8
Lebanon	14	8
Libya	-	-
Egypt	35	16
Morocco	25	16
Mauritania	24	8
Yemen	29	4

Source: World Bank Database. wdi.worldbank.org. Accessed on November 20, 2010.

Table (A.7): Government expenditure on education in Arab states 2013-2018

State	Government expenditure on education as a percentage of GDP (%)	Government expenditure on education as a percentage of total government expenditure (%)
Jordan	3.6	12.5
UAE	-	-
Bahrain	2.3	7.2
Tunisia	6.6	22.9
Algeria	-	-
Comoros	2.5	15.3
Djibouti	4.5	-
Saudi Arabia	-	17(*)
Sudan	-	-
Syria	-	-
Somalia	-	-
Iraq	-	-
Oman	6.7	15.3
Palestine	5.3	-
Qatar	2.9	8.9
Kuwait	-	-
Lebanon	2.9	-
Libya	2.5	-
Egypt	-	8.9(**)
Morocco	-	-
Mauritania	2.6	9.3
Yemen	-	-

Sources: World Bank Data. /<http://wdi.worldbank.org>. Accessed on November 11, 2019.

* Expenditure in 2019: Source: Saudi Ministry of Finance. 2019. The general budget for the year 2019.

<https://www.mof.gov.sa/financialreport/budget2019/Pages/default.aspx>. Accessed on November 15, 2019.

** Expenditure in 2019: Source: Central Agency for Public Mobilization and Statistics (CAPMAS). 2019. Egypt in numbers, Education, March 2019.

https://www.capmas.gov.eg/Pages/StaticPages.aspx?page_id=5035. Accessed on April 15, 2019.

Table (A.8): Net enrolment rates in primary and secondary education and number of children out of school in Arab states 2017-2018

State	Net enrolment rate		Primary net enrolment rate		Children out of school	
	Primary education (%)	Secondary education (%)	Males (%)	Females (%)	Male children of primary school age	Female children of primary school age
Jordan	80.9	62.6	81.5	80.1	-	-
UAE	-	92.8	-	-	4,361	7,541
Bahrain	96.7	92.2	97.5	95.8	573	706
Tunisia	-	-	-	-	-	-
Algeria	97.6	-	-	-	61	27,799
Comoros	79.8	43.0	80.7	78.9	9,477	9,848
Syria	-	-	-	-	-	-
Djibouti	55.1	-	61.1	62.5	20,501	22,995
Sudan	60	-	61.0	58.9	1,200,426	1,197,450
Somalia	-	-	-	-	-	-
Iraq	-	-	-	-	-	-
Oman	86.3	96.2	-	-	2,669	1,808
Palestine	94.8	87.2	94.6	95.0	-	-
Qatar	94.1	-	93.0	93.3	673	1,200
Kuwait	82.6	-	78.9	86.8	9,847	9,411
Lebanon	-	-	-	-	23,817	37,844
Libya	-	-	-	-	-	-
Egypt	97.0	82.8	-	-	117,191	46,695
Morocco	99.1	64.5	96.8	96.9	56,663	61,227
Saudi Arabia	-	-	-	-	-	-
Mauritania	79.6	31.0	78.3	80.8	84,132	69,669
Yemen	-	-	88.5	77.9	247,796	456,088

Source: World Bank, World Development Indicators, Participation in education. <http://wdi.worldbank.org/>. Accessed on October 20, 2019.

Table (A.9): Global and Arab Ranking of some Arab states according to the Primary Education Quality Index

State	Arab Ranking (out of 14 Arab states)	Global Ranking (out of 137 states)
Qatar	1	10
Lebanon	2	15
UAE	3	16
Bahrain	4	34
Jordan	5	60
Saudi Arabia	6	63
Oman	7	78
Tunisia	8	83
Algeria	9	95
Kuwait	10	104
Morocco	11	119
Mauritania	12	126
Egypt	13	133
Yemen	14	135

Source: World Economic Forum 2018. Education Quality Index.
<https://tcdata360.worldbank.org/indicators/gci>.
 Accessed on October 20, 2019.

Table (A.10): Global and Arab Ranking of some Arab states according to the Higher Education Quality Index

State	Arab Ranking (out of 14 Arab states)	Global Ranking (out of 137 states)
Qatar	1	5
UAE	2	12
Lebanon	3	18
Bahrain	4	24
Saudi Arabia	5	41
Jordan	6	43
Oman	7	75
Kuwait	8	89
Algeria	9	97
Tunisia	10	103
Morocco	11	120
Egypt	12	130
Yemen	13	133
Mauritania	14	137

Source: World Economic Forum 2018. Education Quality Index.
<https://todata360.worldbank.org/indicators/gci>.
 Accessed on October 20, 2019.

Table (A.11): Number of universities that are members of the Association of Arab Universities

State	Number
Jordan	26
UAE	13
Bahrain	6
Tunisia	4
Algeria	11
Comoros	-
Djibouti	1
Saudi Arabia	27
Sudan	41
Syria	14
Somalia	17
Iraq	45
Oman	6
Palestine	20
Qatar	3
Kuwait	2
Lebanon	20
Libya	13
Egypt	48
Morocco	7
Mauritania	3
Yemen	24
Total	351

Source: Association of Arab Universities. <http://www.aau.edu.jo/Lists/ArabUniversities/Countries.aspx>
 Accessed on October 20, 2019

Table (A.12): Indicators of research and development in Arab states

State	Expenditure on research and development (% of GDP)	Workers in research and development (per million people)		Number of articles published in scientific and technical journals	Number of patent applications	
		Researchers	Technicians		Residents	Non-residents
	2010-2017	2013-2017		2016	2013-2017	
Jordan	0.72	601	110	1,652	26	174
UAE	0.96	2,407	-	2,181	52	1,748
Bahrain	0.10	369	14	211	8	237
Tunisia	0.60	1,965	63	5,266	172	383
Algeria	0.53	821	42	4,447	149	594
Comoros	-	-	-	5	-	-
Djibouti	-	-	-	4	1	4
Saudi Arabia	0.82	-	-	9,232	909	2,282
Sudan	0.30	-	-	369	281	12
Syria	0.01	87	65	273	120	16
Somalia	-	-	-	3	-	-
Iraq	0.04	104	19	1,227	613	101
Oman	0.22	244	43	795	4	387
Palestine	0.49	565	175	-	-	-
Qatar	0.51	604	404	1,311	19	574
Kuwait	0.08	492	50	739	-	-
Lebanon	-	-	-	1,398	110	194
Libya	-	-	-	139	-	-
Egypt	0.61	669	367	10,807	918	1,231
Morocco	0.71	1,069	40	4,063	198	2,026
Mauritania	-	-	-	20	-	-
Yemen	-	-	-	111	15	13

Source: World Bank database. www.wdi.worldbank.org. Accessed on November 20, 2019.

Table (A.13): Examples of institutions responsible for scientific research in some Arab states

State	Institutions responsible for scientific research
Jordan	Ministry of Higher Education and Scientific Research Higher Council for Science and Technology (HCST)
UAE	United Arab Emirates University (UAEU) Ministry of Agriculture
Bahrain	Bahrain Centre for Strategic, International and Energy Studies (Derasat)
Tunisia	Ministry of Higher Education, Scientific Research and Technology
Algeria	Ministry of Higher Education and Scientific Research
Saudi Arabia	King Abdulaziz City for Science and Technology (KACST)
Sudan	Ministry of Education and Scientific Research
Syria	Supreme Council of Sciences Ministry of Higher Education
Somalia	Ministry of Agriculture Ministry of Education
Iraq	Ministry of Higher Education and Scientific Research
Oman	Research Council of the Sultanate of Oman
Palestine	Ministry of Higher Education Research and Development Unit at the Ministry of Planning
Qatar	General Secretariat of the Council of Ministers
Kuwait	Kuwait Foundation for the Advancement of Sciences (KFAS) Kuwait Institute for Scientific Research (KISR) Kuwait University / Research Centre
Lebanon	National Council for Scientific Research (CNRS)
Libya	Ministry of Higher Education and Scientific Research / Secretary General of the Planning Council National Authority for Scientific Research
Egypt	Ministry of Higher Education and Scientific Research

Morocco	Hassan II Academy of Science and Technology Ministry of National Education Ministry of Higher Education, Scientific Research and Staff Training Permanent Ministerial Committee for Scientific Research, Innovation and Technological Development National Centre for Scientific and Technical Research Coordinating Council for higher education institutions other than universities
Mauritania	Ministry of National Education
Yemen	Ministry of Higher Education
<p>Source: Munif Al Zoubi. 2019. <i>Tafeil manzumat aleulum waltiknuluji wal ibtikar min 'ajl altanmia almustadama fi al-alam al-arabi</i> (Activating science, technology and innovation systems for sustainable development in the Arab world). Studies, Humanities and Social Sciences, University of Jordan, Vol. 46, No. 1. (pp. 56-57)</p>	

Table (A.14): Information and Communication Technology (ICT) Development Index in Arab states in 2016 and 2017

State	ICT Development Index 2016		ICT Development Index 2017			Direction of change in Global Ranking (2016 and 2017)
	Value	Global Ranking (out of 175 states)	Value	Global Ranking (out of 176 states)	Arab Ranking	
Jordan	5.97	66	6.00	70	7	↕
UAE	7.18	34	7.21	40	3	↕
Bahrain	7.46	30	7.60	31	1	↕
Tunisia	4.70	95	4.82	99	9	↕
Algeria	4.32	106	4.67	102	12	↗
Comoros	1.78	162	1.82	164	19	↕
Djibouti	1.80	161	1.98	158	18	↗
Saudi Arabia	6.87	45	6.67	54	4	↕
Sudan	2.56	141	2.55	145	16	↕
Syria	3.32	124	3.34	126	15	↕
Somalia	-	-	-	-	-	-
Oman	6.14	64	6.43	62	5	↗
Iraq	-	-	-	-	-	-
Palestine	3.42	122	3.55	123	14	↕
Qatar	7.12	36	7.21	39	2	↕
Kuwait	5.75	70	5.98	71	8	↕
Lebanon	6.09	65	6.30	64	6	↗
Libya	3.93	112	4.11	115	13	↕
Egypt	4.44	104	4.63	103	11	↗
Morocco	4.57	98	4.77	100	10	↕
Mauritania	2.08	152	2.26	151	17	↗
Yemen	-	-	-	-	-	-

Source: International Telecommunication Union. 2017. Measuring the Information Society Report 2017 - Volume 1.

Note: The value of the index ranges between 1 and 10, where the higher the value, the greater the progress.

Table (A.15): Ranking of some Arab states according to the sub-indices of the ICT Development Index 2016 and 2017 in Arab states (access, use, skills)

Access Indicator					Use Indicator					Skills Indicator				
State	2016		2017		State	2016		2017		State	2016		2017	
	Global Ranking*	Value	Global Ranking**	Value		Global Ranking*	Value	Global Ranking**	Value		Global Ranking*	Value	Global Ranking**	Value
Bahrain	27	7.92	22	8.14	Bahrain	20	7.48	23	7.53	Saudi Arabia	55	7.30	48	7.57
UAE	23	8.07	24	8.11	UAE	24	7.07	31	7.09	Libya	63	6.99	64	6.99
Qatar	32	7.80	33	7.90	Qatar	26	6.99	32	7.07	Bahrain	72	6.50	73	6.65
Oman	45	7.30	48	7.32	Lebanon	50	5.80	46	6.20	Jordan	69	6.68	77	6.49
Saudi Arabia	49	7.20	52	7.21	Jordan	57	5.52	54	5.73	Algeria	87	6.10	80	6.29
Kuwait	51	7.17	56	7.12	Oman	64	5.12	55	5.71	Palestine	82	6.18	85	6.22
Lebanon	63	6.70	63	6.92	Saudi Arabia	36	6.32	59	5.68	Qatar	89	6.03	89	6.09
Morocco	83	5.99	82	6.06	Kuwait	73	4.42	72	4.99	Oman	97	5.83	90	6.07
Jordan	81	6.08	83	6.03	Tunisia	82	3.96	86	4.11	Kuwait	108	5.59	102	5.69
Egypt	93	5.23	92	5.40	Morocco	97	3.40	100	3.68	Tunisia	103	5.68	105	5.67
Algeria	102	4.83	98	5.14	Algeria	114	2.40	108	3.38	Egypt	113	5.33	107	5.66
Tunisia	99	4.96	99	5.11	Egypt	104	3.20	111	3.35	UAE	106	5.63	108	5.63
Libya	111	4.58	107	4.80	Palestine	115	2.25	122	2.42	Lebanon	111	5.46	116	5.23
Syria	109	4.66	113	4.58	Libya	129	1.75	128	1.98	Morocco	129	4.09	126	4.35
Palestine	141	3.21	142	3.35	Sudan	126	1.87	136	1.78	Syria	127	4.22	127	4.28
Sudan	140	3.23	144	3.23	Syria	133	1.53	143	1.63	Comoros	142	3.33	143	3.38
Mauritania	148	2.91	148	2.96	Mauritania	141	1.29	146	1.62	Sudan	155	2.62	156	2.75
Djibouti	163	2.48	156	2.63	Djibouti	160	0.73	158	0.99	Djibouti	156	2.59	157	2.69
Comoros	159	2.53	159	2.59	Comoros	172	0.26	174	0.28	Mauritania	169	2.02	168	2.15

Source: International Telecommunication Union. 2017. Measuring the Information Society Report 2017 - Volume 1.

Note: The value of the index ranges between 1 and 10, where the higher the value, the greater the progress.

Data is not available for Iraq, Somalia and Yemen.

* Out of 175 countries.

** Out of 176 countries.

Table (A.16): Use of the Internet and Facebook in Arab states

State	Numbers of Internet users 2019	Numbers of Facebook users (December 2017)
Jordan	8,700,700	5,300,000
UAE	9,532,016	8,700,000
Bahrain	1,615,620	1,100,000
Tunisia	7,898,534	6,400,000
Algeria	25,428,159	19,000,000
Comoros	130,578	120,000
Djibouti	548,832	180,000
Saudi Arabia	31,856,652	18,000,000
Sudan	13,124,100	2,600,000
Syria	6,335,969	4,900,000
Somalia	1,500,00	1,100,000
Iraq	19,947,510	17,000,000
Oman	4,011,004	2,630,000
Palestine	3,381,787	1,700,000
Qatar	2,734,297	2,300,000
Kuwait	4,231,971	3,100,000
Lebanon	5,546,494	3,600,000
Libya	3,800,000	3,500,000
Egypt	49,231,493	35,000,000
Morocco	23,739,581	15,000,000
Mauritania	969,519	770,000
Yemen	7,903,772	2,352,942

Source: website of Internet world stats. <https://www.internetworldstats.com>. Accessed on November 21, 2019.

Table (A.17): Indicators of access to information and communication technology in Arab states

State	Fixed-telephone subscriptions per 100 inhabitants		Mobile-cellular subscriptions per 100 inhabitants		Internet bandwidth bit/s per internet user		Percentage of households with computer		Percentage of households with internet	
	2016	2018*	2016	2018*	2015	2016	2015	2016	2015	2016
Jordan	4.6	3.20	196.3	87.62	24,450	8,229	50.6	53.1	79.9	79.0
UAE	23.4	24.31	204.0	208.50	108,791	133,749	89.3	91.0	95.4	94.3
Bahrain	20.8	18.37	216.9	133.34	89,425	112,770	94.8	94.8	88.7	98.0
Tunisia	8.6	11.26	125.8	127.71	22,013	31,167	34.5	37.0	30.7	33.0
Algeria	8.2	9.85	117.0	121.93	30,119	40,015	37.0	38.4	31.9	34.7
Comoros	1.7	1.24	57.7	59.94	12,187	12,729	8.1	8.7	4.7	5.1
Djibouti	2.7	3.84	37.8	41.20	10,255	15,228	19.1	20.3	8.1	9.1
Saudi Arabia	12.0	15.99	157.6	122.57	88,669	78,163	67.0	69.0	94.0	94.6
Sudan	0.3	0.33	68.6	72.01	2,189	2,035	17.1	18.0	32.3	33.6
Syria	15.2	16.17	54.2	98.37	7,125	12,813	49.9	49.9	42.3	43.6
Somalia	-	-	-	-	-	-	-	-	-	-
Iraq	5.55	7.04	91.36	94.88	-	-	-	-	-	-
Oman	9.8	11.60	159.2	133.37	67,052	66,071	87.5	87.5	84.0	86.1
Palestine	9.3	9.66	76.8	89.49	0	0	66.7	70.4	52.4	56.5
Qatar	19.3	16.25	147.1	141.86	71,566	86,950	88.3	89.0	95.8	95.8
Kuwait	11.0	12.46	146.6	178.59	77,395	69,516	82.0	83.5	76.9	77.7
Lebanon	21.10	13.03	96.4	64.50	40,913	55,086	76.5	78.1	75.7	77.7
Libya	21.5	-	119.8	-	5,133	5,286	22.0	23.5	20.4	22.0
Egypt	7.1	7.99	113.7	95.29	10,743	17,194	50.9	53.1	53.1	43.3
Morocco	6.0	6.10	120.7	124.17	18,316	25,702	54.8	54.9	66.5	68.5
Mauritania	1.3	1.36	86.5	103.71	3,785	4,477	4.7	5.0	7.7	11.2
Yemen	4.29	-	60.49	-	-	-	-	-	-	-

Sources:

International Telecommunication Union. 2017. Measuring the Information Society Report 2017 - Volume 1, pp. 138-141.

* International Telecommunication Union website. ITU: <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

Table (A.18): Number of Arab Satellite Channels in the period 2010-2016

Year	Number of channels
2010	733
2013-2012	1320
2014	1294
2015	1230
2016	1122 (151 Arab public channels; 8 Foreign public channels; 963 Private channels)

Source: Arab States Broadcasting Union (ASBU). 2016. Arab Satellite Broadcasting: Annual Report 2016. The Supreme Committee for Coordination between Arab Satellite Channels.

Table (A.19): Average number of online News Portals/per million inhabitants in Arab states

State	Average number of online News Portals / per million inhabitants
Kuwait	9.35
Bahrain	8.67
Qatar	6.37
UAE	6.02
Saudi Arabia	5.68
Palestine	4.81
Lebanon	4.93
Jordan	3.16
Oman	2.11
Libya	1.25
Tunisia	0.95
Yemen	0.77
Syria	0.77
Egypt	0.47
Iraq	0.33
Morocco	0.19
Algeria	0.14
Sudan	0.10

Sources: Ministry of Culture and Information, New Media Centre, Kingdom of Saudi Arabia. 2017.
Media Platforms and Digital Transformation in the Middle East and North Africa Region, 2018.
Note: Data is not available for Comoros, Djibouti, Somalia and Mauritania.

Table (A.20): Arab Reading Index 2016

State	Arab Reading Index / 100	Reading availability (%)	Extent of reading (%)	Average annual reading hours per person	Average number of books read per year per person		
					In the Arabic language	In a foreign language	Average for all languages
Jordan	71	68.41	73.63	49.51	15	8	21.21
UAE	82	84.33	80.91	51.42	18	8	24.25
Bahrain	58	53.15	62.82	43.50	14	8	18.21
Tunisia	70	66.29	73.59	47.07	16	8	22.36
Algeria	51	48.08	53.82	35.57	10	5	17.13
Comoros	8	7.36	7.24	9.39	2	2	4.36
Djibouti	12	10.43	8.27	10.85	4	2	4.22
Saudi Arabia	63	58.37	63.22	42.88	12	7	18.73
Sudan	43	37.43	46.27	33.26	8	5	14.13
Syria	39	28.92	44.74	32.84	10	6	13.50
Somalia	3	3.52	1.00	7.78	1	1	1.74
Iraq	36	29.76	40.17	27.48	10	6	13.59
Oman	48	42.99	51.23	34.52	12	5	16.22
Palestine	54	48.47	58.32	38.91	11	7	17.97
Qatar	64	66.43	63.35	43.19	15	7	18.65
Kuwait	44	40.22	46.13	31.61	12	6	14.85
Lebanon	90	80.28	95.77	59.06	20	10	28.67

Libya	23	13.25	26.21	18.42	7	4	10.35
Egypt	89	83.10	96.83	63.85	17	10	26.94
Morocco	87	85.27	91.57	57.35	19	10	27.20
Mauritania	18	14.63	16.81	11.87	6	4	8.38
Yemen	29	17.55	33.26	24.84	6	3	11.10

Source: United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2016. Arab Reading Index 2016. <http://knowledge4all.com/admin/uploads/files/ARI2016/ARI2016Ar.pdf>. Accessed on October 20, 2019.

Note: The Arab Reading Index evaluates three axes: Extent of reading (number of reading hours and books read), Access and availability (at family, educational institutions and society levels) and personal attributes (Skills and abilities; motives and incentives and attitudes and standpoints). The value of the index ranges between 0 and 100, where the higher the value, the greater progress, and the index is based on data collected through a large electronic questionnaire in which more than 148,294 citizens from all Arab states participated.

Annex 2 Charters and legislations related to the Arabic language in some Arab states²

Jordan	
Arabic is the Official Language	The Jordanian constitution stipulates in Article 2 that “Islam is the religion of the state, and the Arabic language is its official language.”
Arabic is the Language of Arbitration	The Jordanian Arbitration Law No. 31/2001 stipulates in Article 28 that “arbitration shall take place in the Arabic language unless the parties agree otherwise, or the arbitration tribunal specifies another language or languages.”
Arabic is the Language of Courts	The Jordanian Code of Civil Procedure No. 24/1988 stipulates in Article 79, in paragraphs (2) and (3), that “the litigant who submitted documents in a foreign language must attach them with a translation into Arabic.”
Arabic is the Language of Drafting Employment Contracts and Records	The Jordanian Labour Law No. 8/1996 stipulates in Article 15, in paragraph (1), that “the employment contract shall be drawn up in the Arabic language and in at least two copies. The worker may prove his rights by all means of legal proof if the contract is not drafted in writing.”
Arabic is the Language for Obtaining Citizenship	Mastering the Arabic language in terms of reading and writing.
Arabic is the Language of Education	The Jordanian Arabic Language Protection Law No. 35/2015 stipulates in Article 8 that “a- Teachers in general education stages and faculty members in higher education are obligated to use the Arabic language in teaching.” The same article adds: “b- Arabic is the language of scientific research and research should be published in it. It is permissible, however, to publish in foreign languages, on condition that the researcher provides a translation of the research in Arabic for the purpose of spreading the benefit to the relevant authorities” and that “the provisions of paragraphs (a) and (b) of this article shall apply to speakers and debates in conferences, seminars and meetings held in the Kingdom.”

United Arab Emirates	
Arabic is the Official Language	The UAE constitution states in Article 7 that “Islam is the official religion of the Union. The Islamic Shari’ah shall be a main source of legislation in the Union. The official language of the Union is Arabic.”
Arabic is the Language of Arbitration	UAE Federal Law No. 6/2018 on arbitration stipulates in Article 29 that “unless otherwise agreed by the Parties, arbitral proceedings shall be conducted in Arabic.”
Arabic is the Language of Courts	The UAE Federal Law No. 11/1992 relating to civil procedures stipulates in Article 4 that “the language of courts is Arabic.”
Arabic is the Language of Drafting Employment Contracts and Records	The UAE Federal Law No. 8/1980 states in Article 2 that “the Arabic Language is the one to be used in all records, contracts, files, statements and other documents.”
Arabic is the Language for Obtaining Citizenship	Mastering the Arabic language.
Arabic is the Language of Education	The Arabic Language Charter initiative launched by the ruler of Dubai, Sheikh Mohammed bin Rashid Al Maktoum in 2012, stated in Article 5 that “the Arabic language is an essential element in education in the UAE. The Ministry of Education and all concerned authorities in the country must make every effort to develop methods and skills for learning Arabic and build the capacity of Arabic teachers in public and private schools in the country in line with the highest international standards. The government also recommends the concerned authorities to ensure that private schools are committed to focusing on the Arabic language, so as to enable Emirati and Arabic-speaking students acquire the tools for mastering their language.”

Bahrain	
Arabic is the Official Language	The Constitution of Bahrain declares in Article 2 that “the religion of the State is Islam. The Islamic Shari’a is a principal source for legislation. The official language is Arabic.”
Arabic is the Language of Arbitration	-
Arabic is the Language of Courts	The Bahrain Judicial Authority Law No. 42/2002 stipulates in Article 4 that “Arabic is the official language of courts.”
Arabic is the Language of Drafting Employment Contracts and Records	Law No. 36/2012 stipulates in Article 16 that “the contract of occupational apprenticeship shall be in writing in the Arabic language.” Article 19 indicates that “the labour contract shall be made in writing in the Arabic language. If drafted in a foreign language, a translated Arabic version shall be attached.”
Arabic is the Language for Obtaining Citizenship	Sufficient knowing of the Arabic language.
Arabic is the Language of Education	Bahraini Law No. 27/2005 on education provides in Article 3 for “promoting the teaching of the Arabic language and raising its level in a way that enables its mastery and use in various fields of knowledge, along with paying attention to teaching and mastering foreign languages.” Article 10 adds that “religious education, civic education and the Arabic language are essential subjects in all stages and types of education and the minister shall issue the necessary decisions to promote these subjects in a way that guarantees the strengthening of the citizen’s personality and pride in his religion, Arab identity and homeland.”

Tunisia	
Arabic is the Official Language	The Tunisian constitution declares in Article 1 that “Tunisia is a free, independent and sovereign state. Its religion is Islam, its language is Arabic, and its form of government is a republic.”
Arabic is the Language of Arbitration	The Tunisian Arbitration Law No. 42/1993 dated April 26, 1993 stipulates in Article 63 that “the parties may agree on the language or languages to be used in the arbitration proceedings...”, and in Article 80 (Clause 2) that “the party that relies on an arbitration award... The two documents mentioned shall be attached, when necessary, with an official translation into Arabic...”
Arabic is the Language of Courts	-
Arabic is the Language of Drafting Employment Contracts and Records	The Tunisian labour law does not explicitly stipulate the language in which employment contracts shall be drawn up.
Arabic is the Language for Obtaining Citizenship	Proving that the person knows the Arabic language at a level commensurate with his social position.
Arabic is the Language of Education	The Tunisian Education Directive Law No. 80/2002 stipulated in Article 24 that “all social, scientific, technical and artistic subjects are taught in the two stages of elementary education in the Arabic language.”

Algeria	
Arabic is the Official Language	The Algerian constitution stipulates in Article 3 that "Arabic is the national and official language. Arabic shall remain the official language of the State. A Supreme Council for the Arabic Language shall be established under the auspices of the President of the Republic. The Supreme Council of the Arabic Language shall be assigned the special task of working towards the affluence of the Arabic language, the generalisation of its use in scientific and technological fields and promoting the translation into it for this purpose."
Arabic is the Language of Arbitration	The Algerian Civil and Administrative Procedures Law (the provisions of both internal and international arbitration) did not stipulate the language in which the arbitration shall be conducted.
Arabic is the Language of Courts	Law No. 08-09 of February 25, 2008, stipulates in Article 8 that "legal proceedings and contracts should be conducted through applications and statements presented in the Arabic language, under the penalty of inadmissibility..."
Arabic is the Language of Drafting Employment Contracts and Records	The Algerian Labour Law No. 11/1990 on labour relations does not explicitly stipulate the language in which employments contract shall be drawn up.
Arabic is the Language for Obtaining Citizenship	-
Arabic is the Language of Education	The Algerian law for the generalization of the use of the Arabic language is still suspended until now, but teaching is conducted in Arabic, French and English.

Saudi Arabia	
Arabic is the Official Language	The Basic Law of Governance of the Kingdom of Saudi Arabia stipulates in Article 1 that “the Kingdom of Saudi Arabia is a sovereign Arab Islamic State. Its religion is Islam. Its constitution is Almighty God’s Book, The Holy Qur’an, and the Sunna (Traditions) of the Prophet (PBUH).”
Arabic is the Language of Arbitration	The Saudi arbitration Law indicates in Article 29, clause 1, that “the arbitration shall be conducted in the Arabic language....”
Arabic is the Language of Courts	The Saudi Law of the Judiciary issued in 1395 AH (1975 AD) states in Article 36 that “Arabic is the official language of courts, but the court may hear the statements of opponents or witnesses who do not know the Arabic language through an interpreter.”
Arabic is the Language of Drafting Employment Contracts and Records	The Saudi Labour Law promulgated by Royal Decree No. (M / 51) dated 23/08/1426 AH stipulates in Article 9 that “the Arabic language is to be used in drawing up data, records, files, labour contracts and other things stipulated in this law, or in any decision made in implementation of its provisions, as well as the instructions that the employer issues to his workers. If the employer uses a foreign language, in addition to the Arabic language in any of the aforementioned cases, the Arabic text is the only one approved.”
Arabic is the Language for Obtaining Citizenship	Proficiency in speaking, reading and writing Arabic.
Arabic is the Language of Education	The first chapter of the education policy document stipulates in Article 24 that “the principle is that the Arabic language is the language of education in all its subjects and at all stages, except what is necessary to be taught it in another language.” Article 46 provides for “the development of the linguistic ability by various means that nourish the Arabic language, and help to appreciate it and understand its aspects of beauty, in terms of style and thought.” Article 114 indicates “the translation of useful sciences and arts into the language of the Qur’an and the development of the wealth of the Arabic language (terminology) in a way that meets the need for Arabization and makes Arabization accessible to the largest number of citizens.” Article 150 states that “scientific institutes keep pace with the educational renaissance in the country, share with public education appropriate study subjects and pay special attention to Islamic studies and branches of the Arabic language.” Article 151 adds that “this type of education qualifies its students to specialize in Islamic Sharia sciences and branches of the Arabic language, in addition to studying in the appropriate theoretical colleges.” Article 152 states further the “this education supports its students scientifically, educationally, behaviorally, and in terms of guidance, in order to achieve its basic objectives in the country by graduating specialists in Islamic law (Sharia) and in the sciences of the Arabic language, besides preachers of God Almighty.” Article 164 of Chapter Four indicates that “institutes and colleges of teacher training should pay attention to Islamic education and the Arabic language, so that to enable graduates to teach with a high Islamic spirit and correct Arabic language.” Article 190 mentions that “curricula for the education of blind children should care for religious education and the sciences of the Arabic language.”

Syria	
Arabic is the Official Language	The Syrian constitution states in Article 4 that “the Arabic language is the official language of the state.”
Arabic is the Language of Arbitration	The Syrian Arbitration Law No. 4/2008 stipulates in Article 24 that “1- Unless otherwise agreed by the Parties, arbitral shall be conducted in Arabic...”
Arabic is the Language of Courts	-
Arabic is the Language of Drafting Employment Contracts and Records	The Syrian Labour Law No. 17/2010 stipulates in Article No. (32), paragraph (a), that “the internship work contract must be in writing in the Arabic language and drawn up in two copies; each of the two parties shall keep a copy of them.”
Arabic is the Language for Obtaining Citizenship	Proficiency in Arabic language.
Arabic is the Language of Education	Syrian Legislative Decree No. 55/2004 on the regulation of public and private education indicates in Article 22 that “private educational institutions that teach informal curricula are obligated to teach Arabic to their students and to teach social sciences, history, geography and civic education courses approved in the official curriculum in the Arabic language for Syrian students under the supervision of the Ministry.”

Sudan	
Arabic is the Official Language	The Sudanese constitution stipulates in Article 8 that “1- All Sudanese indigenous languages are national languages that must be respected, developed and promoted. 2- Arabic is the most widely spoken national language. 3- Arabic, as the main language at the national level, and English, shall be the two official languages of the work of the national government and the two languages of teaching in higher education.”
Arabic is the Language of Arbitration	The Sudanese Arbitration Law of 2016 stipulates in Article 24 that “the Arabic language shall be the language of arbitration, unless another language is agreed upon by the parties to the dispute, with the possibility of having a translation into other languages requested by the parties.”
Arabic is the Language of Courts	The Sudanese Civil Procedures Law of 1983 states in Article 67 that “the language of courts is Arabic, and the court, if necessary, may hear the statements of opponents or witnesses who do not know Arabic through an interpreter after taking the oath before it...”
Arabic is the Language of Drafting Employment Contracts and Records	In the event that the employee is ignorant of reading and writing, the employer must read the work contract in the presence of the witness chosen by the employee, provided that that witness is literate in reading and writing.
Arabic is the Language for Obtaining Citizenship	-
Arabic is the Language of Education	Article 8, clause 3 of the Sudanese constitution stipulates that “Arabic, as the main language at the national level, and English, shall be the two official languages of the work of the national government and the two languages of teaching in higher education.”

Iraq	
Arabic is the Official Language	The Iraqi constitution indicates in Article 4 that “the Arabic language and the Kurdish language are the two official languages of Iraq.”
Arabic is the Language of Arbitration	The Iraqi arbitration law does not stipulate that Arabic is the language of arbitration.
Arabic is the Language of Courts	The Iraqi Judicial Organization Law No. 160/1970 states in Article 4 that “First - the Arabic language shall be the language of the courts, unless otherwise stipulated by the law.”
Arabic is the Language of Drafting Employment Contracts and Records	The Iraqi Law on Preserving the Arabic Language No. 64/1977 stipulates in Article 2 that “educational institutions at all school levels must adopt the Arabic language as a language of teaching. They should strive to ensure the use of sound Arabic in terms of pronunciation and writing, and to educate students to express and think well in this language, to realize its advantages and be proud of it.”
Arabic is the Language for Obtaining Citizenship	-
Arabic is the Language of Education	The Law for the Preservation of the Arabic Language No. 64 of 1977, Article 2, provides that: “All educational institutions must use the Arabic language at all levels of education, ensure its oral and written mastery, and train students capable of thinking and expressing themselves in Arabic, aware of its strengths and proud of its acquisition”.

Oman	
Arabic is the Official Language	The Omani constitution stipulates in Article 3 that “the official language of the state is Arabic.”
Arabic is the Language of Arbitration	The Royal decree no. (47/97) promulgating the Law of Arbitration in Civil and Commercial Disputes states in Article 29 that “the arbitration shall be conducted in the Arabic language...”
Arabic is the Language of Courts	The Royal decree no. (29/2002) promulgating the Civil and Commercial Procedures Code in Article 27 states that “the Arabic language is the language of litigation and no papers or documents are accepted unless they are written in the Arabic language or attached to their Arabic translation.”
Arabic is the Language of Drafting Employment Contracts and Records	Omani Royal Decree No. 35/2003 promulgating the Labour Law stipulates in Article 21 that “the contract of work shall be confirmed by writing and issued in Arabic of two copies, one copy for each party. If the contract is written in a language other than Arabic, at least one copy in Arabic shall be annexed thereto and approved by the two parties to the contract...”
Arabic is the Language for Obtaining Citizenship	Mastering the Arabic language.
Arabic is the Language of Education	-

Palestine	
Arabic is the Official Language	The Palestinian Basic Law amended in 2005 stipulates in Article 4 that "Islam is the official religion in Palestine. Respect for the sanctity of all other divine religions shall be maintained. The principles of Islamic - - shall be a principal source of legislation. Arabic shall be the official language."
Arabic is the Language of Arbitration	The Palestinian Arbitration Law No. 3/2000 stipulates in Article 22 that "Arabic is the language of arbitration..."
Arabic is the Language of Courts	The Palestinian Judicial Authority Law No. 1/2002 stipulates in Article 4 that "the language of courts is Arabic, and the court must hear the statements of opponents or witnesses who do not know Arabic through an interpreter after taking the oath."
Arabic is the Language of Drafting Employment Contracts and Records	The Palestinian Labour Law No. 7/2000 indicates in Article 28 that "the work contract shall be drawn up in the Arabic language, including the basic conditions of work, especially the wage, type, place and duration of work. It is signed by both parties and a copy of it is given to the employee. The employee may prove his rights by all means of legal proof."
Arabic is the Language for Obtaining Citizenship	A special situation under occupation.
Arabic is the Language of Education	The Palestinian Education Law No. 1/2013 provides in Article 5, paragraph 2 for educating a student "who is proud and proficient in the Arabic language, able to using it to expresses his hopes, aspirations and ambitions and to communicate with others." Article 16 indicates that "in addition to the objectives stipulated in Article 5 of this law, the basic education stage aims to enable students to master basic skills in the Arabic language and at least one foreign language." Law No. 11/1998 relating to Palestinian higher education states in Article 9 that "Arabic is the official language in Palestinian higher education institutions which may decide to teach some subjects or programs in other languages."

Qatar	
Arabic is the Official Language	The Qatari constitution declares in Article No. (1) that “Qatar is an independent sovereign Arab State. Its religion is Islam and Shari’a law shall be a main source of its legislations. Its political system is democratic. The Arabic Language shall be its official language. The people of Qatar are a part of the Arab nation.”
Arabic is the Language of Arbitration	The Qatari Law No. 2/2017 relating to Arbitration in Civil and Commercial Matters promulgates in Article 34, Clause (2) provides for “the translation of the arbitrators’ award in arbitration into Arabic from a certified authority if it was issued in a foreign language.”
Arabic is the Language of Courts	The Qatari Law No. 13/1990 promulgating the Civil and Commercial Procedure Law stipulates in Article 68 that “the language of courts is Arabic...”
Arabic is the Language of Drafting Employment Contracts and Records	The Qatari Labour Law No. 14/2004 stipulates in Article No. (9) that “all contracts and other documents and written instruments provided for in this law shall be made in Arabic.”
Arabic is the Language for Obtaining Citizenship	Mastering the Arabic language.
Arabic is the Language of Education	Law No. 7/2019 on the protection of the Arabic language stipulates in Article 5 that “the Arabic language is the language of teaching in public educational institutions, unless the nature of some courses requires them to be taught in another language, as determined by the Ministry of Education and Higher Education. Private educational institutions are obligated to teach the Arabic language as an independent core subject within their curricula, in cases and in accordance with the rules and regulations laid down by the Ministry of Education and Higher Education.” Article 6 indicates that “Universities and higher education institutions of the state are obligated to teach in the Arabic language, unless the nature of some academic programs requires them to be taught in another language, as determined by the board of trustees of the university or the Ministry of Education and Higher Education, as the case may be.” Article 7 states that “Scientific research funded by governmental and non-governmental agencies shall be published in the Arabic language, and it is permissible to publish in other languages, provided that the researcher in this case presents a summary of the research in the Arabic language.”

Kuwait	
Arabic is the Official Language	The Kuwaiti constitution stipulates in Article 3 that “the official language of the state is Arabic.”
Arabic is the Language of Arbitration	The Kuwaiti Arbitration Law stipulated in Article (183) that “...the arbitral award shall be made in Arabic unless otherwise agreed by the Parties, in which case an official translation shall be attached at the time of depositing it...”
Arabic is the Language of Courts	Article 14 of the Kuwaiti Judiciary Organization Law No. 23/1990 stipulates that “Arabic is the official language of courts.”
Arabic is the Language of Drafting Employment Contracts and Records	The Kuwaiti Law of Labour in the Private Sector No. 6/2010 stipulates in Article 29 “all contracts shall be written in Arabic and translations into any other language maybe added thereto, provided that the Arabic version shall prevail in the event of any dispute. The provision of this article shall apply to all correspondences, publications, bylaws and circulars issued by the employer to his workers.”
Arabic is the Language for Obtaining Citizenship	Knowing the Arabic language.
Arabic is the Language of Education	The primary education document in Kuwait states that “the Arabic language is the language of teaching and learning for all academic fields at all levels of education. Observing Arabic basic requirements in terms of correct and proper use, in addition to its integration with other academic fields, will certainly lead to the achievement of its desired educational role.”

Lebanon	
Arabic is the Official Language	The Lebanese constitution stipulates in Article 11 that “the Arabic language is the official national language.”
Arabic is the Language of Arbitration	The new Lebanese Code of Civil Procedure stipulates in Article 418 that “the existence of the arbitral award is proven by showing its original copy attached to the arbitration agreement or with copies of the two documents certified by the arbitrators or by any competent authority; and if these documents are written in a foreign language, they shall be translated by a sworn translator.”
Arabic is the Language of Courts	The new Lebanese Code of Criminal Procedure No. 328/2001 stipulates in Article 81 that “if the defendant does not speak the Arabic language, the investigating judge shall appoint an interpreter...” Article 88 indicates that “if the witness does not speak Arabic, the investigating judge shall appoint an interpreter for him...” Article 254 mentions: “if the accused does not understand the Arabic language, the president of the court shall appoint a qualified interpreter who shall be sworn in by the president to do his work honestly and with integrity.”
Arabic is the Language of Drafting Employment Contracts and Records	The Lebanese Labour Law of 1946 stipulated in Article 12 that “the work contract may be either in written or oral. In both cases, it is subject to the provisions of ordinary law. The written contract must be drawn up in the Arabic language. It may, however, be translated into a foreign language if the employer or the employee is a foreigner who does not know the Arabic language.”
Arabic is the Language for Obtaining Citizenship	-
Arabic is the Language of Education	-

Libya	
Arabic is the Official Language	The Libyan constitution stipulates in Article 32 that “the local languages spoken by a part of the Libyan people shall be considered national languages, a part of its cultural and linguistic heritage and a common asset for all Libyans. Arabic shall be the official language of the State.”
Arabic is the Language of Arbitration	The Libyan arbitration law did not stipulate that Arabic is the language of arbitration, nor did it indicate a specific language to be the language of arbitration.
Arabic is the Language of Courts	The Libyan law on Judicial System No. 6/1374 AH states in Article 26 that “the language of courts is Arabic, and the court shall hear the statements of opponents or witnesses who are not proficient in Arabic through a sworn interpreter.”
Arabic is the Language of Drafting Employment Contracts and Records	Law No. 12/2010 promulgating the Labour Relations Law stipulated in Article 67 that “the work contract shall be concluded according to the model established by the competent authority. The contract may be executed only after its approval by that authority which shall ensure that it complies with the legal form and its conditions are in accordance with this law. The contract must contain all the necessary details to define the rights and obligations of the parties, and it shall be draw up in writing in the Arabic language...”
Arabic is the Language for Obtaining Citizenship	-
Arabic is the Language of Education	Law No. 1/1992 relation to the Libyan higher education provides in Article 2, paragraph 3 for “paying attention to the Arabic language and its literature and emphasizing its use in all branches of science and knowledge.” Article 5 stipulates that “the Arabic language is the language of education in the universities of the Great Socialist People’s Libyan Arab Jamahiriya. It is permissible, after approval of the People’s Committee for Higher Education, to use another language in some disciplines and studies whenever the need arises.”

Egypt	
Arabic is the Official Language	The Egyptian constitution in Article No. (2) states that “Islam is the religion of the State. Arabic is its official language and the principal source of legislation is Islamic Jurisprudence (Sharia).”
Arabic is the Language of Arbitration	The Egyptian Law No. 27/1994 promulgating the Law concerning Arbitration in Civil and Commercial Matters stipulates the following: Article 29 “1- Arbitration shall be conducted in the Arabic language...”
Arabic is the Language of Courts	The Egyptian Judicial Authority Law No. 46/1972 states in Article 19 that “the language of courts is Arabic. The court shall hear the opponent or witnesses who do not know Arabic through an interpreter after taking the oath.”
Arabic is the Language of Drafting Employment Contracts and Records	The Egyptian Labour Law No. 12/2003 indicates in Article 32 that “the employer is obligated to draw up the work contract in writing in Arabic in three copies. The employer shall keep one copy, deliver a copy to the worker, and the third shall be deposited with the competent social insurance office.”
Arabic is the Language for Obtaining Citizenship	Mastering the Arabic Language.
Arabic is the Language of Education	The Egyptian Constitution of 2014 declares in Article 24 that “the Arabic language, religious education and national history in all its stages are core subjects of public and private pre-university education. Universities are committed to teaching human rights, and professional morals and ethics relating to various academic disciplines.”

Morocco	
Arabic is the Official Language	The Moroccan constitution declares in Article 6 that “Arabic shall remain the official language of the State. The State shall work for the protection and the development of the Arabic language, as well as the promotion of its use.”
Arabic is the Language of Arbitration	The Moroccan Code of Civil Procedure No. 08-05 of 2007 did not explicitly stipulate the language of arbitration.
Arabic is the Language of Courts	Law No. 3.64 of January 26, 1965, stipulates in Article 5 that “the Arabic language is the only language of deliberations, pleadings and judgments in Moroccan courts.”
Arabic is the Language of Drafting Employment Contracts and Records	The Moroccan Law No. 65-99 relating to the Labour Code does not explicitly provide for the language to be used to draw up work contracts.
Arabic is the Language for Obtaining Citizenship	If the father of the person belongs to a country in which the majority of the population consists of a group whose language is Arabic or whose religion is Islam, and the person belongs to that group.
Arabic is the Language of Education	Law No. 05.00 on the Basic Law of Primary Education of 2000 states in Article 1 that “Elementary education aims to guarantee the highest level of equal opportunities for all Moroccan children so as to access school education, to facilitate their physical, cognitive and emotional development and to develop autonomy and socialization skills through: preparing them to learn, read and write in the Arabic, in particular through mastery of oral expression, relying on the Amazigh language or any other local dialect, to make it easier for them to get started with reading or writing.”

Mauritania	
Arabic is the Official Language	The Mauritanian constitution stipulates in Article 6 that “the national languages are: Arabic, Pulaar, Soninke and Wolof. The official language is Arabic.”
Arabic is the Language of Arbitration	The Mauritanian Arbitration Law states, in Article 51, that “in the event that the parties do not agree on the language or languages to be used in the procedures, the arbitration panel shall determine that.”
Arabic is the Language of Courts	The Mauritanian Law No. (2004-17) dated July 6, 2004, promulgating the Labour Code states, in Article 70, that “the collective agreement must be written in the Arabic language.”
Arabic is the Language of Drafting Employment Contracts and Records	The labor code (17-2004) of July 6, 2004, article 70, provides that the “Collective agreements must be drafted in Arabic”.
Arabic is the Language for Obtaining Citizenship	Citizenship shall not be granted to: those who do not speak fluently one of the following languages: Tavruri, Soninke, Wolof, Bambara, Hassaniyya, Arabic and French.
Arabic is the Language of Education	<p>The Mauritanian educational system has witnessed many reforms for decades, which are summarized as follows:</p> <p>First: the 1959 reform, which added 4 hours per week for the Arabic language course in primary school and two non-compulsory hours in middle school.</p> <p>Second: the 1967 reform, according to which the first year of primary education was devoted to teaching the Arabic language.</p> <p>Despite the fact that the reform increased the hours prescribed for the Arabic language in the next four grades “from the second year to the fifth”, entrance examination to the first year of middle school has continued to be conducted exclusively in the French language.</p> <p>Third: 1973 Reform: this reform was distinguished from its predecessors in that it tended towards the option of duality with regard to education, according to which Arabic will be the official language and French the working language. Meanwhile, an Arabic division was established, allowing students enrolled in it to enter middle school and take intermediate education certificate examinations in this language.</p> <p>Fourth: The 1979 reform, which resulted in making Arabic the language of study for most stages of education while retaining the French division. Consequently, the Mauritanian educational system proceeded according to two distinct educational paths: One in Arabic and the other in French.</p> <p>Fifth: the 1999 reform, which aimed to unify the educational system in one bilingual division, after the educational process was carried out in two divisions, one of which provided lessons in Arabic and the second in French.</p>

Yemen	
Arabic is the Official Language	The Yemeni constitution states in Article 2 that “Islam is the religion of the state, and Arabic is its official language.”
Arabic is the Language of Arbitration	The Yemeni Amended Arbitration Law No. 32/1997 did not explicitly stipulate the language of arbitration.
Arabic is the Language of Courts	The Yemeni Judicial Authority Law No. 1/1991 stipulates in Article 3 that “the language of courts is Arabic.”
Arabic is the Language of Drafting Employment Contracts and Records	The Yemeni Labour Law No. 5/1995 amended by Law No. 25/1997 states in Article 10 that “Arabic is the adopted language in all labour relations, records and documents in the Republic, and it is not permissible to invoke any document written in a foreign language against the worker, even if it was authenticated by the signature of the worker. When the document is written in Arabic and in a foreign language, the document written in the Arabic language is the sole basis for interpretation and application.”
Arabic is the Language for Obtaining Citizenship	Mastering the Arabic language.
Arabic is the Language of Education	The Yemeni Public Education Law stipulates in Article 12, paragraph (b), that “public secondary education aims to enable students to acquire the following capabilities: b- Mastering the Arabic language in terms of writing and pronunciation; using it to expand their literary and scientific culture and express their ideas clearly, taking into account the elements of the correct linguistic structure; in addition to mastering the reading and writing of at least one foreign language.”

Annex 3 Examples of Some Arab Projects and Awards in the Field of Translation³

Examples of translation projects

- **Committee for Writing, Translation and Publication:** This Committee, established in Egypt at the beginning of the twentieth century, is a good example of serious and fruitful joint work among intellectuals. It was founded in 1914 by graduates of the Higher School of Teachers and the School of Law. Its legal regulations were drawn up in 1915, and Ahmed Amine chaired it from that date until his death in 1954. The committee aimed to promote education by writing scientific books for school students, as well as to advance and educate society through the systematic expansion of writing and translating books in various fields.
- **First and second “Thousand Books Project” :** The first publications of this project appeared in 1955, under the supervision of the Cultural Administration of the Egyptian Ministry of Education. It was interested in the most important international books and the classics, in addition to covering pure sciences, applied sciences, general knowledge, philosophy, psychology, religions, social sciences, languages and fine arts, literature with its various branches, history, geography and biographies. The project was suspended in 1969. However, it was resumed under the title “The Second Thousand Books Project” in 1986 by the General Egyptian Book Organization (GEBO). The project has been concerned with the translation of modern books as an attempt to connect with the contemporary global scientific and cultural revolution. The project’s publications were divided into 19 branches of knowledge.
- **National Council for Culture, Arts and Literature in Kuwait:** It published two series interested in translation which are: the International Creativity Series 1969 that published more than 400 books, and the World of Knowledge Series 1978, of which more than 470 books have been published so far, the vast majority of them translated in all areas of knowledge.
- **Algerian Academy of the Arabic Language:** It was established in 1986 and among its objectives is the “translation or Arabization of terms used in the contemporary world.” However, the impact of its work in this regard is not prominent in the field, not to mention some deficiencies pointed out by the writer and translator Saeed Butajin in his book “Translation and Terminology: A Study in the Problem of Translating the New Critical Term” published in 2009. Translation in Algeria has not witnessed a tangible development, despite the efforts made by the state and the material and human resources it has provided.
- **Supreme Council for the Arabic Language in Algeria:** It was established pursuant to Decree No. 96-30 of December 21, 1996, amending and supplementing Law No. 91-05 of January 16, 1991. The Council focuses some of its efforts on translation in its various forms. Its contribution in this regard is evident through the translation of many scientific books in all fields of science. It also publishes a refereed journal specialized in translation called ‘MAALIM”, which is concerned with translation studies and translating modern intellectual publications in the world.

- **Arab Organization for Translation:** The organization was established in 1999 in Beirut, with the aim of transferring knowledge and disseminating international thought in the fields of philosophy, literature and social sciences. The organization works to achieve a qualitative and quantitative breakthrough in translation activity in the Arab world, while contributing to the introduction of science within the framework of contemporary Arab culture, revitalizing scientific research in the Arabic language, as well as contributing to stimulating the demand for translated books and their uses in various areas of development. The organization strives to establish a network of relations with actors in the field of translation in the Arab world, and to exchange information on existing and future translation efforts. The organization has translated a large number of books.
- **National Centre for Translation - Supreme Council of Culture:** The Supreme Council for Culture in Egypt launched the “National Project for Translation” to revive the organized translation movement and to complement its previous projects, such as the “Thousand Books Project”, which stopped after the publication of 600 books. The project’s first publications began in January 2000. At the beginning of 2006, the project celebrated the publication of its thousandth book and its management was transferred to the National Centre for Translation. The project has also aimed to get rid of the Eurocentric influence and the dominance of the English and French languages, while opening up to the eastern languages with important historical links to the Arabic language, such as Turkish and Persian. As of 2018, the number of books translated by the National Centre for Translation has reached 3,196.
- **Al-Babtain Translation Centre:** The Centre, launched in 2004, was able within a few years to contribute to supporting the translation movement and emphasizing its cultural importance. The Centre’s work mechanism is based on encouraging publishing houses to translate important books for the Arab audience, through the agreements signed by the Centre with prominent publishing houses in this field, according to which financial support is provided for each book translated from foreign languages into Arabic and published. The Centre is currently interested in translating scientific technological books in light of the Arab library’s need for this type of books and to contribute to the spread of scientific culture among the broadest segments of Arab readers of different ages.⁴
- **Syrian General Organization of Book:** The organization, established according to Law No. 8/2006, is the Syrian governmental institution that is formally entrusted with the process of advancing translation, and it reports directly to the Minister of Culture. It is concerned with publishing books written and translated in various fields of knowledge and science, in addition to contributing to the advancement of the cultural and intellectual movement in Syria and the enrichment of the Syrian cultural scene in a way that keeps it up to date with the developments taking place in the Arab and international circles.
- **“Kalima” project:** It was launched in 2007 by the Abu Dhabi Authority for Culture and Heritage (ADACH). It aims to restore the glow of translation as an effective intercultural tool, like it was in its golden age. The project has succeeded in translating the most important titles from 13 languages into Arabic, in various fields, including science and literature, in addition to translating more than 72 titles on topics related to the heritage, cultures, myths and customs of peoples in Asia, Europe and America. The translation of children’s literature to Arabic is a fundamental pillar of the “Kalima” project, as more than 235 titles have been translated from various languages. The project has also focused on the young-adult literature that does not receive much attention in the Arab culture.

- **Turjuman Foundation:** Since its establishment in Amman - Jordan in 2003, the foundation has been concerned with introducing opinion leaders and Arab educational, political and economic elites to new and important intellectual production outside the Arab world, through reliable, trusted and authorized translation of new foreign publication or of works with renewed value in the fields of human and social studies in general, and in economic, social, administrative, political and cultural sciences in particular.
- **"Tarjim" project:** It is a program launched by the Mohammed bin Rashid Al Maktoum Knowledge Foundation in 2008. It works on translating foreign publications into Arabic with the purpose of enriching the Arab library with the best works of international thought in various fields. It also seeks to show the civilized face of the nation, by translating Arabic intellectual creative works into the international languages. At the current stage of work, the program focuses on books that support sustainable development in the Arab region. Therefore, books on management are prioritized, and then other fields follow.
- **Translation Unit at the Arab Centre for Research and Policy Studies in Doha- Qatar:** The unit is concerned with producing translations from various foreign languages, and it continuously works to fulfill its mission in a way that serves intellectual advancement, university and academic education, as well as Arab culture in general.
- **Shorouk-Penguin Project to translate the classics of Arab and Western literature:** This translation project, which is one of the most recent in the Arab world, is based on a partnership between the international "Penguin" house and the Egyptian Dar Al-Shorouk. In November 2010, the parties agreed to translate the "Penguin" classics for which the house was famous and to re-publish them in Arabic for the Arab audience; at the same time, many prominent books of ancient and modern Arabic literature would be translated into English and presented to the Western audience. The project intends to annually publish 20 books translated into Arabic.
- **Iraqi Translation Project:** The project, which is a voluntary initiative established in 2013, aims at enriching the Arabic electronic content with reliable qualitative knowledge, promoting the adoption of the scientific methods and their outcomes, and highlighting the ability of science to guide community development, along with refuting myths and fighting pseudoscience. It also seeks to spread critical thinking, raise youth awareness and direct them to learn about the culture of the successful other by continuously reading about it. Furthermore, the project endeavours to promote human rights and spread the importance of peaceful coexistence and tolerance.
- **"A Book in Minutes" initiative:** This initiative has been launched by the Dubai government with the aim of reviving an ancient legacy that contributed to spreading knowledge and building Arab and Islamic civilization more than a thousand years ago, through the publication of translated summaries of the most important international popular books. The initiative publications, which combine the originality of the content and the attractive layout and design in the Arabic language, provide readers with a summary of the thought of writers and creators in minutes, which clearly contributes to promoting the most famous books and transmitting their rich information quickly and efficiently to a wide range of audiences. This ongoing initiative, despite the simplicity of its idea, represents a quantum leap in the process of disseminating culture, literature and science.

- **Saudi Observatory on Translated Publications:** The role of the observatory is based on providing realistic data and information about the translation movement in all its aspects to all relevant agencies. Thus, it represents a digital database that enables translation agencies to know their reality, in terms of translation production, and to set systematic strategic plans for their translation activities, consequently establishing a unified national plan for the translation movement in the Kingdom; a plan that would contribute to the transfer and localization of knowledge and to opening up wide opportunities for the nation's youth to simulate, create and innovate in all disciplines, so as to form the knowledge economy generation in the country of knowledge.⁵
- **King Abdullah bin Abdul Aziz International Center for Arabic Language (KAICAL):** The Centre, established by a decision dated 2008, in the Kingdom of Saudi Arabia, aims at: preserving the integrity of the Arabic language; creating an appropriate environment for the development, consolidation and dissemination of the Arabic language; working on editing and publishing linguistic studies, research and references; and developing scientific, linguistic and literary terms and working to standardize and publish them.⁶
- **Prince Sultan bin Abdulaziz Al Saud programme to strengthen the Arabic language in UNESCO:** The program was launched in 2007 with the aim of enhancing the presence of the Arabic language in UNESCO, in order to give a new impetus to the use of this language in the organization, whether through interpretation, texts or media presence on the Internet.⁷

Examples of translation encouragement awards

- **Arkansas Arabic Translation Award:** It is an award given to a distinguished English translation of a literary work that takes the form of a complete book which was originally written in Arabic. The award is administered by the King Fahd Centre for Middle Eastern Studies at the University of Arkansas. The winning book has been published by Syracuse University Press since 2008 as part of its series on Middle Eastern literature. The value of the award is five thousand dollars for the translator and the same for the original author. Fictional literary works (stories and novels) and non-fictional works may be nominated for the prize.
- **King Abdullah bin Abdulaziz International Award for Translation:** The award, which was founded in 2006, is based in the King Abdulaziz Public Library in Riyadh, Kingdom of Saudi Arabia. It is a merit award given annually to works translated from and into the Arabic language.
- **Saif Ghobash Banipal Prize for Arabic Literary Translation:** It is an annual award given to one (or more) translators for a published translation of a complete literary work from Arabic into English.
- **Sheikh Hamad Award for Translation and International Understanding:** The Award was founded in Qatar in 2015. It aspires to inculcate a culture of dialogue, develop international understanding and encourage mature cross-cultural interaction between Arabic and other world languages through the medium of translation.⁸

- **Sultan Qaboos Award for Culture, Arts and Literature:** It is an annual merit award held in rotation across the local and regional arenas, as it is open for contestants from Oman and the whole Arab world in one year, and becomes exclusively dedicated to Omani contestants in the subsequent year. The award is administered by the Sultan Qaboos Higher Centre for Culture and Sciences.
- **Rifa'a Al-Tahtawi Award for Translation:** It is an annual Egyptian award in the name of the pioneer of translation in the modern era. The award seeks to promote the status of translation and its development, as well as to motivate translators.
- **Youth Translation Award:** The National Centre for Translation in Egypt has allocated this award to young people under the age of thirty-five, as part of its efforts to revitalize its role in activating the translation movement and encouraging young translators.
- **Scientific Translation Award:** It was founded by the National Centre for Translation in Egypt, as part of its endeavours to support scientific translation.
- **Sheikh Zayed Book Award:** It is one of the most prestigious and well-funded literary prizes in the world. It is an independent award presented annually, according to scientific and objective standards, to cultural makers, intellectuals, creators, publishers, as well as young talents whose contributions in the fields of development, writing and translation in humanities have evidently enriched intellectual, cultural, literary and social life. This award was established with the support and patronage of the "Department of Culture and Tourism - Abu Dhabi".
- **Sharjah Award for Translation:** This international award for translation and writing was launched to promote well-established international translations that rely on the human achievement in its cultural and intellectual aspects and use it as a foundation for the human civilization and build bridges that connect the east and the west. Such translations seek to support serious publishing work that is able to emphasize the role of the word and activate creative ideas that are capable of pushing the world civilization scene forward towards the desired integration.
- **Ibn Khaldoun-Senghor Award for Translation in Human Sciences:** It was created in 2007 in partnership between the Arab League Educational, Cultural and Scientific Organization (ALECSO) and the International Organization of *La Francophonie* (OIF). The award aims to encourage and reward translators for their efforts towards the mutual enrichment of Arab and Francophone cultures and the promotion of cultural and linguistic diversity.
- **Sami Al-Droubi Award for Translation into Arabic:** This award is presented by the Ministry of Culture, the Syrian General organization for Book, in recognition of the importance of translators and their enlightening role in transmitting knowledge and improving the cultural landscape. The award is intended for Syrian and Arab translators residing in Syria.⁹
- **Morocco Book Prize:** It is an annual award for the best Moroccan books in the fields of humanities and social sciences, literary and artistic studies, poetry, translation, narratives and anecdotes. The award accepts the nomination of books published in the Arabic language, the Amazigh language, the Hassani dialect or one of the foreign languages.

Annex 4 Names of the participants in the focus discussions and review meetings of the case studies of Saudi Arabia, Egypt and Morocco

Saudi Arabia

1. Ibtisam Bint Abdul Rahman Al-Salam
2. Ibrahim Al-Juweer
3. Ibrahim bin Ahmed Hassan Ibrahim bin Suleiman al-Shamsan
4. Ahmed Al-Hussein
5. Ahmed bin Abdullah Al-Salem
6. Ahmed bin Mohammed Al-Odhaib
7. Ahmed bin Mohammed Al-Nashwan
8. Ahmed Abdullah Al-Zuhri
9. Afnan Ibrahim Al Khalaf
10. Amal Al-Rashed
11. Bahaa Al-Sarhan
12. Hamad Al-Otaibi
13. Hamad bin Abdullah Al-Anqari
14. Khalid bin Salman Ikoumi
15. Rashid Al-Abdul Karim
16. Reem Al-Salem
17. Ziyad bin Abdullah Al-Drees
18. Zina Al-Shubaily
19. Sami Saleh Al-Rassini
20. Saad bin Saad Al Saud
21. Saud Al-Ruweigh
22. Suleiman bin Mohammed Elfasl
23. Safaa Al-Rashed
24. Ayes Abdullah
25. Abdul Rahman Muhammad Al-Usaimi
26. Abdul Aziz bin Ibrahim
27. Abdullah Fahd Abdullah
28. Abdulaziz Al-Hamid
29. Abdullah Al-Qarni
30. AAbdul Mohsen Al-Suleiman
31. Aqeel Al-Shammari
32. Ali bin Siddiq al-Hakami
33. Awatef Jaafar Al-Otaibi
34. Malik al-Wadaei
35. Majida Annajm
36. MMuhammad al-Bishri
37. Muhammad Al-Marzouki
38. Muhammad Saad
39. Muhammad Mufflih Al-Shahrani
40. Mahmoud Ismail Saleh
41. Moajib Al-Zahrani
42. Manal bin Hadi Al-Qahtani
43. Mansour Al-Ghamdi
44. Mansour bin Dhaif Al-Osaimi
45. Mona Al-Murshid
46. Nabil Al-Mahshmi
47. Nabil Musa Al-Makhshmi
48. Nada Al-Jalal
49. Nawal El-Helweh
50. Noura Ibrahim Al Khalaf
51. Nof Alhazmi
52. Nouf Saleh Al Hussein
53. Nouf Fahd Al-Khmashi
54. Hajar bint Asfour
55. Walid Al-Sabbagh
56. Ahmed Darwish
57. Ahmed Abdel-Hamid Omar
58. Ahmed Abdel Radi
59. Osama Al-Qalash
60. Asmaa Abdel-Fattah Abdel-Hamid
61. Asma Muhammad Farid
62. Ashraf Ismail Shalaby
63. Ashraf Abdel Raouf
64. Akram Salah
65. Omnia Amer
66. Anwar Mogheeth
67. Hazem Al-Buhawashi
68. Hassan Emad
69. Hassan Kamal Harb
70. Hamdi Muhammad Al-Talbani
71. Hamza Allam
72. Dalia wafki
73. Rajab Syed Sadiq
74. Raymaa Abdel-Ghafour
75. Raeesa Qamar
76. Sameh Mahjoub
77. Sami Suleiman
78. Samia Qadry
79. Sahar Rajab
80. Servinaz Ahmed Hafez
81. Samira Ahmed Gad
82. Sayyid Muhammad Mustafa
83. Sayyid Mustafa Hamid
84. Shahanda Izzat
85. Sherif Shaheen
86. Sherif Awad
87. Shawky Jalal
88. Safaa Ismail Ahmed
89. Tony Wasfi
90. Adel Dergham
91. Atef Maghouri
92. Abdul Hakim Radi
93. Abdul Rahman Al-Rafi'i
94. Abd al-Ghaffar al-Deek
95. Abeer Qamrah
96. Azza Kamel
97. Izzat Mohamed Abdel Fattah
98. Ula Adel
99. Alaa Farouk
100. Emad Abdul Latif
101. Gharaa Hussain Muhanna
102. Fahr Shakir
103. Laila Hanawi
104. Muhammad Al-Khouli

Egypt

- | | | |
|------------------------------------|-----------------------------|--------------------------------|
| 105. Mohamed Salah El-Din Maamoun | 125. Ikram Al-Sagheer | 149. Chatbi Muhammad |
| 106. Muhammad Yunus Abdel-Aal | 126. Ouaadi Sarah | 150. Sabah Al-Zakhnini |
| 107. Mahmoud Shaker | 127. Iman Al-Sagheer | 151. Tamo Ait Mubarak |
| 108. Mahmoud Abdel Ghaffar | 128. Bali Rashid | 152. Adel El-Khayari |
| 109. Murad Abdul kadir | 129. Buthaina Al-Ghalbzouri | 153. Abdullah Kadelli |
| 110. Marwa Yousry Hussein Al-Assal | 130. Al-Bashir Tamer | 154. Abdul-Jalil Lahjmari |
| 111. Moataz Ali | 131. Thoba Ahmad | 155. Abdel Salam Al Wazzani |
| 112. Manal Abdel Fattah | 132. Hajjad Al-Hussein | 156. Abd al-Samad al-Habib Ami |
| 113. Mina Magdy | 133. Al-Hussein Baadi | 157. Abdel Moneim Jalil |
| 114. Nesma Al-Juwaili | 134. Hamid Ahmed | 158. Abdul Wahid Faqih |
| 115. Nidal Ahmed Maslam | 135. Khaled Faris | 159. Awinti Ibrahim |
| 116. Noni Wasfi | 136. Kholoud Al-Sebaei | 160. Fatima Al-Afriqi |
| 117. Naira Alwan | 137. Khiari Abdullah | 161. Fouad Shafiqi |
| 118. Heba Rashwan | 138. Al-Radi Muhammad | 162. Loubna Allam |
| 119. Hoda Suleiman Muhammad | 139. Rabia Al-Salhi | 163. Muhammad Achtatou |
| | 140. Rabia Hijazi | 164. Muhammad Al-Dreij |
| | 141. Rashid Al-Jabri | 165. Muhammad Adnan Al-Tazi |
| | 142. Rashid bin Tibi | 166. Muhammad Moumin |
| | 143. Rashid bin Masoud | 167. Mazouar Mustafa |
| | 144. Rihan Abdel Salam | 168. Moftahi Abd al-Salam |
| | 145. Alzaoui Tadli | 169. Miloud Ahbado |
| | 146. Zahra Ibrahim | 170. Nadia Tazi |
| | 147. Sarah Qurechi | 171. Hicham Boukhachouch |
| | 148. Samri Naima | |

Morocco

120. Ibrahim Borchachin
 121. Ibrahim Kahwaji
 122. Abbou Qasim
 123. Ahmed Lamash
 124. Ismail Kharraz

Annex 5 Questionnaire distributed in the framework of preparing case studies in Saudi Arabia, Egypt and Morocco

Occupation:.....

Gender: Male Female

1. Do you feel comfortable using the Arabic language verbally or in writing? Yes To some extent No

2. Do teachers and pupils speak Arabic at school? Yes Sometimes Always

3. Does teaching pupils and students help in speaking Arabic? Yes A little No

4. How do you find the level of pupils and students in the Arabic language today? Good Average Weak

5. Are pupils, students and teachers allowed to speak a language or languages other than Arabic while they are in school? Yes Sometime No

6. What language or other languages do the pupils or students speak at school? Vernacular (Colloquial) English French Another Language (Specify)

7. Does learning and mastering the Arabic language facilitate learning of other school subjects? Yes A Little A Lot

8. Do methods and modes of teaching Arabic in schools help in acquiring and mastering it? Yes A Little No

9. Do you agree to make Arabic the language of instruction for all academic subjects (primary, secondary, university)? Agree Somewhat Agree Disagree

10. What do you think the difficulties of learning the Arabic language are? Syntax Writing Pronunciation

11. What is the image or representation that you have of the Arabic language? A Powerful Language A Weak Language A Difficult Language
12. Do you agree that the use of the Arabic language in administrations and in education in general weakens the performance? Agree Not true True
13. What are the difficulties that hinder the use of the Arabic language in the administration of [the state]? Decision makers Inability of the language Weakness of the Arabic language
14. What is the importance of using the Arabic language in your opinion? Enhancing Identity Its efficiency Being the language of religion and Islamic thought
15. Does the milieu in which you live help develop your repertoire and your culture in the Arabic language? It helps a lot It helps a little It does not help at all
16. Can the media contribute to the development of the Arabic language? Yes Sometimes I don't think so
17. Do you think that the family has great importance in the child's language development? Yes Somewhat No
18. Do you have anything to add regarding enhancing the Arabic language and making it a bridge for knowledge transfer in the knowledge society?

.....

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Notes

- 1 Statistical tables provide the most recent available data. In case data is not available, the sign (-) is put.
- 2 A survey made by the author within the framework of the preparation of this report.
- 3 Source (unless otherwise indicated in the text): The translation movement in the modern era. The "Fikr" cultural magazine. https://www.fikrmag.com/topic_details.php?topic_id=24. Accessed on November 27, 2019.
- 4 For more information about the Centre and its activities, you can visit the following website: <https://www.albabtaincf.org/mrakz-lltrjmh>.
- 5 Saudi Observatory in translates publications. <https://sotp-marsad.com/ar/about>
- 6 For more information, you can refer to the Centre's website. <https://www.kaica.org.sa/>
- 7 For more information, you can refer to the foundation's website. <https://sbaf.org.sa/unsco/>
- 8 The "Fikr" cultural magazine. The translation movement in the modern era. https://www.fikrmag.com/topic_details.php?topic_id=24
- 9 Sami Al-Droubi (1921-1976) is a Syrian writer, critic, translator, and diplomat. He was known for his translation of all Dostoyevsky's works, which are his most famous achievements in the field of translation. He also translated several books by other authors such as Tolstoy, Pushkin, Mikhail Lermontov, and others. Syrian Arab Republic, Ministry of Culture. <http://moc.gov.sy/2019/03/26/جائزة-سامي-الدروبي-للترجمة>

اللَّهُمَّ صَلِّ وَسَلِّمْ
وَبَارِكْ عَلَى
رَسُولِكَ مُحَمَّدٍ
وَعَلَىٰ آلِهِ
وَأَصْحَابِهِ
وَمَنْ تَبِعَهُمْ
إِلَى يَوْمِ الدِّينِ
أَمِينَ

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وَمَنْ تَبِعَهُمْ
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أَمِينَ

اللَّهُمَّ صَلِّ وَسَلِّمْ
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وَمَنْ تَبِعَهُمْ
إِلَى يَوْمِ الدِّينِ
أَمِينَ

Case Studies



اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ وَصَحْبِهِ أَجْمَعِينَ

اللَّهُمَّ صَلِّ وَسَلِّمْ وَبَارِكْ عَلَى سَيِّدِنَا مُحَمَّدٍ وَعَلَى آلِهِ وَصَحْبِهِ أَجْمَعِينَ





The Arabic Language and the Knowledge Society in the Kingdom of Saudi Arabia

Working Group¹

Abdullah bin Saleh Al-Washmi, Professor of Arabic Language, Former Secretary General of the King Abdullah bin Abdulaziz International Centre for the Arabic Language (Principal Researcher).

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Introduction

Linguistic issues in the present era are not limited to the linguistic dimension alone, but are seen as a major component of societies and nations and an important and influential contributor to sustainable development. Sustainable development proceeds from three positions²: economic growth based on knowledge and whose container is language, human societal development based on providing particular attention to language, culture, values and education and the culture of safeguarding and conserving the environment for generations. Hence, the role of language is pivotal and essential in the knowledge society through two main aspects from an economic perspective: the first lies in the fact that it is a tool in the economy and in the process of economic and social development of nations because the use of language contributes to transferring knowledge and experiences between society's members and institutions, and it is the means of communication within the system of science. Moreover, the workforce's mastering of the language facilitates the process of transferring knowledge and technology to society. Accordingly, obtaining knowledge, technology and training can only be done through a language invested to fulfil those roles. For society's role to be effective, it must be fulfilled in the national language. The second aspect is that language is currently considered an industry and a commodity, through a dependence on the cultural industry that has been witnessing an increasing interest in the global economy, the development process and the GDP of countries, in terms of its effective contribution to creating job opportunities, diversifying sources of income and

increasing exports. Indeed, imports of cultural industry in some countries, such as the Netherlands, Sweden, Poland and Denmark, have become greater than the contribution of large industrial sectors, such as the food industry, the construction sector and the computer industry.³

Addressing the issue of the Arabic language and the knowledge society in the Kingdom of Saudi Arabia, this study will hinge on the outcomes of focus discussions, in-depth interviews and an extrapolation of the opinions, in which thirty-five specialists in knowledge and language issues have participated. At the conclusion of the study, some findings and recommendations will be proposed. Although this study deals with the Kingdom of Saudi Arabia, its data intersects significantly with Arab states whose demographic, economic and social conditions are similar, especially countries of the Arab Gulf.

National Context - A Historical Overview of the Linguistic Status in the Kingdom of Saudi Arabia

The Kingdom of Saudi Arabia is distinguished by the fact that it embraces most of the Arabian Peninsula. It is historically the first habitat of the Arabic language in an ancient historical extension, through which the first Saudi state was established in the year 1744 AD. In 1932 AD, the third Saudi state was united into one entity to be called the "Kingdom of Saudi Arabia". This entity has never been submitted to foreign colonialism, a fact that has contributed to preserving its linguistic and cultural specificity.

Linguistic issues in the present era are not limited to the linguistic dimension alone, but are seen as a major component of societies and nations, and an important and influential contributor to sustainable development

The formal establishment of the Arabic language in the Kingdom of Saudi Arabia was, clearly and explicitly mirrored, in various laws, regulations and decisions of various degrees for an exceptionally long time

According to the 2018 statistics of the General Authority for Statistics in the Kingdom of Saudi Arabia,⁴ the Kingdom comprises four-fifths of the Arabian Peninsula extending across an area of approximately two million square meters, inhabited by (33,413,660 people). The number of Saudis is (20,768,627 people), representing 62.15% of the total population, while the number of non-Saudi residents is (12,645,033 people), representing 37.85%. The Kingdom is a young country, with 70% of the population under the age of 35, 38% between the ages of 15 and 34 and 32% under 15 years old.

In terms of the economic situation, the Kingdom of Saudi Arabia occupies an important place on the economic map, as it is the largest producer of oil in the world and has the largest global oil reserves. After oil had been discovered, Saudi Arabia witnessed major transformations, which were reflected in several aspects, including economic and urban development that attracted a sizable workforce from different countries of the world, most of which were non-Arab.

The demographic data for this social fabric indicate that more than a third of the population is non-Saudi, where most of them are non-Arab, in addition to the fact that more than two thirds of the population is under the age of 35 years. This economic and developmental situation has contributed to the existence of a linguistic situation that has its own peculiarities and challenges.

The formal establishment of the Arabic language in the Kingdom of Saudi Arabia was, clearly and explicitly, mirrored in various laws, regulations and decisions

of various degrees for a very long time. The following is a review of some government decisions related to the Arabic language⁵:

- On 24/03/1346 AH, corresponding to 21/09/1927 AD, the Shura Council issued a decision stipulating full attention and care for the Arabic language because it was the official language of the Hijazi-Najdi government, not to mention it was imperative to maintain its classical standard styles and to observe its linguistic rules. That decision confirmed that the attention given to the Arabic language had a historical dimension, and that attending to it was not a present-day undertaking. It rather started before the founding of the Kingdom of Saudi Arabia, which was at that time known as the Hejaz-Najdi government.
- In the Basic Law of Governance (which is the highest legislative text in the Kingdom of Saudi Arabia), Article 1 states that *"The Kingdom of Saudi Arabia is a fully sovereign Arab Islamic State, [...] and its language is Arabic."* The emphasis on the Arabic language in Article 1 of a chief legislative text highlights the status of the Arabic language, its presence in bylaws and regulations and its importance to the decision-maker.

In addition to these two decisions, which represent the historical and symbolic dimensions of the position of the Arabic language in systems and regulations, there are many decisions and systems that enhance the Arabic language in various fields, including:

- In the educational system (which includes general, university, vocational and technical education), several articles were mentioned in the "education policy" confirming that *"the principle is that the Arabic language is the language of education in all its subjects and all its stages, except what is necessary to be taught in another language."* It also states that *"the development of the linguistic ability by various means that nurture the Arabic language and contribute to appreciating and understanding its areas of beauty, in terms of style and thought."* It calls for translating sciences and arts into the Arabic language, and developing the wealth of the Arabic language in terms of "terminology" in a way that meets the need for Arabization and enables knowledge acquisition. Additionally, the statute of the Council of Higher Education and Universities states that *"The Arabic language is the language of education in universities, and it is permissible, when necessary, to teach in another language pursuant to a decision by the relevant university council."*
- As for the media, a "media policy" has been published and consisted of various articles affirming that the Arabic language is the official language in media and calling for the preservation of Arabic and attending to its integrity in all printed and audio-visual media. It calls also for simplifying the classical Arabic language, generalizing its understanding and use among the people, replacing colloquial Arabic with a simplified classical one, encouraging programs that serve classical Arabic and bring it closer to people in general and contributing to developing programs to teach Arabic to non-native speakers. In the commercial advertisements' regulation, an emphasis on observing the rules of the classical Arabic language in commercial advertisements has been stipulated.
- As for finance, business and labour market, the Council of Ministers issued a decision providing for preserving the Arabic language in the labour market. Moreover, the Manpower Council issued a decision that included 11 provisions requiring the use of the Arabic language in hospitals, banks, hotels, airports, contracts, advertisements and the names and descriptions of goods, as well as imposing the use of terms issued by Arabic language academies. The decision obligated the Ministries of Interior, Trade, Municipal and Rural Affairs and Customs to follow up the implementation of the provisions of that decision. The regulation of commercial names confirmed that *"the trade names must consist of Arabic or Arabized words, and not include foreign words."*
- In the "nationality regulation", several articles were included asserting the requirement of proficiency in speaking, reading and writing Arabic.
- As for conferences and seminars, the Council of Ministers issued a decision on 8/8/1439 AH, stipulating that the Arabic language is adopted as an official language in conferences and seminars, and Arabic-speaking participants should adhere to using it.

Goal No. (1.3.3) in the “Saudi Vision 2030”, provides for “upholding the Arabic language”

During the past two decades, the Kingdom has in general achieved a remarkable progress in the fields of growth and development according to many indexes

- As for “Saudi Vision 2030”, goal No. (1.3.3) provides for “*upholding the Arabic language*” where this goal serves several programs affiliated to the vision, including the Quality-of-Life Program and the National Character Enrichment Program.⁶

The regular foundation of the Arabic language in the Kingdom of Saudi Arabia is characterized by its diversity and the multiplicity of its issuers. However, there is still a need to reduce the space among those language policies and planning and the linguistic practice on the ground. Some of these laws do not have a concrete impact on the actual reality, as is the case, for example, in the media and commercial advertisements that use foreign languages and colloquialisms, along with the use of foreign languages in large companies, despite the existence of laws that affirm the commitment to using the Arabic language. On the other hand, it is observed that some policies have several loopholes. The education policy, for instance, emphasizes that the Arabic language is the language of education in all its subjects and all its stages (except for what is necessary to be taught in another language), but it has failed to determine and regulate the standards of such necessity, which has created a legal outlet for discarding the Arabic language in some scientific subjects at universities. Perhaps one of the reasons for this is the absence of a central body entrusted with following up on linguistic policies and the lack of a comprehensive and integrated language policy with systematic language planning, to ensure its accurate and effective implementation on the ground.

The Issue of the Arabic Language and the Creation of a Knowledge Society in the Kingdom of Saudi Arabia

The role of Arabic language as an engine of effective knowledge, and a lever for growth and social development

During the past two decades, the Kingdom has in general achieved remarkable progress in the fields of growth and development according to many indexes, such as, for instance, the “Knowledge Economy Index”⁷, which is one of the World Bank’s indicators for measuring the progress of countries in the knowledge-based economy. It is based on four main pillars: innovation and development, education, information and communication technology and enabling environments. The World Bank report displays the Kingdom’s progress achieved in this indicator between 2000 and 2012. In 2000, Saudi Arabia achieved a value of (4.60); thus, it ranked (76) among the countries of the world included in the report. The value of the index increased in 2012 to (5.96), and the kingdom, therefore, advanced 26 places to rank (50) achieving the fifth highest rate of progress. Bashir (2013)⁸ stresses the importance of this progress in a study comparing the countries of the Islamic world and indicating that the leap the Kingdom achieved in this index made it the highest Islamic country in this aspect between 2000 and 2012.

The Kingdom achieved other results according to the Knowledge Index issued by the UNDP and the Mohammed bin Rashid Al Maktoum Knowledge Foundation,⁹ which focuses on seven sectors: pre-university education; technical

**Table (C 1-1): Knowledge Index Value for the Kingdom of Saudi Arabia
in the years 2017 and 2018**

Indicators		2017		2018		Value change	Rank change
		Value	Rank	Value	Rank		
Global Knowledge Index		45	68	47	66	2	2
Sectoral Indicators	Pre-University Education	48.4	96	52.9	74	4.5	22
	Technical Education and Vocational Training	40.3	119	41	117	0.7	2
	Higher Education	40.3	58	40.1	63	0.2-	-5
	Research, Development and Innovation	30.2	36	30.3	38	0.1	-2
	Information and Communication Technology	59.2	38	56.8	48	2.4-	-10
	Economy	45	59	49.9	47	4.9	12
	Enabling Environments	57.2	92	57.7	87	0.5	5

Source: United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation.2018: Global Knowledge Index 2018. <http://www.knowledge4all.com/Scorecard2018.aspx?id=6&language=ar>. United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation.2017: Global Knowledge Index 2017. <http://www.knowledge4all.com/Scorecard2017.aspx?id=6&language=ar>. Website visited on November 15, 2019.

education and vocational training; higher education, research, development and innovation; information and communication technology; economy and enabling environments. The Kingdom scored 47 points in this Index out of 100 in 2018, compared to the global average of 48, thus ranking 66 in the world out of 134 countries. Table (C.1.1) shows a comparison of the value of the general index and sectoral indicators between 2017 and 2018, with the achieved rank for each indicator.

When looking at the role of the Arabic language as a dynamic engine for effective knowledge in the growth and development of the Kingdom, we must first proceed from the organizational foundations contained in the aforementioned laws, regulations and decisions. These foundations relate to the political and organizational aspects of the State and are often followed by the

rest of the other aspects. In this context, the study, in which a host of researchers participated in preparing the qualitative data for this report, revealed two mixed views. The first opinion holders believe that these organizational foundations have contributed to preserving the Arab identity of society through public education policies and work systems in government departments. They also strengthened the role of the Arabic language in the knowledge society and in societal development and helped raise the status of the Kingdom of Saudi Arabia, compared to states of the Arab world, in using the Arabic language in a number of fields, most notably the technical field. These also include projects and initiatives aimed at Arabizing science and promoting digital Arabic content, databases of information that are concerned with the Arabic language and its terminology and

More efforts are needed to take care of the transfer and indigenization of knowledge and to develop the regulations and policies, which would subsequently contribute to the process of knowledge production using the Arabic language

Knowledge production in its broad sense can take many forms, such as education in its various types, authoring and publishing, scientific communication, economy, industry, production and development in all its sorts

scientific publishing through translating and publishing international magazines, such as the British magazine “Nature”, the French magazine “Science et Vie” and the King’s Initiative project for Arabic content, the Corpus of Arabic Language and Arabic Domain Names, as well as other projects that made the Kingdom a pioneer in activating the role of the Arabic language as a major engine supporting knowledge and societal development.

The other team believes that the current policies track one of two paths: either it is general and insufficient; therefore, we need further clear decisions and regulations to restore the status of the Arabic language at the societal level, strengthen the identity of the Arabic language and link it to the values of citizenship and the sense of belonging, as well as make it a main language for science, work and information, so that it may ultimately be reflected in knowledge production and the developmental construction of the state; or the current policies require more stringency in application to ensure that the Arabic language plays an effective role in building the desired knowledge society and to stress the need for complementary work between the regulatory authorities in the Kingdom, including the ministries of education, information and culture and the Family Affairs Council, to carry out an initiative aimed at improving the mental image of the Arabic language as a modern language suitable for science and life. This team also emphasizes the importance of having a competent authority dedicated to following up the implementation of these policies and regulations, as well as gauging their impact and the extent to which they achieve their objectives.

Notwithstanding the importance of what the first team perceives about the active role the Arabic language currently plays in building a knowledge society and societal development in the Kingdom, the opinion of the second team on the importance of developing current policies and regulations to play a greater role deserves attention, with an emphasis on the importance of integration between the authorities concerned with implementing these policies and regulations and the presence of a competent body dedicated to following up the implementation and gauging the impact, especially in the applied majors of higher education and in scientific publishing, as well as in the field of work of the private sector’s institutions and companies and the media. More efforts are needed to take care of the transfer and indigenization of knowledge, as well as to develop the regulations and policies, which would subsequently contribute to the process of knowledge production using the Arabic language.

The Contribution of the Arabic Language to Producing Knowledge in the Kingdom of Saudi Arabia

Knowledge production in its broad sense can take many forms, such as education in its various types, authoring and publishing, scientific communication, economy, industry, production and development in all its sorts, as well as other types of human activity, which contribute to building and developing the human knowledge. Undoubtedly, language plays a major role in all or most of these forms. This study will focus on publishing as one of the prominent examples of contribution to the production of knowledge in our present time.

Publication statistics issued by the King Fahd National Library in Riyadh,¹⁰ which is the most significant statistical reference for books and scientific dissertations published in the Kingdom of Saudi Arabia, show that 57,032 articles have been registered in the past ten years (1430-1440 AH), and that 94% (namely, 53,597 articles) of them have been published in the Arabic language, though the total number of registered publications after 1436 AH has been notably decreasing (Figure C.1-1). This may be due to the economic transformation the Kingdom underwent in those years, which left its wide-ranging impact on government-funded scientific research projects, and to the restructuring of government sectors, including the Ministry of Education, which now includes three bodies that were previously separate, namely the Ministry of Education the Ministry of Higher Education, and the Public Institution for Vocational and Technical Education.

Each body used to allocate part of its budget for supporting scientific research, publishing, book printing and translating, independently of the other bodies. This merger has perhaps led to rationalizing and combining those budgets into one source. The expansion of electronic publishing could also be one of the causes, especially with the establishment of the Saudi Digital Library, which now collects scientific resources like books, periodicals and scientific dissertations and provides them to researchers easily, thus becoming an important reference for researchers.

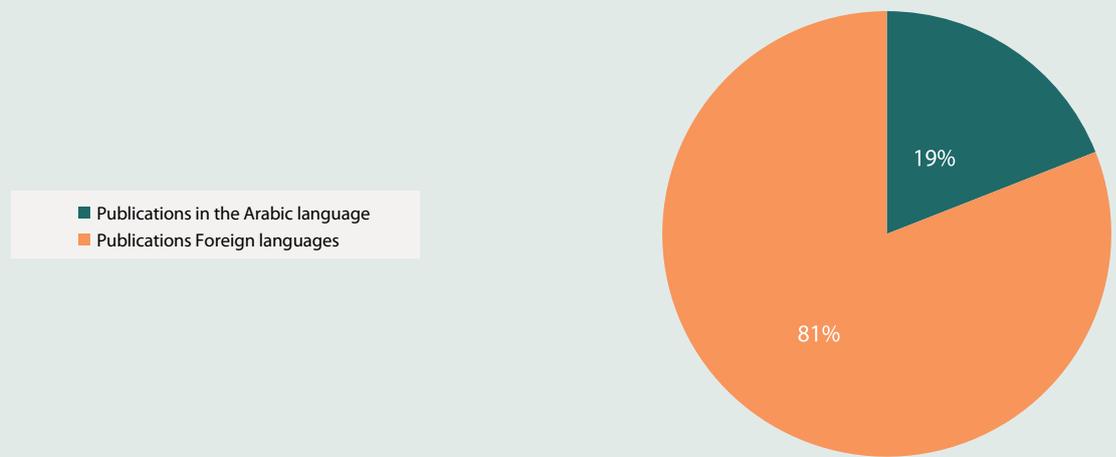
Another statistic published by the King Abdulaziz City for Science and Technology¹¹, illustrates the efforts made by the City to support scientific publishing in the Arabic language, including creating information sources for scientific publications in the Arabic language. It contains full texts or bibliographic data, which can be summarized as follows:

Figure (C.1-1): Number of books published in the Arabic language during the past ten years, according to the statistics of the King Fahd National Library



Source: The researchers were provided with these statistics by the King Abdullah Bin Abdulaziz International Center for Arabic Language, which requested them from the King Fahd National Library through official letters.

Figure (C. 1-2): Percentage of publications of the Ministry of Islamic Affairs in Arabic and Foreign languages



1. The Arabic Scientific Information Database: It contains nearly 74,500 electronic documents ranging from articles, studies and conference works to reports published since 1985 AD until today. It is dedicated to the scientific production of the Kingdom of Saudi Arabia.
2. The Arabic scientific books database, which includes about 57,000 electronic books published in the last ten years and which is not confined to the Kingdom, but includes all Arab states.
3. Scientific Theses Database: It contains approximately 252,000 records. It includes bibliographic data of scientific dissertations at Arab universities produced in the last ten years. Like its predecessor, it includes all Arab states.
4. Library Index: It contains about 16,000 items, including Arabic books, university theses and dictionaries.
5. The Saudi Terminology Data Bank "BASM": It contains 503,000 scientific terms translated into Arabic.

A third statistic by the Ministry of Islamic Affairs, Dawah and Guidance in the

Kingdom¹², indicates that it has published 2,247 titles, of which 429 were in Arabic and 1,818 were in various foreign languages (see Figure C. 1-2). Their topics revolve around religious awareness and guidance, as well as Sharia questions that concern Muslims throughout the world.

Figure C. 1-3 shows the distribution of these publications according to the years from 1428 AH/ 2008 AD to 1438 AH/ 2018 AD.

As regards universities' scientific production, Saudi universities have more than 60 peer-reviewed scientific journals. Al-Khathami study (2010)¹³, which addressed the scientific journals of Saudi universities on the Internet, indicated that there were 35 scientific journals issued by universities in the Kingdom, 63% of them published in Arabic or English and 26% published their research in Arabic, while 11% of the researches were published in the English language. This means the percentage of the Arabic language out of these thirty-five journals was 89% against (74%) for the English language (see Figure C.1-4).

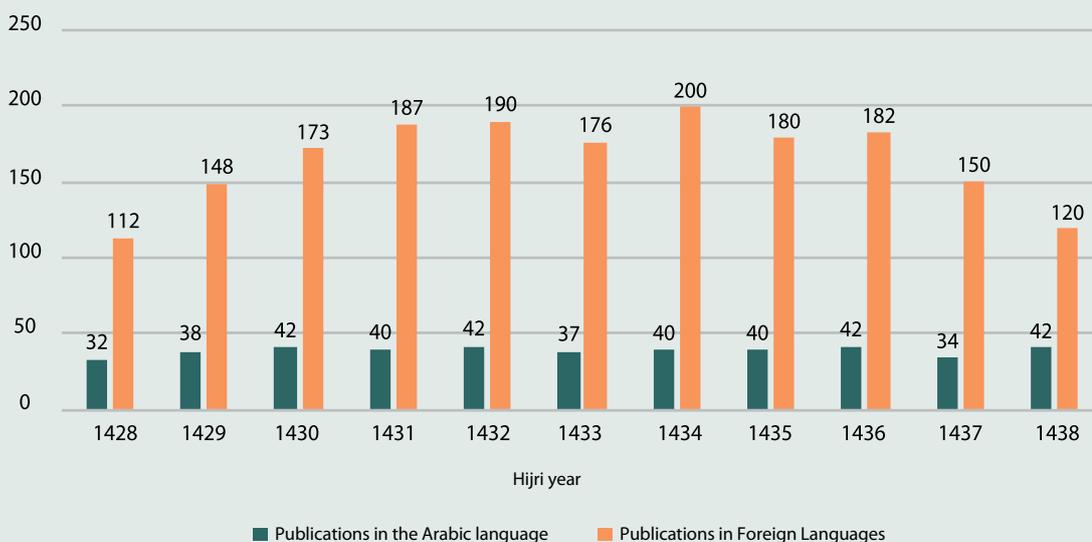
Another recent statistic investigated¹⁴ peer-reviewed journals issued by Saudi universities and included 51 journals. A swift survey of the language which these journals approve for publishing research showed that only 29 journals specified the publishing language. Seven journals of these impose the use of the Arabic language only, 3 journals require research to be drafted exclusively in English and the two languages are together approved in 18 journals, in addition to one magazine that approves publication in several languages. Considering that the remaining twenty-two journals approve publication in both Arabic and English, the share of the Arabic language out of the fifty-one journals will be forty-eight, i.e. 94%, while the share of the English language will be forty-four journals, i.e. 86% (see Figure C. 1-5).

From these statistics, it is possible to conclude that the contribution of the Arabic language to knowledge production in the Kingdom of Saudi Arabia is significant. With the increasing attention paid to English as a universal language of knowledge, the Arabic language still plays a fundamental role as the main language of authorship, research and scientific publishing in the Kingdom.

One of the specialists participating in the in-depth interviews conducted in the course of preparing this study believes that the universities' interest in academic publishing in English is due to their concern for global communication and access to the scientific community, seeing that data and research in English are more widespread, thus facilitating the communication process. Another

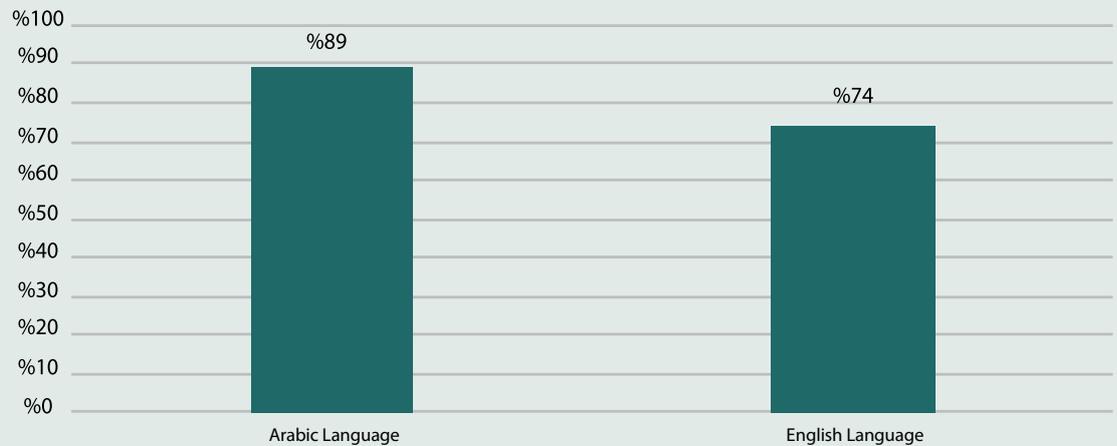
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Figure (C. 1-3): Number of publications of the Ministry of Islamic Affairs in Arabic and Foreign languages



Source: The researchers were provided with these statistics by the King Abdullah Bin Abdulaziz International Center for Arabic Language, which requested them from the King Fahd National Library through official letters.

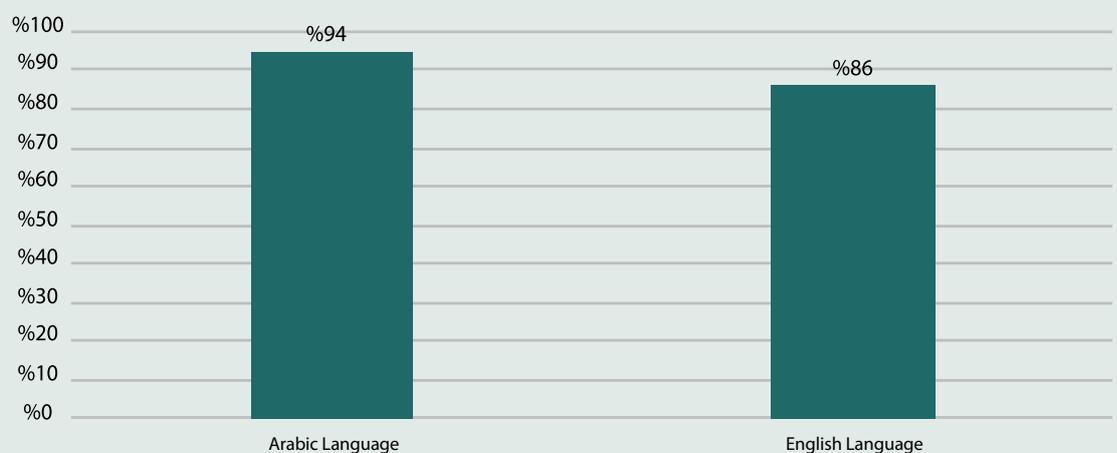
Figure (C. 1-4): Percentage of Journals that Accept Publication in Arabic and English (according to al-Khath'ami, 2010)



Note: Some journals accept publication in both languages, so they have been added to the two columns.

Source: Musfirah bint Dakhil Allah al-Khath'ami. 2010. Scientific Journals of Saudi Universities on the Internet and their Role in Enriching Digital Arabic Content: An Evaluation Study, Conference on Arabic Content in the Internet - Challenges and Ambitions, October 2010.

Figure (C. 1-5): Percentage of journals that accept publication in Arabic and English (according to Al-Salem, 2015)



Note: Some journals accept publication in both languages, so they have been added to the two columns.

Source: Salem bin Mohammed Al-Salem. 2015. Refereed scientific journals in Saudi universities, Prince Nayef Institute for Research and Consulting Services, Imam Muhammad bin Saud Islamic University, Riyadh.

participant argues that the publishing industry in the Arabic language is still an open field for generating many jobs if viewed from the perspective of economic viability, with the need to consider the experiences of other languages and the linguistic industry that they are witnessing, in order to benefit from them in promoting

Arabic through an economic approach. Some of them also see the importance of encouraging publishing in the Arabic language, especially in the intersectional fields of cross-cutting topics, in order to achieve a sort of intellectual cross-fertilization and benefit from all sciences and literature, at the same time, work

towards raising the level of Arab publishing vessels and increasing their number, while linking them to society, so that they are not merely confined to academic specialists.

The potentials and constraints of the Arabic language in transferring and localizing knowledge in the Kingdom of Saudi Arabia

Given the diversity of means and tools in transferring knowledge among people, such a scientific, commercial, tourism and even military communication, along with the cultural and social changes resulting from them, translation, especially the translation of cognitive output, can be considered one of the most significant tools in transferring knowledge. In this context, it is worth looking at some statistics that may serve as indicators of the extent of the Arabic language's contribution to transferring and localizing knowledge in the Kingdom of Saudi Arabia. The statistics of the King Abdullah bin Abdulaziz International Centre for Arabic Language indicate that the number of bodies interested in translation in the Kingdom exceeds 40, including specialized centres for translation, scientific departments at universities, translation units affiliated to research centres or a governmental department, etc. The Box (C.1-1) lists examples of bodies interested in translation in the Kingdom, in addition to examples of international and local translation awards offered by Saudi authorities. The statistics of the Saudi Observatory on Translation also point out that the number of books, which have been translated in the Kingdom of Saudi Arabia since its unification in 1932 until 2016 reached 8,233, distributed as shown in Table (C.1-2).

Box (C. 1-1): Examples of bodies interested in translation in the Kingdom of Saudi Arabia and the translation incentive awards

Translation Institutions and Projects

- King Abdullah bin Abdulaziz International Centre for Arabic Language
- Prince Sultan bin Abdulaziz Al Saud programme to strengthen the Arabic language in UNESCO
- Translation Centre at King Saud University
- King Abdullah Institute for Translation and Arabization
- Saudi Observatory on Translated Publications
- Translated Books Portal - King Abdulaziz Public Library
- The Saudi International Translation Project "Muttasaa"
- The Saudi Scientific Association of Languages and Translation
- Department of Translation at the Institute of Public Administration
- Translation Unit at King Abdulaziz University
- Scientific Publishing and Translation Centre at Al-Qassim University
- Centre for Translation, Authorship and Publishing at King Faisal University
- Centre for Scientific Publishing and Translation at the University of Hail
- Centre for Scientific Publishing, Authorship and Translation at the Northern Border University

Translation Awards

- International awards such as: King Abdullah bin Abdulaziz International Award for Translation, the Arkansas Arabic Translation Award.
- Local awards such as: the annual award of the Ministry of Culture in the Riyadh Book Fair, the King Saud University Award for Scientific Excellence - the translation branch, the translation award at King Abdulaziz University.

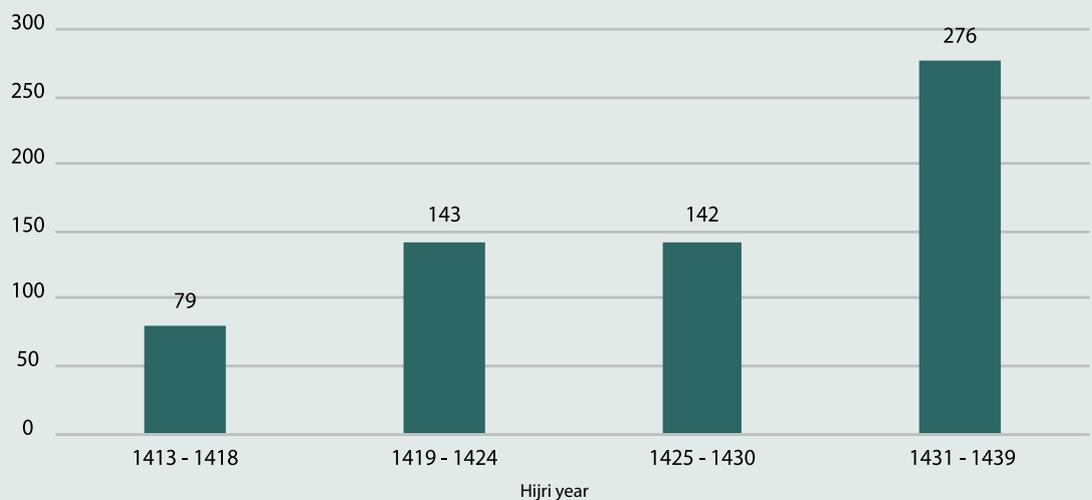
Table (C. 1-2): Books translated inside the Kingdom of Saudi Arabia during 1932-2016

	From Arabic into Foreign languages		From Foreign languages into Arabic		Overall total
	Governmental	Private	Governmental	Private	
Number	559	2,310	1,115	4,249	8,233
Total	2,869		5,364		
Percentage of output per sector (Governmental or Private)	19.5%	80.5%	20.8%	79.2%	
Ratio of output to the total	34.9%		65.1%		
Source: Saudi Observatory on Translation, King Saud University.					

Another statistic of the King Fahd National Library in Riyadh indicates that the number of items translated into Arabic during the past ten years (1440-1430 AH) amounted to 2,167, representing 4% of the total items registered with it during that period, which amounted to 57,032 items.

A further statistic¹⁵ reveals that the total number of books translated into Arabic by the Translation Centre at King Saud University between 1413 and 1439 AH reached 640 books distributed over four periods, as shown in the figure (C.1-6).

Figure (C.1-6): Number of books translated at King Saud University Translation Centre



Source: Ibrahim bin Rafea Al-Qarni. 2019. The role of translation centers in Saudi universities in enriching translation: King Saud University Translation Center as an example, in the book: Saudi Efforts in Translation from and to Arabic, edited by Malek Muhammad Abbad Al-Wadie, King Abdullah bin Abdulaziz International Center for Arabic Language, Riyadh.

Table (C. 1-3): Books translated from Arabic into other languages in the Deanship of Scientific Research at Imam Muhammad bin Saud Islamic University

Target language	Number of books translated
Urdu	3
French	2
Bengali	2
Turkish	1
English	1
Indonesian	1
Uzbek	1
Russian	1
Persian	1
Total Number	13

Source: Abdullah bin Muhammad Al-Khamis (under publication), *Mumarasat almuasasat al akadimia liltarjama fi almamlaka alarabia alsaudia: alghayat alfordia walmuasasatia* (The practice of academic institutions for translation in the Kingdom of Saudi Arabia: Individual and Institutional Goals), in the book: Saudi Efforts in Translating from and to Arabic, edited by Malek Muhammad Abbad Al-Wadie, King Abdullah Bin Abdulaziz International Centre for Arabic Language, Riyadh.

As for translation from Arabic into other languages, the study refers to the efforts made by the Ministry of Islamic Affairs, through the guidance and awareness books it publishes for Muslims around the world in various languages. A different statistic¹⁶ indicated that the Deanship of Scientific Research at Imam Muhammad Ibn Saud Islamic University had translated thirteen books (see Table C. 1-3). Most of these books were devoted to introducing new Muslims to Islamic Sharia, in addition to two translations on the history of the Kingdom of Saudi Arabia. However, this statistic did not specify the time in which these books were translated, but it indicated a numerical superiority in translation from Arabic into other languages, compared to other universities.

Specialists participating in one of the studies believe that what is currently translated into Arabic is inadequate, and that there is an urgent need to enhance scientific content in the Arabic language, indicating that translation would contribute to Arabizing science if scientific references in the Arabic language were sufficient. Some participants in the in-depth interviews conducted in preparation for this study stress the importance of ordaining educational institutions to adopt the Arabic language in all academic disciplines and supporting this requirement by improving translation and transferring science into Arabic. This should not prevent the continued attention paid to ensuring students' proficiency in the English language, in order to be able to

Specialists participating in one of the studies believe that what is currently translated into Arabic is inadequate, and that there is an urgent need to enhance scientific content in the Arabic language, indicating that translation would contribute to Arabizing science if scientific references in the Arabic language were sufficient

keep abreast of developments in different sciences. However, but it is imperative to do away with the inferiority complex pertinent to learning and publishing in the Arabic language.

Reference can be made in this context to book fairs held in the Kingdom of Saudi Arabia, as they are among the most significant tools for knowledge transfer and cultural and scientific communication. The most prominent of these is the Riyadh International Book Fair, which is held annually in March for ten days at the Exhibition Centre, under the supervision of the Ministry of Information. In 1437 AH, the Fair was held under the patronage of King Salman bin Abdulaziz, with the participation of more than 500 publishing houses, with one million and two hundred thousand book titles from Arab and foreign countries, in addition to the official pavilions of a number of government sectors and community institutions interested in culture and books. In 1440 AH, 913 publishing houses participated in the Fair, with more than half a million titles, and 1,750 participants and exhibitors from 30 Arab and foreign countries did as well. The fair also includes more than 200 diverse cultural events.¹⁷

Issues of the Arabic language in knowledge use

Teaching applied disciplines such as natural sciences, medicine, engineering and computer science in a language other than Arabic is one of the most serious problems, be it in the scientific level of students or in the difficulty of converting to Arabic once the foundation has been settled in another language. Specialists participating in the focus discussions that

took place in the context of preparing for this study believe that assimilating knowledge in the mother tongue is faster, deeper and more accurate. Thus, it is imperative to identify successful experiences in many countries to benefit from them and apply them to teaching applied disciplines in the Arabic language. As for the humanities' disciplines, they believe that the Arabic language effectively contributes to transferring pertinent knowledge, as it is the main tool for learning and research in most cases, contrary to applied disciplines in which the role of the Arabic language is very weak. The participants in the in-depth interviews see that the solution lies in working on translating the new scientific references in these fields, or there should be some kind of combination between the Arabic and English languages, in case that it is difficult to abandon the latter.

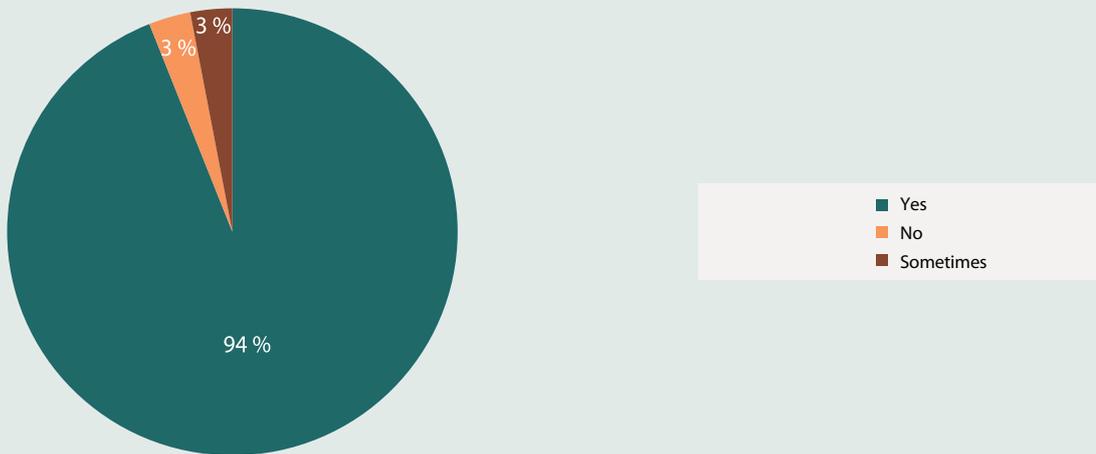
Another Issue is the use of the English language in the labour market, especially in the private sector and the consequent requirement for mastering the English language upon employment. The respondents of the questionnaire from the private sector consider the English language as the key to employment; it is no longer just a criterion for differentiation, but today it has become a condition for employment in the private sector in the Kingdom of Saudi Arabia. Universities are also following the needs of the private sector and the requirements of the labour market, to the extent that literary and scientific disciplines are currently competing to focus their attention on the English language and reduce interest in the Arabic language.

Teaching applied disciplines, such as natural sciences medicine engineering and computer science in a language, other than Arabic, is one of the most serious Issue

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Figure (C.1-7): Extent of the contribution of the media in the development of the Arabic language

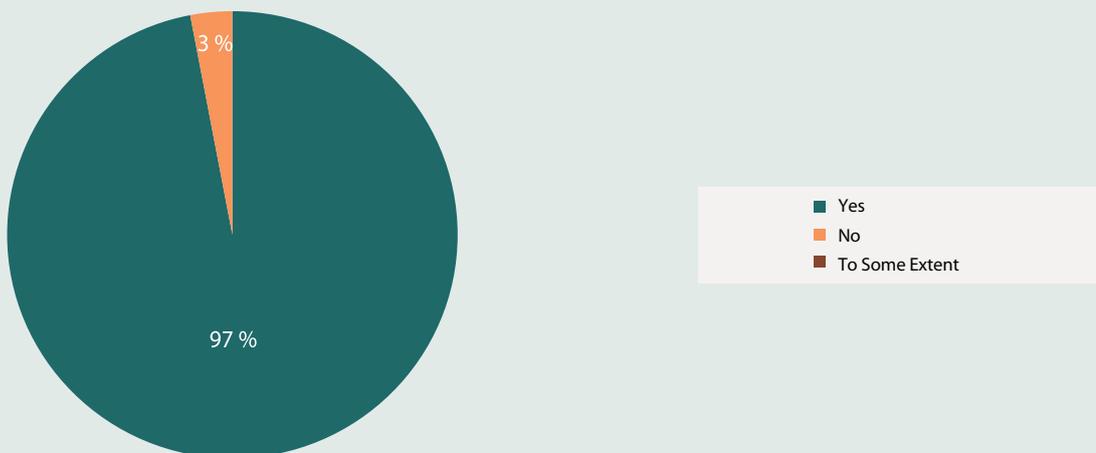
Can the media contribute to developing the Arabic language?



Source: the results of the questionnaire prepared within the framework of the case study.

Figure (C.1-8): Role of the family and society in linguistic upbringing, developing the linguistic repertoire and linking with the Arab culture

Do you think that the family has a great importance in the linguistic upbringing of the child?



Source: the results of the questionnaire prepared within the framework of the case study.

Figure (C.1-9): Contribution of the milieu in which a person lives in developing the linguistic repertoire and the association with the Arab culture

Does the milieu in which you live help develop your repertoire and your culture in the Arabic language?



Source: the results of the questionnaire prepared within the framework of the case study.

Another Issue is the weak role of the family and society in the linguistic upbringing of children, in developing their linguistic repertoire and connecting them to their Arab culture

Among the issues raised, especially regarding translation, is the topic of terminology and the considerable inconsistency in the way it is translated into Arabic by different translators. It is, according to specialists involved in this study, a deep-rooted problem that requires the creation of an entity that deals with terminology issues or at least a database collecting terms that have been translated and their equivalents into Arabic, while considering the pros and cons of the translation method for each term, to reduce the large gap.

The meagre role of the media in promoting the use of the Arabic language is also evident. This needs to be resolved at governmental and organizational levels and by specialists in media production and in the Arabic language. The participants in the focus discussions that took place in the context of preparing for this study noticed

the presence of media distortion regarding the use of Standard Classical Arabic, and that the media were increasingly inclined to use the colloquial dialect, especially with regard to the programs presented therein for children. What confirms the importance of the media in this aspect is that 94% of the respondents of the questionnaire agree on the importance of the media's contribution to the development and improvement of the Arabic language (see Figure C.1-7).

Another Issue is the weak role of the family and society in the linguistic upbringing of children, in developing their linguistic repertoire and connecting them to their Arab culture. 97% of the respondents of the questionnaire confirmed the importance of this role (Figure C.1-8). However, when asked about the contribution of the milieu in which they live in developing their linguistic repertoire and their association with Arab

culture, 55% of them agreed that this contribution was limited, while 15% said the milieu had absolutely no contribution to that (see Figure C.1-9). Despite the importance that the participants perceived in the role of the family and society, this weakness indicated the urgent need to generate effective national programs and projects at several educational, social and cultural levels, which might lead together to the development of this important role and increase its contribution to the child's linguistic upbringing, his linguistic repertoire development and his connection with Arab culture.

Pillars of the Knowledge Society in the Kingdom of Saudi Arabia and the Role of Language

The Arabic language within the system of education and training in the Kingdom of Saudi Arabia

The Kingdom of Saudi Arabia attaches great importance to education in all its stages and allocates huge budgets to it. In the most recent budget (2019), for instance, 17% of the general budget was allocated to the education sector, namely 193 billion Saudi riyals (about \$51.5 billion). The Kingdom is at the forefront of the Arab states in this regard.¹⁸ Saudi universities occupy a prominent global position in international rankings, such as the annual World University Ranking (QS), which placed a number of Saudi universities among the top 200 universities in the world, including King Fahd University of Petroleum and Minerals, King Saud University, King Abdulaziz University and King Abdullah University.

The organizational reality pertinent to mapping out the Arabic language in the educational system in the Kingdom of Saudi Arabia reveals clearly the attention given to the Arabic language at all the stages of education. The education policy stipulates in Section 1 (the general principles upon which education is based) that *"in essence, the Arabic language is the language of education in all its subjects and at all its stages"* (Section 1, Article 24). In Section 2 (Aims and Objectives of Education), several articles emphasize the attention paid to the Arabic language, such as Article (44), which indicates that one of the aims and objectives of education is developing reading skills and the culture of reading, as well as Article (45) which emphasizes the need to acquire the ability to express correctly in communication, speaking and writing, with sound language and organized thinking. Article (46) provides also for developing linguistic ability through the various means that nourish the Arabic language, help to appreciate it and perceive the aspects of its beauty, in terms of style and thought. Attention to language skills was also emphasized in the goals of education stages, starting with kindergarten, then primary, middle, secondary, university as well as technical and vocational education. These policies aim to promote Arabic and preserve its status in the educational system. There was no explicit reference to linking it to the knowledge society, though this was present in an indirect manner. In Section Four (Planning for Education Stages), Chapter Five (Planning for Higher Education), Article 140, there is a reference to enhancing the role of the Arabic language in localizing knowledge, as the article stipulates the following: *"A translation department shall be established*

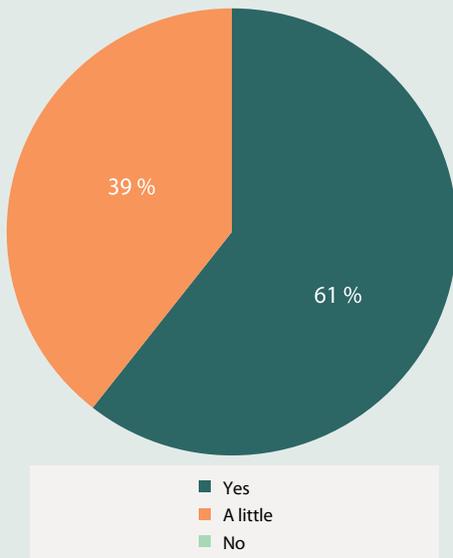
The Kingdom of Saudi Arabia attaches great importance to education in all its stages and allocates huge budgets to it. In the most recent budget (2019), for instance, 17% of the general budget was allocated to the education sector, namely 193 billion Saudi riyals (about \$ 51.5 billion)

Table (C. 1-4): Number of class hours allocated to teaching Arabic language courses in public education in its various stages and specialties

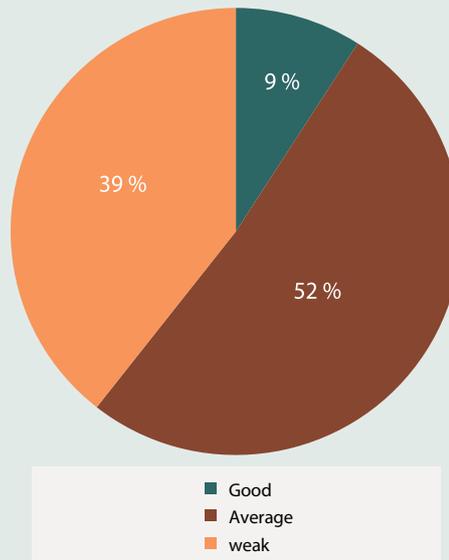
Stage	Kind of education	Number of class hours in each class
Primary (first grade)	Public education schools	11
Primary (grades 2 - 3)	Public education schools	9
Primary (grades 4-6)	Public education schools	8
Primary (first grade)	Quran memorization schools	10
Primary (grades 2-6)	Quran memorization schools	7
Middle	Public education schools	6
Middle	Quran memorization schools	5
Secondary	Courses System (Joint Program)	20 hours (4 courses, each is 5 hours)
Secondary	Courses System (Humanities Track)	10 Hours (two courses, each is 5 hours)
Secondary (first and second levels)	Semester system (general preparation)	6 class hours per level
Secondary (from the third to the sixth level)	Semester system (literature track)	9 class hours in each level (3 courses)
Secondary school (from the third to the sixth level)	Semester system (science track)	3 class hours in each level (1 course)
Secondary school (from the third to the sixth level)	Semester system (administration track)	3 class hours in each level (1 course)
Secondary (first and second levels)	Semester system (memorization of the Holy Quran)	6 class hours per level
Secondary school (from the third to the sixth level)	Semester system (memorization of the Holy Quran)	6 class hours in each level (3 courses)
Source: Ministry of Education in the Kingdom of Saudi Arabia. 2018. Annual report for the year 1438-1439 AH (2018 AD)		

Figure (C. 1-10): Opinions of the study participants on the reality of the Arabic language in education

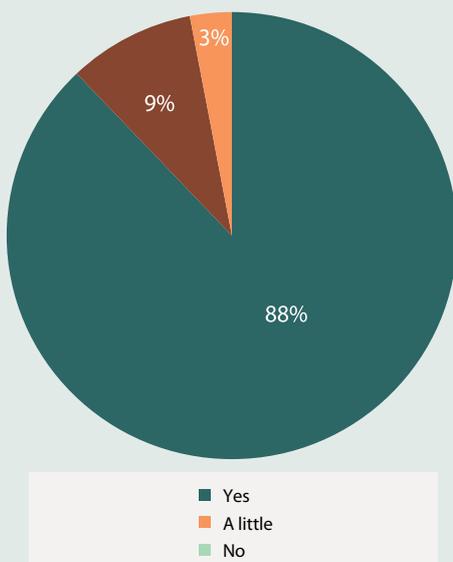
Does education help pupils and students speak Arabic?



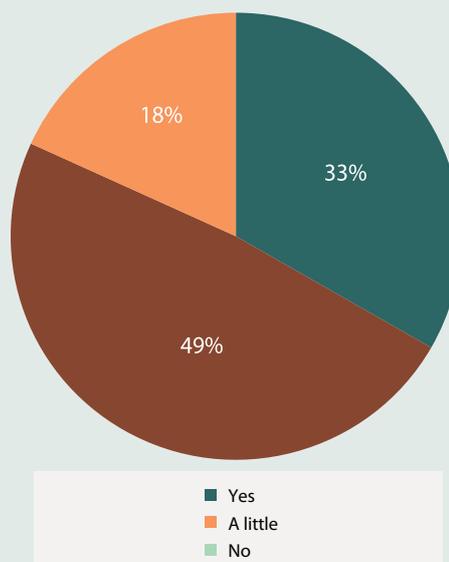
How do you find the level of pupils and students in the Arabic language today?



Do learning and mastering the Arabic language make learning other school subjects easier?



Do methods and modes of teaching Arabic in schools help in acquiring and mastering it?



Source: the results of the questionnaire prepared within the framework of the case study.

to follow up scientific research in all subjects and translate them, so as to achieve the Arabization of higher education."¹⁹

The attention paid to Arabic is evident in the public educational system as one of the pillars of the knowledge society by stressing that Arabic is the language of formal education in all its stages, levels, subjects and schools, which amount to 38,368 (including kindergarten, primary, middle and secondary schools). An exception is made to foreign education institutions that adopt English or other languages in 2,095 schools, as indicated in the annual report of the Ministry of Education in the Kingdom of Saudi Arabia for the year 1438-1439 AH (2018 AD).²⁰ Table (C. 1-4) shows the number of class hours allocated to teaching Arabic language courses in public education in its various stages and specialties.

Looking at the practical side, we find that the picture is not in harmony with educational and regulatory policies. The qualitative data obtained through in-depth interviews show that there is a general feeling of dissatisfaction with the reality of the Arabic language in the educational system and its outputs, which are weak and inconsistent with the efforts made and the time allocated to teaching Arabic in the educational system. The quantitative data is in line with this observation, as 52% of the respondents of the questionnaire believe that the level of students in the Arabic language is average, while 39% think that it is rather weak and 39% think that the contribution of education is little to the enhancement of speaking of Arabic. In addition, the teaching methods used in teaching Arabic contribute little to the language acquisition and proficiency, as

indicated by 49% of the participants. This is despite the importance of the Arabic language from their viewpoint, as the mastery of which helps facilitate learning other subjects, as noted by 87.9% of the participants. Figure (C.1-10) summarizes these findings.

When looking at higher education, we conclude that the matter is different from general education. Statistics of the Ministry of Education in the Kingdom of Saudi Arabia indicate that there are 35 public universities and higher education institutions and 34 private universities and colleges, which include 1,990 programs of various scientific degrees (diploma, bachelor's, higher diploma, master's, doctorate...). In these programs, Arabic is the language of teaching in all humanities, arts and literature majors, such as literature, education and others. However, English is the language of education in health and scientific disciplines, such as medicine, engineering and science, although the educational policies stipulate that *"in essence, the Arabic language is the language of education in all its subjects and all its stages."* (Section 1, Article 24)

When a sample of participants from various disciplines was asked why the use of the Arabic language is limited to humanitarian fields and the use of English to scientific fields, the views were divergent. Some of them believed that these sciences were originally transmitted from the West. Hence, it was imperative to follow the developments in these fields in their original language. Moreover, references, studies and research in the scientific fields are widely available in English, not in Arabic, in addition to the rapid development and incessant scientific

dynamics in the English language. Furthermore, Arab environments are not knowledge producing in scientific fields, unlike the humanities' fields. On the other hand, some participants assume that misconceptions led to such a trend, including the illusion suggesting that Arabic could not keep pace with scientific fields. In fact, every language could fulfill the requirements of its society whenever the opportunity arises. Furthermore, the lack of foundations for localizing natural sciences, on equal footing with human sciences, established the notion of the need to teach them in the English language.

To sum up, the Arabic language is strongly present in the educational system, especially in public education, through regulation and public policies. However, this presence is lower in university education, especially in scientific majors. Creating a knowledge society requires localizing science and teaching it in the mother tongue, as it is the knowledge key to assimilate and produce science and knowledge.

The Arabic language within the system of innovation, creativity, research and development in the Kingdom of Saudi Arabia

When revisiting the World Bank report for the Knowledge Economy Index (KEI), we note the great progress that the Kingdom of Saudi Arabia made between 2000 and 2012 AD, moving from the seventy-sixth (76) place in 2000 to the fiftieth (50) in 2012. We also find that the Kingdom ranked eighty-fourth (84) in the 2012 Global Innovation Index.

The Kingdom of Saudi Arabia has adopted an ambitious development vision, namely "Vision 2030", which is based on three pillars: the Arab and Islamic depth, the pioneering investment power, and the hub connecting the three continents. The affirmation of the Arab and Islamic depth in the first pillar of 2030 Vision comes as an affirmation of the Arab identity, and one of its most prominent pillars is the Arabic language. The presence of the Arabic language is tangibly evident on the website of the Vision,²¹ which reviews its themes, pillars, objectives, implementation programs and periodic reports; all of that in Arabic.

In order to support innovation and preserve intellectual rights, the Kingdom joined to the World Intellectual Property Organization (WIPO) in 1981. A national patent statute was issued in 1989. This statute was updated in 2004. The Saudi Patent Office (affiliated to the King Abdulaziz City for Science and Technology) was established with the aim of providing protection for inventions, layout designs and industrial models in the Kingdom. The office also files patent applications for inventions, examines and grants them, in addition to building and developing national information bases for patent protection documents. It seeks to contribute to raising the level of creativity and innovation among citizens. The office provides all its services in the Arabic language through its website,²² The services include registering patents nationally and internationally, providing work instructions, manuals, and bulletins of registered patents, all of which are available in Arabic.

Creating a knowledge society requires localizing science and teaching it in the mother tongue, as it is the knowledge key to assimilate and produce science and knowledge

The affirmation of the Arab and Islamic depth in the first pillar of 2030 Vision comes as an affirmation of the Arab identity, and one of its most prominent pillars is the Arabic language

There is a great research dynamism epitomized in the presence of a number of refereed scientific journals affiliated to academic institutions. Their number exceeds 60 journals, with various scientific disciplines in all sciences

According to the data of the US Patent Office of 2017, the Kingdom advanced to the 23rd rank in the world out of 92 countries. The number of Saudi patents reached 664, ranking first in the Arab world. This is a cumulative achievement following the progress that has been made in the past years, seeing that 409 patents were registered in 2015 and 517 patents in 2016²³. The Saudi Patent Office also points out that the Kingdom of Saudi Arabia was ranked in 2018 among the top five countries in filing patents²⁴. King Fahd University of Petroleum and Minerals was ranked fourth in 2018 according to the annual ranking of universities issued by the "American National Academy of Inventors and Owners of Intellectual Property", in terms of the number of patents registered in the United States, and this is the second appearance of the university in the list of the top ten universities in the world, ranking sixth in 2017. King Saud University was ranked 25 in the same classification in 2018.

The Saudi Authority for Intellectual Property has also been established²⁵. It seeks to enhance the competitiveness of the national economy by supporting the expansion of intellectual property culture in the Kingdom of Saudi Arabia. It also aims at: developing the national intellectual property strategy and following up on its implementation; proposing laws and regulations related to intellectual property rights; registering intellectual property rights; granting and enforcing protection documents, providing information related to intellectual property rights and making them available to the public; raising awareness of the importance of intellectual property and protecting its rights; representing the Kingdom in international and regional organizations

related to intellectual property rights and defending its interests; promoting the use of intellectual property to build an advanced knowledge-based economy; establishing information bases in the authority's field of work; and exchanging information with local, regional and international authorities. All the work of the authority in the Kingdom of Saudi Arabia is conducted in Arabic.

When examining the statistics of Saudi Arabia's expenditure on scientific research and its percentage vis-à-vis the GDP, we find that the expenditure in 2013 amounted to 24.4 billion Saudi riyals or 0.87% of the GDP,²⁶ and it reached 19.4 billion Saudi riyals or 0.3% of the GDP in 2014.²⁷

Regarding scientific research in Arabic, it is noted that there is a great research dynamism epitomized in the presence of a number of refereed scientific journals affiliated to academic institutions. Their number exceeds 60 journals, with various scientific disciplines in all sciences (Islamic studies, educational sciences, applied sciences, language sciences, medical sciences, engineering sciences, computer sciences, social sciences, administrative sciences, agricultural sciences, marine sciences, meteorological and environmental sciences... etc.). In addition to the journals issued by academic institutions, some scientific bodies also publish refereed scientific journals, such as the three specialized journals in Linguistics of the King Abdullah Centre for Arabic Language, the literature clubs' journals that are often related to literary and cultural matters and published in Arabic, as well as the Saudi scientific associations' journals, which vary according to the specializations of the associations. For example, there are

46 health associations in various medical specialties²⁸, where some of them publish their own scientific refereed journals. It should be noted that Arabic is the language principally used for publication in these journals, while some accept publishing in both Arabic and English. However, there are few journals published only in English, such as health journals, with a requirement to publish an abstract of the research in Arabic.

The Ministry of Education has also founded the Saudi Digital Library aiming at providing advanced information services, including making information resources available in various forms and making them accessible to faculty members, researchers and students in the postgraduate and bachelor's levels in Saudi universities and higher education institutions and to teachers affiliated with the Ministry of Education. The Saudi Digital Library provides one umbrella for all Saudi universities, allowing them to group together when negotiating with publishers and enabling them to obtain more benefits and rights in dealing with international publishers. The Saudi Digital Library represents the largest gathering of digital information sources in the Arab world, as it currently contains more than 680,000 full-text digital books and 174 global and Arab databases that include the full texts of millions of academic articles, more than 7 million university dissertations and 7 million multimedia items, including scientific images and films in various scientific disciplines that fall within the interest of educational institutions; all obtained from more than 300 international publishers.²⁹ It should be noted that the Arabic language is present in the Saudi Digital Library through several scientific databases for research works, scientific dissertations or corpora.

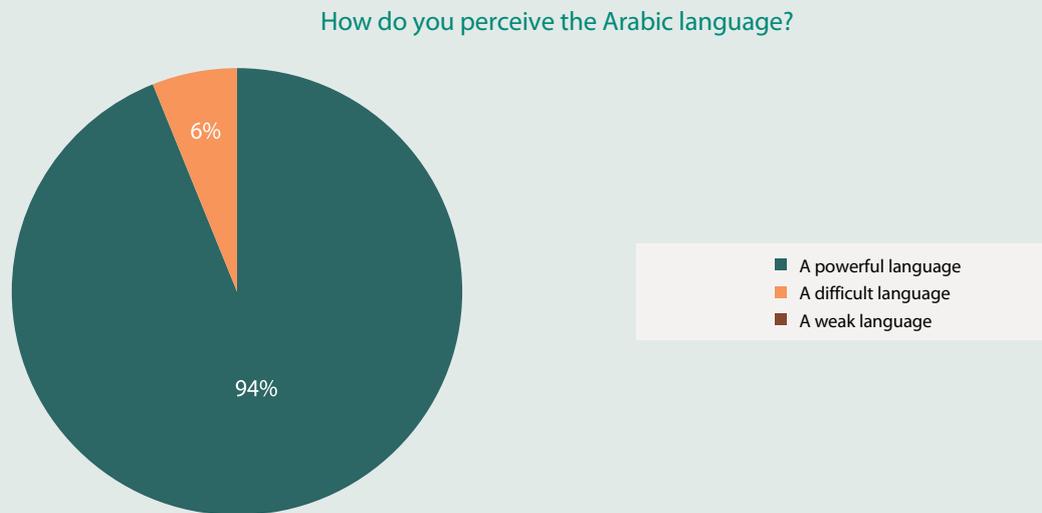
The Arabic language is present in the Kingdom of Saudi Arabia and supports the field of research, creativity and innovation, although its presence is less in the scientific fields of natural sciences than in the fields of humanities. Some academics believe that the focus on the English language in the fields of medicine, engineering and science stems from the keenness to communicate with the international community, keep abreast of developments in research and present scientific production to a wide range of people in the world, seeing that English dominates the publishing containers in the field of medicine, engineering and science. Accordingly, keeping up with developments and delivering the local scientific product to the global scientific community can only be achieved through using its own dominant language, namely the English language.

The Arabic language and information and communication technologies in the Kingdom of Saudi Arabia

It must be emphasized at first that the language is capable of achieving the goals and needs of society and fulfilling its requirements. Many linguistic specialists participating in this study assert this scientific fact, not to mention that capacity and disability are linked to the language community and the extent of its contribution and convictions about its empowerment in various fields. Quantitative data is also consistent with this fact, indicating a general conviction that the Arabic language can meet all needs. 94% of the participants in the questionnaire that was distributed while preparing for this study labeled Arabic as a "powerful" language, and none of

The Arabic language is present in the Kingdom of Saudi Arabia and supports the field of research, creativity and innovation, although its presence is less in the scientific fields of natural sciences than in the fields of humanities

Figure (C. 1-11): Opinions of the study participants about the ability of the Arabic language to achieve the objectives of society



Source: the results of the questionnaire prepared within the framework of the case study.

the participants chose to describe it as a “weak” language, while 6% considered it as a “difficult” language (Figure C.1-11).

In terms of information and communication technology, the Kingdom of Saudi Arabia is one of the largest smart technology markets in the region³⁰. A special ministry has been established under the name of the Ministry of Communications and Information Technology; (we will address this in the enabling environment section). The Kingdom of Saudi Arabia has also witnessed a significant dynamism to promote the Arabic language through national initiatives that had a great impact in promoting a positive image about Arabic and technology. Among the most prominent of these initiatives is the King Abdullah Initiative for Arabic Content, launched in 2007 under the supervision of King Abdulaziz City for Science and Technology, with the aim of promoting Arabic content, preserving Arab identity

and heritage, enabling all segments of society to easily access information and knowledge, as well as bridging the digital divide. This would contribute to producing knowledge by individuals in an effort to build an all-inclusive knowledge society. Several ministries participated in the project (including the Ministry of Finance, the Ministry of Communications and Information Technology, the Ministry of Culture and Media, the Ministry of Higher Education and the Ministry of Education). The initiative includes a number of projects, such as: a strategy to enrich local and Arabic content, with a view to increasing the Arabic content on the Internet through several tracks, the most prominent of which is the contribution to promoting Arabic “Wikipedia” articles, and the translation of books of strategic technologies. The project sought to translate more than 30 books and make them available in Arabic in specific fields, such as water, petroleum and gas, petrochemicals and nanotechnology³¹. The strategy also

The Kingdom of Saudi Arabia is one of the largest smart technology markets in the region

aspires to construct “the Corpus of Arabic language”, so that it collects one billion Arabic words from the pre-Islamic era to the modern era and from different regions and countries, taking into account the nature and volume of intellectual activity for each period, the diversity of its publishing containers (manuscripts, newspapers, books, magazines and international periodicals) and the prevailing matters in various scientific and intellectual fields (such as doctrines, Arabic language sciences, natural sciences and literature). The project also includes, in addition to the classified linguistic material, the creation of a website for the Corpus on the Internet, in addition to the tools for research and linguistic and statistical analysis that would enhance the application of the materials of the Corpus. The Corpus currently contains 1,182,515,633 words.

One of the distinctive initiatives in this regard is the King Abdullah Arabic Health Encyclopedia³², which was established to be the first website on the Internet providing reliable health information in Arabic in an easy and simplified manner, with the aim of increasing health awareness and supporting the efforts of various health facilities. Some studies indicate, as reported in the encyclopaedia, that only few Arab health sites meet international quality standards for health sites, which means that some of those browsing Arab medical websites may be exposed to misleading information and unreliable sites to provide health information. The encyclopaedia was launched in 2012, and it is affiliated to King Saud bin Abdulaziz University for Health Sciences. It addresses Arab readers in general, healthcare professionals and health college students in particular.

The encyclopaedia includes educational materials in the fields of medicine, diet promotion, healthy lifestyles and various treatments, in addition to news and medical events. It also offers many interactive educational services in an exciting and easy-to-use manner.

The Kingdom has also established a special commission for communications and information technology with the aim of organizing the sector, providing advanced and adequate services at reasonable prices, creating an appropriate condition to encourage fair competition, localizing communication technology and keeping pace with its progress, achieving clarity and transparency in procedures, in addition to achieving the principles of equality and indiscrimination and to protect the public interest and the interests of users and investors. The authority has a digital bulletin and periodic reports, all of which are available in Arabic on its official website.³³ Furthermore, the authority has launched an initiative to support Arabic domain names³⁴, which aims to enable registering domain names of websites in Arabic instead of Latin letters, to enhance the access of Arab user to them. The project, in which several Arab states participate under the umbrella of the Arab League has implemented a number of tools and programs that support the use of Arab domains on the Internet.

We should also refer in this respect to the active presence of social media in the Kingdom of Saudi Arabia and the use of Arabic therein. The Saudi society is one of the societies in which social media is used most extensively, especially “Twitter”, as statistics from the specialized site “Statista” show that the active

We should also refer in this respect to the active presence of social media in the Kingdom of Saudi Arabia and the use of Arabic therein

Saudi accounts in Twitter in mid-2019 approached 10 million accounts, ranking fifth after the United States of America, Japan, Russia and Britain³⁵. The study by Al-Aslaa (2019) investigating the language used in Twitter in the Kingdom of Saudi Arabia by a segment of men and women of various educational levels (pre-university, university and postgraduate) reveals that 60% of the tweets use Standard Classical Arabic, while 25% use colloquial Arabic, alternating between the formal and the colloquial registers. This indicates the presence and dominance of Classical Arabic in social media in the Kingdom of Saudi Arabia.³⁶ This effective presence of Twitter in Saudi society has prompted all government authorities to open Twitter official accounts and to offer all possible services to customers through them.

The Kingdom of Saudi Arabia has perceived the challenges facing the Arabic language in the context of communication and information technology, thus attempted to present some of the initiatives and contributions

The Kingdom of Saudi Arabia has perceived the challenges facing the Arabic language in the context of communications and information technology, thus attempted to present some of the initiatives and contributions, which we previously reviewed. However, there are other challenges that require consideration, investigation and searching for an appropriate management mechanism. The qualitative data obtained through in-depth interviews conducted during the preparation of this study show that there is concern expressed by specialists about the level of the Arabic language in social media and the phenomena observed therein, most notably writing in colloquial language. This represents a transition of colloquialism from its oral manifestation to a written framework that threatens Standard Classical Arabic.

Contributions of the enabling environment in the Kingdom of Saudi Arabia to promoting the Arabic language

The contribution of the enabling environment in the Kingdom of Saudi Arabia to disseminating, using, promoting and developing the Arabic language can be monitored through two main areas. The first is governmental laws, regulations and decisions related to the Arabic language, since they represent the legal environment incubating the language, the most prominent of which have already been mentioned. The second is governmental bodies concerned with the Arabic language and initiatives launched by the different governmental authorities.

It is not possible to talk about the enabling environment in the Kingdom of Saudi Arabia without referring to the Ministry of Communications and Information Technology³⁷ which is responsible for all means of communication and information technology in the Kingdom. The Ministry is in charge of proposing general policies, drawing up development plans and programs for the communications and information technology sector, proposing draft regulations related to communications and information technology and submitting them to the Council of Ministers, as well as coordinating with government bodies and other agencies in relation to the communications and information technology sector. The Ministry has developed a plan to offer government services and transactions electronically. This included forming a host of committees for government electronic transactions from various agencies, approving the controls of applying

government electronic transactions in government bodies, approving the system for electronic transactions, approving the national plan for communication and information technology and issuing several related regulations, such as the communications regulation, the regulation for combating cyber-crimes and the regulation for electronic transactions.

The Ministry adopts the national portal called "Saudi",³⁸ which is a platform in Arabic that gathers all governmental electronic services. It is constantly increasing and significantly growing, and it represents a distinguished achievement at the technical and e-government plane. The portal, for example, provides individuals with 55 services in telecommunications industry; 171 services in economic and business sector; 784 services in the field of education, culture and training; 34 services in the field of work and employment; 95 social services; 60 services in health and environment areas; and 18 services in the field of personal documents, etc. Accordingly, a large proportion of the normal government services have become electronic, such as issuing and renewing passports, national identity cards, driving licenses, requesting public services and others. All of this is available in Arabic and within easy reach through mobile applications. These contributions made the Kingdom of Saudi Arabia at the forefront of Arab states in the United Nations e-government index, seeing that the e-government development index for the Kingdom was classified as "high"; thus, it gained an advanced position in the world.³⁹

The Kingdom of Saudi Arabia has also sought to enhance the Arabic language by creating a scientific enabling environment

to promote the Arabic language. This is generally evident in the establishment of many colleges, departments and institutes for the Arabic language. It has also founded 16 literary clubs concerned with linguistic and cultural affairs in various regions of the Kingdom. Within the framework of the Gulf Cooperation Council, the Kingdom hosts the Arab Bureau of Education for the Gulf State (ABEGS), which is concerned with educational affairs, including issues related to the Arabic language, its teaching and teachers. The Bureau exerts efforts to promote publishing, translation and educational policies.

The promotion of the Arabic language in the Kingdom of Saudi Arabia and the consolidation of its presence are evident through the establishment of the King Abdullah bin Abdulaziz International Centre for the Arabic Language in the year 2010 AD and the missions and competencies assigned to it.⁴⁰ The centre aims, according to its statute, at preserving the integrity of the Arabic language; creating an appropriate environment for the development, consolidation and dissemination of the Arabic language; contributing to the support of the Arabic language and its learning; editing and publishing linguistic studies, research and references; developing scientific, linguistic and literary terms and working to standardize and publish them; honoring scholars, researchers and specialists in the Arabic language; and providing services related to the Arabic language to individuals, institutions and government agencies. The Centre is supervised by the Minister of Education, where its activities are managed by a Board of Trustees that includes members from the Kingdom and outside it. During its successful journey,

The Kingdom of Saudi Arabia has also sought to enhance the Arabic language by creating a scientific enabling environment to promote this language. This is generally evident in the establishment of many colleges, departments and institutes for the Arabic language

The Kingdom of Saudi Arabia has also taken an interest in teaching Arabic to non-native speakers, through scholarships that it offers to many students in various countries around the world to study at Saudi universities

the Centre pursued specific work paths that resulted in tangible achievements, including linguistic planning, as it established several databases that listed specialists, authorities concerned with Arabic and resources of Arabic teaching. It also issued the Corpus of Arabic Language Decisions in the Kingdom of Saudi Arabia, which represents a monitoring of decisions related to the Arabic language in the Kingdom, with the purpose of studying and analyzing them, in addition to activating their implementation. The Centre has endeavoured to create a guide for recommendations of conferences on the Arabic language that have been held in the Arab world, besides its efforts to support the Arabic script in terms of study, research and computerization. In the course of scientific publishing, the centre publishes three scientific refereed journals. It has also published nearly 200 books on linguistics and several relevant translated books, as well as various work guides and dictionaries. In the internal context, the centre coordinates with various government agencies to promote and empower the Arabic language by holding a meeting that would bring together official bodies to discuss the status of the Arabic language within the Kingdom's 2030 vision, in addition to providing training services to various government agencies to enhance the Arabic language and its use. Furthermore, the centre provides relevant scientific advice to government institutions, along with its contribution to promoting Arabic in national projects, such as its participation in the Arabization of the terminology of the King Abdulaziz Project for Public Transport, which includes trains and buses. The Centre also plays a coordinating role among departments, institutes and colleges of the Arabic

language, in addition to a large role outside the Kingdom of Saudi Arabia.

In the educational field and with a desire to improve the teaching of the Arabic language, the Ministry of Education established the "National Centre for the Development of Teaching and Learning of the Arabic Language"⁴¹ in 2016. The centre aims at enhancing students' linguistic identity and increasing their sense of pride in the Arabic language; looking for new developments and best practices in methods of teaching the Arabic language, of evaluating students in its subjects, and of training Arabic language teachers; in addition to providing scientific support to the Agency for Educational Curricula and Programs in preparing and developing Arabic language curricula and educational programs. Moreover, the Centre is providing scientific support to the National Centre for Educational Professional Development in setting standards for programs for preparing Arabic language teachers, designing their necessary training programs after joining the work and holding events and activities that enhance the teaching and learning of the Arabic language.

The Kingdom of Saudi Arabia has also taken an interest in teaching Arabic to non-native speakers, through scholarships that it offers to many students in various countries around the world to study at Saudi universities. These scholarships include the study of the Arabic language in the institutes for teaching the Arabic language based in those universities. These institutes are also concerned with the training of Arabic language teachers, inside or outside the Kingdom of Saudi Arabia, in collaboration with other bodies,

including the King Abdullah bin Abdulaziz International Centre for Arabic Language, the “Arabic for All” Foundation⁴² and others.

Among the recent initiatives adopted by the Kingdom to promote the Arabic language is the establishment of the King Salman International Complex for Arabic Language, which was announced in the year 2019 AD, under the tutelage of the Ministry of Culture, to complement the work of the King Abdullah Centre for Arabic language, as it embraces the Saudi Arabic Language Academy and adopts qualitative initiatives, such as translating a large number of books in all disciplines periodically and continuously, in addition to supporting language initiatives and projects.

As an extension to its domestic efforts to support and serve the Arabic language, the Kingdom of Saudi Arabia took the initiative to promote the Arabic language outside the country. Thus, it has established several institutes and academic centres to teach the Arabic language and its culture in the United States, Japan, Indonesia, Mauritania, Djibouti, the Maldives and others. It has also founded Saudi academic centres and schools abroad in some global capitals and cities such as Washington, London, Berlin, Bonn, Paris, Rome, Moscow, Jakarta, Madrid, Malacca, Vienna, Islamabad, Karachi, Kuala Lumpur, etc. The Kingdom also adopts a number of academic chairs, to serve the Arabic language and its culture in several international universities such as: universities of Harvard, California and South California (in America), University of Bologna (Italy), University of London (Britain) and so on.⁴³ The Kingdom, furthermore, has contributed to promoting the Arabic language in international fora and UN institutions, including its efforts in

presenting the initiative to celebrate the International Day of the Arabic Language, drafting a resolution calling for celebrating the Arabic language on December 18 of each year and submitting the draft resolution to the UNESCO Executive Council on behalf of the Kingdom of Saudi Arabia and the Kingdom of Morocco (head of the Arab group at the time), with the support of all Arab states.

The previous analysis shows that the Kingdom of Saudi Arabia is witnessing a remarkable interest in the Arabic language, in terms of laws, regulations and decisions, as well as the establishment of entities serving the Arabic language. However, there is an urgent need to develop an integrated language policy and strive to realize it on in the form of systematic language planning, in which various efforts are combined in a way that ensures the sustainability of work and the achievement of the strategic objectives.

Conclusions and Recommendations

The Saudi case study proves that the Arabic language is a prominent concern at governmental level, especially with regard to language policies, at academic level, including general and higher education, as well as at societal level, particularly as regards specialized centres and every person interested in linguistic and cultural identity. Those in charge at these levels seek to enhance its role as a tool for thought, education and work and as a gateway to the production, transfer and localization of knowledge in educational institutions, labour market, media, hospitals, banks, hotels, airports and in the various circles of society.

The Arabic language is a prominent concern at governmental level, especially with regard to language policies, at academic level, including general and higher education as well as at societal level

The data and analytics presented in this study indicate that one of the main challenges hindering the advancement of the Arabic language in the Kingdom of Saudi Arabia is the gap between language policy and language planning

The Saudi case study shows that there is a noticeable challenge represented by the need to preserve the linguistic identity and Arab culture among society, which was swept by the globalization wave in the era of cultural and technical openness

What has been achieved in these areas, especially the area of public policies, can be viewed from an optimistic perspective that demonstrates the progress made in favor of empowering the Arabic language, with some obstacles that may need more support at governmental level, due to the relevance of the rest of the other levels to it and to its direct role in facilitating and accelerating the pace of achievement in empowering the Arabic language, activating its hoped role and preserving the linguistic and cultural identity of society.

The data and analytics presented in this study indicate that one of the main challenges hindering the advancement of the Arabic language in the Kingdom of Saudi Arabia is the gap between language policy and language planning. We have indicated that the regulations establishing the Arabic language status is characterized by their diversity and the multiplicity of their issuance authorities, but the implementation of these regulations is still weak in reality. There may be a need for an authority or authorities charged with planning, following up and monitoring the extent of implementation of these policies on the ground, which may also contribute to the development of the policies themselves, with the creation of a sort of integration between the parties, whether they are concerned with developing or implementing linguistic regulations. The King Abdullah bin Abdulaziz International Centre for Arabic Language has played a prominent role in this respect and made great efforts in order to reach this goal, including, for example, publishing books that deal with the reality of the Arabic language, holding meetings between the competent authorities to discuss this subject matter and publishing a scientific refereed journal concerned with linguistic policies and planning.

The Saudi case study shows that there is a noticeable challenge represented by the need to preserve the linguistic identity and Arab culture among society, which was swept by the globalization wave in the era of cultural and technical openness, to the point where the Arab linguistic and cultural identity became threatened and in conflict with other languages and cultures. This fact raises serious alarm among those concerned with this subject because of its impact on many aspects, such as education, which has become dependent on foreign languages in some disciplines, the labour market that requires proficiency in a foreign language as part of the terms of employment, the media that abandoned Standard Classical Arabic in many of its programs and even society that tends now to see the use of other languages as a form of progress. Families, indeed, have become eager to teach their children foreign languages since their early childhood. All these aspects pose a great challenge despite the varying extent to which they are affected by this openness, but they all confirm the importance of the need for more efforts at all levels to preserve the linguistic identity and the Arab culture of society and individuals, especially the younger generation who became more attached to technology and the subsequent openness to other cultures.

Required steps to develop the Arabic language and enhance its role as a gateway to knowledge

It is possible to consider the urgent steps in the Kingdom of Saudi Arabia - and in similar Arab environments, such as the Arab Gulf Countries - to enhance the role of the Arabic language in transferring, localizing and producing knowledge and creating the knowledge societies, through implementing a number of measures in

the short, medium and long term. These proposed steps and programs should continue beyond the timeframes proposed for their establishment, to keep pace with the course of strengthening and supporting the role of the Arabic language within the processes of establishing the knowledge economies and societies.

First: Steps to be implemented in the short term (up to three years):

- A. Conducting multiple studies on the linguistic reality in all its manifestations and to various segments of society, including studying the linguistic acquisition of children.
- B. Conducting a comprehensive evaluation study of teaching the Arabic language in the general education and before it because it is a crucial foundation stage and in higher education because it is concerned with building knowledge and specialized sciences.
- C. Developing a clear plan to support the production of media content in the Arabic language and what is presented in its means and channels, in a way that will be reflected on the audience and on their linguistic repertoire, knowledge and culture.

Second: Steps to be implemented in the medium term (up to five years):

- A. Developing and implementing programs to promote a sense of belonging among individuals and society to the Arabic identity and language. The Arabic language will assume, hence, a higher position in their minds, where its effect will appear on its actual use in their private and public affairs.

- B. Granting more support to the executive bodies to contribute to the production of knowledge in the Arabic language or in the transfer of knowledge to it, such as translation, publishing and dictionary manufacturing centres, as well as institutions for producing Arab media content and centres concerned with developing Arabic language teaching materials for native speakers and others.
- C. Ensuring that more credentials, and necessary financial and human support are offered to the higher authorities concerned with the Arabic language, to enable them to achieve their desired role in society.

Third: Steps to be implemented in the long term (up to ten years):

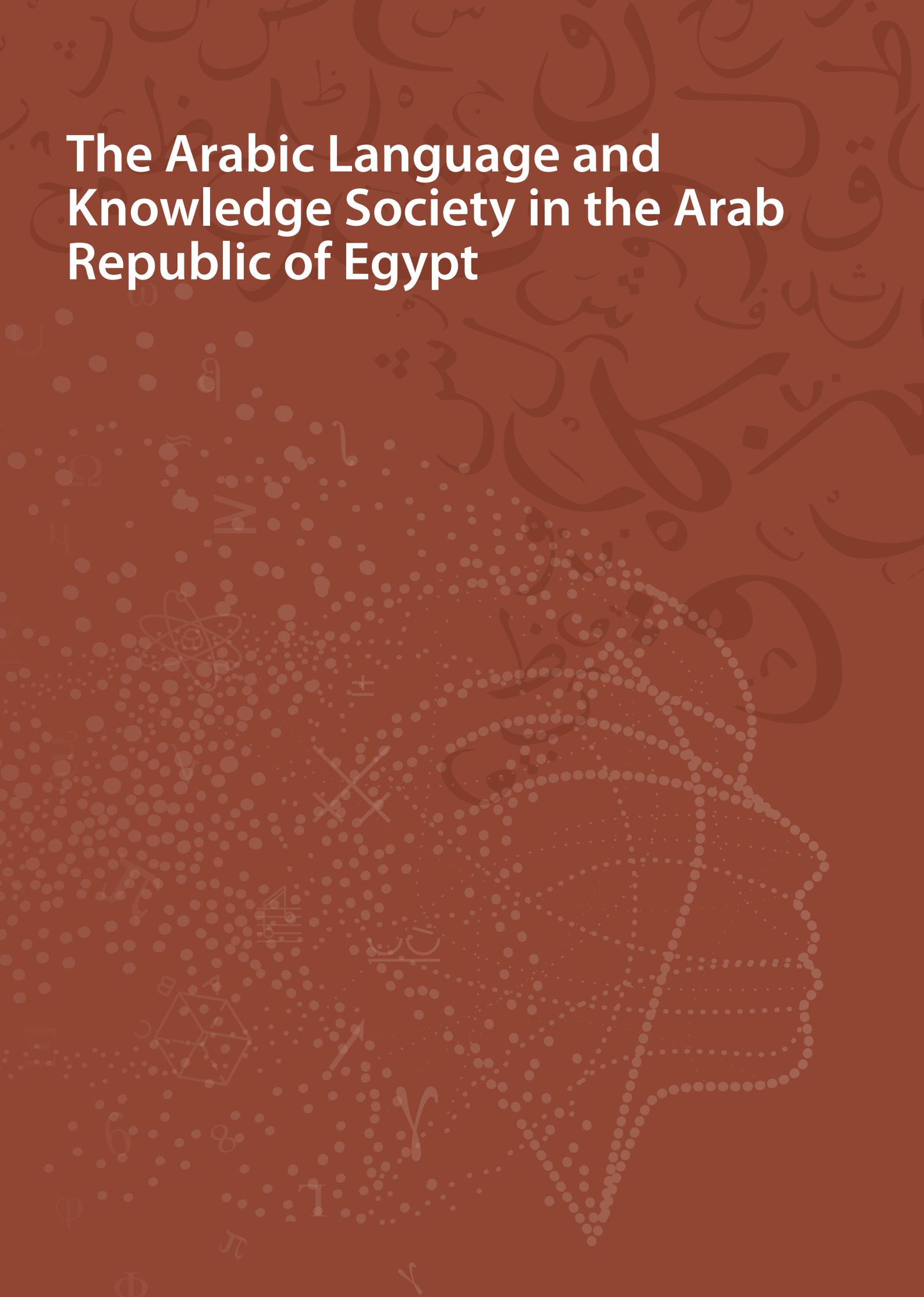
- A. Establishing comprehensive language policies in the Kingdom of Saudi Arabia coupled with effective linguistic planning, to enhance the role and effectiveness of the Arabic language, thus helping its native speakers to transfer and localize knowledge, then produce it.
- B. Restructuring public and higher education and making it fundamentally and essentially connected to the Arabic language, in order to enable students to assimilate knowledge in their mother tongue, subsequently producing it in this language.
- C. Keeping pace with scientific developments in basic theoretical and applied sciences and in the interdisciplinary studies of the intersecting topics from which a lot of modern knowledge has emerged. Keeping up quickly with this knowledge has become a need in order to localize it and moving from the level of knowledge consumption to the level of knowledge production in the Arabic language.

Notes

- 1 The research team extends its thanks and gratitude to the King Abdullah bin Abdulaziz International Centre for Arabic Language for facilitating the task of researchers in collecting some data and statistics from the competent authorities, and preparing working meetings and their requirements.
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- 11 The researchers were provided with these statistics by the King Abdullah bin Abdulaziz International Centre for Arabic Language, which requested them from the King Abdulaziz City for Science and Technology through official letters.
- 12 The researchers were provided with these statistics by the King Abdullah Bin Abdulaziz International Centre for Arabic Language, which requested them from the Ministry of Islamic Affairs, Da`wah and guidance through official letters.
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The Arabic Language and Knowledge Society in the Arab Republic of Egypt





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Introduction

The topic of knowledge society has frequently been debated at several conferences which are being held by official, academic, cultural and civil institutions in Egypt. This interest has been reflected in the Egyptian future vision 2030, in which the concept of knowledge society lies at the core as it has stipulated the necessity to work towards achieving a *“competitive, balanced and diversified economy based on innovation and knowledge”*. The vision has eventually emphasized that its main objective should be achieving sustainable development and upgrading the Egyptians' quality of life.

There is no doubt that this insistence to place the issue of innovation and knowledge at the core of the strategic vision and link it to the issue of sustainable development reflects an awareness of the importance of building the knowledge society. It is an awareness that has shifted from this vision to the various strategies of a qualitative nature, related to specific sectors - such as the telecommunications sector - in which we see an explicit focus on knowledge economy and its society. This awareness is in line with its international and regional counterpart, as the issue of achieving a knowledge society is at the forefront for the governments, research centers and international and regional organizations.

Against this background, this study aims to answer a basic question: To what extent can the Arabic language be considered a locomotive for a knowledge society in Egypt? It is a task that requires revealing and analyzing the relationship between the Arabic language and

knowledge society. This relationship does not seem odd or far fetched; Language is a basic pillar of knowledge. It is the means to produce knowledge, localize it on the ground and use it for advancement and progress. If the transition to knowledge society requires a radical transformation in the economy and society, it also requires that the language should be able to keep pace with the times and with the existing challenges, to be of a high degree of flexibility that enables it to be productive in a constant manner, and to interact actively and creatively with the challenges posed by globalization.

The case study of Egypt relies on many sources of data and statistics about the indicators of the knowledge society, some indicators of the knowledge localisation through education, innovation and cultural and scientific production, and the role that the Arabic language plays in the field of communication and media. It also includes qualitative data collected through a number of interviews conducted with specialists and actors in the field of the Arabic language (teaching, writing, translation and sponsorship), in addition to holding focus discussions, in-depth interviews and surveying the opinions of thirty-seven experts in various fields (media, teaching, translation, authorship, scientific research, industry and digital technology entrepreneurship).

The study is divided into five main sections; the first deals with the history of the Arabic language in Egypt. The second discusses the legislation related to the Arabic language as a basis for identity and a mediator of education. The third section examines the relationship between the Arabic language and the knowledge society,

The concept of knowledge society lies at the core of the Egyptian future 2030 vision

and the possibilities of its localisation. The fourth section investigates the state of knowledge society and the Arabic language role therein, and matters related to the knowledge society's components and enabling environment. The last fifth section presents the most important challenges encountering the realization of this role entrusted to the Arabic language in the knowledge society and some perceptions about future possibilities.

A Historical Overview of the Linguistic Status in Egypt

The historical course and development of the Arabic language

Arabic language has a long history in Egypt, which may go back to the pre-Islamic era, when delegations of Arab tribes were heading to Egypt for trade or even settlement. After the entry of Islam to Egypt, the Arabic language became present in the Egyptians' lives, although the road ahead was not paved with roses because other languages, such as Greek and Coptic, rivalled it. Over the course of time, those languages started to decline in front of the Arabic language, and even dissolve in it. Subsequently, Arabic became the language of Egyptians.¹

Arabic struggled with many languages that entered Egypt in succession, starting with Turkish, which was the language of the elite during the Ottoman ruling, then the French language that accompanied the French campaign, and finally, the English language coming with the colonial ruling that began in 1882. The schools established by foreign missions, with their educational missions, helped spread foreign languages, especially French and English. However, this

clash did not undermine the Arabic, which the Egyptians preserved as the language of daily-life communication, for reading and learning the Qur'an, as well as for learning Hadith afterwards. Indeed, the intellectual elite took it upon themselves to defend the Arabic language because defending the language was a defence of identity and national independence. There were also voices that opposed the intellectuals who called for a marriage between colloquial and classical Arabic. At the head of those who stood against this call was Taha Hussein who absolutely refused to mix colloquial with classical or to abolish the grammatical rules of the Arabic language.²

This dialogue is still going on till present. The defence of Arabic has shifted from the range of intellectuals to the civil work field through social media where the campaigns defending the Arabic language are increasing day by day, emphasizing the close relationship between preserving the language and the civilizational identity. The eighteenth of December was designated as the International Day of the Arabic Language, the date on which, in 1973, the United Nations' General Assembly passed its resolution approving the inclusion of the Arabic language among the official and working languages of the United Nations; an achievement which was attained after the tremendous efforts that had been made by many Arab states, including Egypt.

Arabic language and legislation: A historical perspective

Naturally, the growing awareness of the relationship between preserving the Arabic language and the national identity has led to an interest in drafting legislations related to the Arabic language, which

The defence of Arabic has shifted from the range of intellectuals to the civil work field through social media

would guarantee the continuity of this language, preserve its identity and support workers in various fields and institutions. This legislative concern was manifested in two levels: constitutional and legal.

The constitution and the Arabic language

All constitutions in Egypt, regardless of the times of their issuance, paid attention to the Arabic language. It seems that the relation between constitutional texts and language is more complex than a simple reference to language importance and its preservation. The Arabic language is considered by jurists as the means through which the goals of the Constitution and the embodiment of its meanings and values are expressed. Hence, it maintains the stability of the Constitution as a progressive document accommodating all aspects of life and broadening its horizons. On the other hand, the Constitution works towards protecting and preserving the language as a symbol of civilizational identity and national independence. For this reason, all constitutions issued in Egypt, throughout its modern constitutional life, stretching back to one hundred and forty years, (starting from the first constitution in 1879 to the last in 2014), have paid attention to Arabic, confirming it as the official language of the country.

Egyptian law and the protection of the Arabic language

The development of Egyptian legislation reveals an awareness of the role that language plays in people's lives, and the importance of preserving it as the primary language in all life's interactions. Hence, it is natural to begin by emphasizing the use of Arabic in education, in light of the competitive strength of other languages

(French and English). Hence, a number of laws related to teaching the Arabic language in the State schools were passed in succession (1888)³, then followed by the issuance of the higher order by Abbas Helmy II, the Khedive of Egypt, compelling students to be versed in Arabic, as a prerequisite for obtaining primary and secondary certificates (1893). This was followed later by establishing the Arabic Language Academy affiliated to the Ministry of Education to preserve the integrity of the language (1932), the Law of teaching in Arabic and writing the trademarks in Arabic, as well (1958) and the obligation to use Arabic in correspondence and banners (1976). The scope of emphasis on using the Arabic language has expanded to include new variables, such as protecting intellectual property, protecting children's rights, compelling employers to write employment contracts in Arabic and compelling the producer or importer, as the case may be, to write on the goods the data required by the Egyptian standard specifications or by any other law, in Arabic.

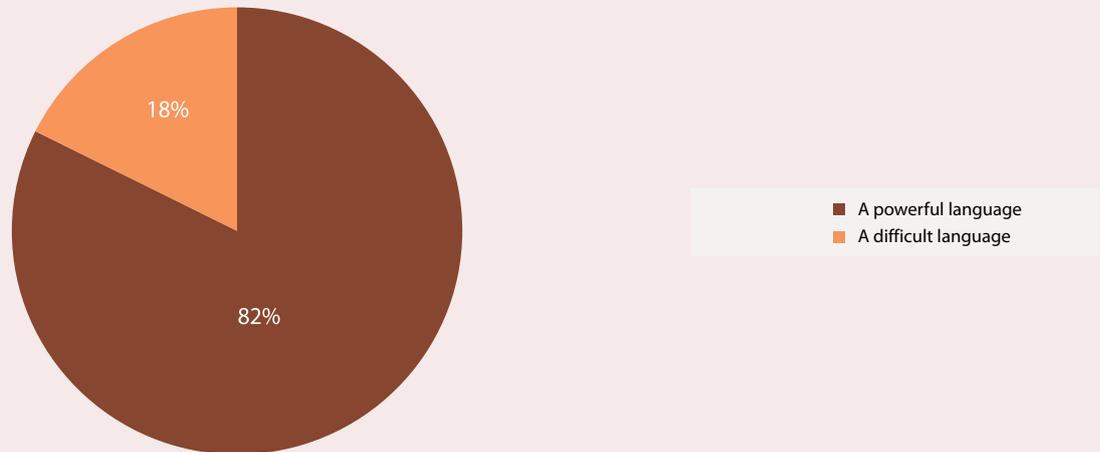
Despite the large number of these legislations, the reality shows various cases in which other languages are used or in which the Arabic rules are not respected in correspondences, advertisements or even litigation in courts. There is a culture growing in the womb of society opposing the Arabic language, and pushing it to the margins against other languages, in conjunction with the lack of adequate oversight for implementing these laws. Perhaps, this is what prompted the Arabic Language Academy to propose a new legislation (in 2017) emphasizing the importance of using the Arabic language in all fields and in all forms of official activities, advertisements, films, commercial statements and banknotes, while compelling the state

All constitutions in Egypt, regardless of the times of their issuance, paid attention to the Arabic language

The development of Egyptian legislation reveals an awareness of the role that language plays in people's lives, and the importance of preserving it as the primary language in all life's interactions

Figure (C.2-1): Ability of the Arabic language to achieve the goals of society

What is the image or representation that you have of the Arabic language?



Source: The results of the questionnaire prepared within the framework of the case study.

to draw up a language policy to arabize science teaching in schools and universities.

Problems of the Arabic language and the establishment of knowledge society

This axis aims to identify some of the problems associated with the Arabic language in its relation to knowledge society. It begins by answering a pivotal question related to the ability of the Arabic language to be an engine and a lever for social development and progress, and the most important problems related to the use of language in the areas of knowledge production, transfer, localization and harnessing.

The Arabic language and the establishment of knowledge society

Experts who participated in the discussions and in-depth interviews affirm

that the Arabic language can keep pace with the technology age and maintain its position in the national and global arenas, despite the threats it faces - just like other national languages in developing societies. Although it is likely that this language would retreat in the face of the invasion of modern means of communication and the tremendous developments in the systems of knowledge transfer and dissemination, this possibility is matched by a great awareness regarding the importance of encountering these challenges and risks.

Focus discussions and in-depth interviews, which took place on April 14, 2019 in the context of preparing for this study, and in which 30 experts and specialists in knowledge, language and media fields participated, confirmed the existence of this confidence in the Arabic language. 82% of them indicated that Arabic language is a powerful language (Figure C.2-1). The participants in the

Experts who participated in the discussions and in-depth interviews affirm that the Arabic language can keep pace with the technology age and maintain its position in the national and global arenas

Table (C.2-1): Egypt's position in the Global Knowledge Index 2017-2018

Index		2017		2018	
		Score	Ranking	Score	Ranking
Global Knowledge Index		131/95	40	134/99	39
Sectoral indices	Pre-University Education	106	44.9	110	41.0
	Technical Vocational Education and Training (TVET)	113	44.0	113	41.0
	Higher Education	54	42.1	59	41.7
	Research, Development and Innovation (RDI)	101	16.5	108	17.2
	Information and Communications Technology (ICT)	86	44.2	90	44.2
	Economy	88	40.5	90	41.3
	Enabling Environments	120	47.4	118	46.4
Source: United Nations Development Program and Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2017 and 2018. Global Knowledge Report 2017 and 2018. http://knowledge4all.com/Scorecard2018.aspx?id=1&year=2018&language=en . Accessed on April 15, 2019					

discussion also emphasized that it is a living language capable of accommodating the contemporary changes of the knowledge society. Some of them cited evidence by referring to history. When we talk about computers, for instance, we find that algorithms are still used in the language of modern technologies. The West took what we started with and built on it, while we stopped. So, now, we have to receive what they have and complete it. Here is where the awareness that the future of the Arabic language depends on other requirements is manifested, the most important of which is its integration into the scientific and technological fields, and the expansion of the linguistic dimension in ICT, so that Arabic may become the language of assimilation, dissemination, generation and use of knowledge, while refuting the

suspensions raised about Arabic, such as claiming that it is unable to keep pace with science and that writing in it is difficult.

The Arabic language and knowledge production: Arabic is a language of science

According to the Global Knowledge Index for 2018, Egypt ranked 99 out of 134 countries, with a score of 39 out of 100 (Table C. 2-1). Its results of the sectoral indices varied: the research, development and innovation index reached 17.2 out of 100, which made it rank 108 out of 134 countries in the same year for this sub-index, while the indices of economy, information technology, higher education, pre-university education and technical education ranged between 41 and 44.2.

Given the role of the Arabic language in building a knowledge society, it can be said that the Arabic language is endeavouring to access this new field and make remarkable contributions to it, but at the same time, it is encountering several obstacles and challenges

Arabic is the mainstay of communication in numerous websites, and many international companies have recognized its importance as a tool for making profit

These indices point out that Egypt still has a long way to go to achieve high levels in these fields.

Given the role of the Arabic language in building a knowledge society, it can be said that the Arabic language is endeavouring to access this new field and make remarkable contributions to it, but at the same time, it is encountering several obstacles and challenges. This was asserted by several studies and conferences, which explored the position of the Arabic language in a knowledge society and information society, as well as its role in them. Interest in this matter started as early as the beginning of the seventies,⁴ and it is still continuing by addressing the issues of computerizing scientific terms⁵ and the challenges facing language development due to electronic publishing and the globalization of communication systems⁶, and also by calling for the creation of a computerized repertoire of Arab intellectual production, as a national project,⁷ in addition to developing an electronic dictionary of the Arabic language⁸. Specialists in digital sciences see that despite what some may consider a decline in the role of the Arabic language against technology invasion, the increase in the number of users of the Arabic language requires paying greater attention to its use in the field of technology, in the creation of either electronic dictionaries or digital blogs in Arabic. This was also acknowledged by the experts who participated in the open discussion sessions in the context of this study, indicating that the Arabic language is a tool and a goal for technology at the same time. The participants emphasized, moreover, that the Arabic language was able in the past to assimilate science and philosophy, when the Arabs translated

Greek sciences and philosophies. Moreover, the Arabic language is used in manufacturing computerized language dictionaries, and it is definitely a language of information. Arabic is the mainstay of communication in numerous websites, and many international companies have recognized its importance as a tool for making profit. There are also research centres, which publish Arabic research using Computer Internet Technology, such as the Arabic language learning and teaching website. Despite some of the negative aspects that the Internet may have, Arab states can invest in its advantages, such as providing children with skills and experiences, teaching the language, promoting literacy and providing health guidance and intellectual development. It is also possible to invest in these networks to overcome barriers against education, especially the education of Arabic.

However, the problem does not end there. The discussion with the experts revealed a number of contradictions and circumstances that can be summarized in three paradoxes:

The first is bilingual education; education in Egypt is witnessing a duality between state schools which adhere to teaching in Arabic, with one or two courses in foreign languages, and private and international schools which teach all courses in a foreign language, except for Arabic and social subjects. This also applies to higher education, which aims to expand horizontally by encouraging establishing private universities. Such universities favour teaching in foreign languages (in fact, even their names are associated with foreign languages, such as the British, Canadian, French, German, Russian, Japanese and

Chinese universities). Higher education, as noticed, also seeks to establish parallel programs within state universities that teach in foreign languages. The horizontal expansion in higher education is one of the reasons that made Arabic a secondary language. In fact, the low level of Arabic proficiency in universities (and schools before them) does not only affect students, but also teachers, even in the Arabic language departments themselves, which is - as one teacher stated- it's *"gloomy and heart-breaking"*.

The second paradox is the contradiction and the large gap between the production of knowledge in natural, as well as applied sciences and its counterpart in social sciences. Natural and applied sciences are being taught in foreign languages (mainly English) and being published in English in periodicals at home or abroad, so that they may be evaluated according to the internationally applicable assessment scales in databases. The situation is different in social sciences and humanities, which are being taught and published in Arabic. These sciences are classified in lower ranks because their scientific and intellectual production neither reaches large international circles nor read on a worldwide scale. If someone refers to the most famous figures in social sciences and humanities, it often comes to mind that they are Arabs writing in foreign languages and residing abroad.

The third paradox is related to the issue of Arabizing science. There is a strong call for arabizing all kinds of sciences, countered by a strong realistic trend to marginalize the Arabic language with the expansion of education and publishing in non-Arabic languages. Increasing call for

expanding non-public education in foreign languages and university investment projects in private universities, has always been matched by a similarly increasing call for Arabizing science. This issue has received in Egypt a special interest which has been reflected through the efforts made by the Arabic Language Academy. This Academy has paid great attention to arabizing new terms alien to the Arabic language⁹. The interest in the arabization issue is also reflected at the level of civil society, with the establishment, for example, of the "Egyptian Association for the Arabization of Science" in 1994. This issue has received considerable attention, as well from those working in the fields of Arabic language and computer science, together with academics in many disciplines. All of them have stressed the importance of this process to restore the image of the Arabic language and turn it into a global language. Some of them call on Egypt to benefit from the experience of both China and Japan in terms of writing scientific production in all its branches in the local language, while emphasizing the importance of learning international languages at the same time.

The Arabic language and the transfer and localization of knowledge through translation

The concept of knowledge localization refers to the transition from consuming and recycling knowledge in the form in which it was transferred from its original fields, to owning it and working with and through it within specific qualitative societies and in the context of a social and cultural system that aspires to achieve progress and provide original conditions that would effectively contribute to building human civilization.¹⁰ There are many ways for

The horizontal expansion in higher education is one of the reasons that made Arabic a secondary language

Increasing call for expanding non-public education in foreign languages and university investment projects in private universities, has always been matched by a similarly increasing call for arabizing science

Knowledge develops and becomes more and more complete through social action and interaction between individuals and institutions within a single society, and through interaction between different societies by means of knowledge transfer, i.e. translation

Translation in Egypt has a long history dating back to the beginning of the Renaissance in the era of Muhammad Ali who sent missions abroad to learn foreign languages and modern sciences

localizing knowledge, including knowledge and cultural formation of human forces, making a technological change, promoting creativity and innovation, and developing scientific research, so that society may move from consuming knowledge to producing it. This state of knowledge production will only be achieved against a broad background of transmission and assimilation of scientific, literary and cultural knowledge, which has been developed in societies of other civilizations. Here lies the importance of language as a means of transmitting this knowledge through translation. Specialists in this regard stress the close relationship between developing a strong translation movement and establishing a knowledge society. Shawky Galal (2010) considers that *“translation, in the field of empowering society with knowledge, represents a societal endeavour based on planning, and driven by the will to raise the challenge in order to rationally, critically, selectively, and creatively assimilate global knowledge that would integrate and cohere with the self-generated knowledge. Knowledge develops and becomes more and more complete through social action and interaction between individuals and institutions within a single society, and through interaction between different societies by means of knowledge transfer, i.e. translation.”*¹¹ In the same vein, Jaber Asfour (2019) asserts *“the progress and backwardness of nations are measured in terms of the upward or downward curve of translation processes and the effectiveness of their institutions and organs”*¹². Experts and translators have also confirmed the same idea. Dr. Anwar Moghith, President of the National Centre for Translation, explains that translation provides the infrastructure for the knowledge production process. However, here serves

by saying that translation alone is not enough to create this infrastructure, but there is also an urgent need for advanced universities, advanced scientific research, sufficient funding and expanding overseas scholarships. Experts have asserted in this regard the importance of the fact that the Arabic language should not merely be a recipient of knowledge, but rather an effective tool in transforming Arabic knowledge into global knowledge. Similarly, the cultural and knowledge exchange should not be in one direction, but rather in both ways, so that a genuine cultural exchange can actually take place.

Translation in Egypt has a long history dating back to the beginning of the Renaissance in the era of Muhammad Ali (the ruler of Egypt in the period 1805-1848). He sent missions abroad to learn foreign languages and modern sciences, and established the School of Translation (School of Al-Asun) in 1835 as a high school concerned with teaching European Languages, under the direction of Refaa El-Tahtawy. The school was interested in teaching Arabic and French, then Turkish and English. Many translators graduated from the school, and they translated about 2,000 books.¹³

The General Organization for News, Publishing and Distribution was established in 1961, whose name was changed by several laws until it became the General Egyptian Book Organization (GEBO) in 1971. The Organization turned to translating books that won international awards in a special series called the “Awards Series”, in addition to the individual submitted translations. In 1955, a translation project, known as the “One Thousand Books Project,” was established in Egypt by

the Cultural Department of the Ministry of Education. This project succeeded in publishing about 700 books, including 78 titles in pure sciences. It also paid special attention to the most important international books and classics and included pure and applied sciences, general knowledge, philosophy, psychology, religions, social sciences, languages, fine arts, literature, history, geography and biography.¹⁴

The translation scene in Egypt was considerably strengthened by the launch of the National Translation Project adopted by the Supreme Council of Culture in 1995. It is the first organized project for the translation movement in Egypt based on a definite vision. This project infused clear principles into the translation movement in its new guise, including the importance of planning and flexibility, translating from the original source languages, diversifying the source languages to translate from, emphasizing the unity of human culture and the diversity of its branches, representing the organic link between authenticity and modernity, expanding the margins of intellectual freedom and confirming the Arab national character of the project by introducing Arab translators alongside Egyptians.¹⁵ The number of works published within this project reached more than one thousand books.

In 2006, the National Centre for Translation (NCT) was established, which undertook translating books in several fields. An analysis of the Centre's publications up to March 2019 (Table C.2-2) shows that the total number of books published by the Centre so far has reached 3,196 books, of which the literature field accounts for the largest proportion (38%),

followed by social sciences (approximately 22%), then history (12.7), philosophy (7.8%), arts (5%), then pure and applied sciences combined (5.6%). The hierarchy of the list reveals an analogy with the hierarchy of the list of books published in the Arabic language, which we referred to earlier; where translation efforts tend to focus primarily on literature and social sciences at the expense of pure sciences, applied sciences and arts. In addition to the efforts made by the National Centre for Translation, there are other sporadic efforts, the most important of which is the series published by the General Authority of Culture Palaces (Ministry of Culture), titled "Translation

Box (C.2-1): Committee for Writing, Translation and Publication in Egypt

The Committee for Writing, Translation and Publication was formed in Egypt in 1914 by individual efforts driven by a great intellectual awareness. It is a non-governmental committee established by a group of intellectuals and people interested in spreading culture. It presented important translated and written works in many fields of science, arts and literature, in addition to publishing a number of cultural magazines, the most important of which is Al-Risala magazine (issued from 1939 to 1953). Hundreds of books published by the Committee contributed to the flourishing of the scientific translation movement and produced a new generation of translators. They also introduced the reader to many Western encyclopaedic books, such as Bertrand Russell's History of Western Philosophy, Will Durant's Story of Civilization and a set of major scientific, literary and educational works. These books had actually an active role in the renaissance and enlightenment of society, in addition to being an important lesson on how to arabize the foreign term and try to simplify the difficult term in order to finally reach an accurate word that corresponds to it, not to mention, the other benefits of translation, including "acquaintance between peoples."

Source: Ahmed Hussein Al-Tamawi. 2010. Committee for Writing, Translation and Publication...an outstanding model for collective work among intellectuals.

Table (C. 2-2): Distribution of translated books by the National Centre for Translation - according to the subject of the book (until March 10, 2019)

Subject/ specialty	Number	Ratio (%)
Literature	1,216	38.05
Social sciences (sociology - psychology - geography)	703	22
History	405	12.67
Philosophy	249	7.79
Arts	161	5.04
Pure sciences	144	4.51
Biographies	100	3.13
General knowledge	64	2
Languages	62	1.94
Religion	52	1.63
Applied sciences	34	1.06
Archaeology	3	0.09
Not specified	3	0.09
Total	3,196	100

Source: List of National Translation Centre publications (complete) until March 10, 2019

Despite all these efforts in the field of translation, Egypt's position at the global level is still weak

Translation requires more structures and tools for cognitive empowerment

Horizons", which presents works and texts of importance in several fields because their publications are inexpensive and easy to spread among readers.

Despite all these efforts in the field of translation, Egypt's position at the global level is still weak. There is a concern among intellectuals that Egypt is lagging behind the world in this regard. Some experts, participating in the focus discussions that took place in the context of preparing for this study, have attributed this gap to

the weak reading culture, the insufficient budgets to cover translation and copyright costs, the lack of a trained generation of translators and the understanding of translation in some cases as an arabization process which is not concerned with conveying deep cultural and intellectual meanings. This leads us to conclude that if translation is one of the tributaries of the localization and sustainability of knowledge, the renaissance of translation in itself requires more structures and tools for cognitive empowerment.

The Arabic language in the service of economy, industry, commerce, and administration

There is a growing interest in Egypt to firmly introduce the Arabic language into the knowledge society, by integrating it into information technology and the world of industry. Early calls for the necessity of adapting the Arabic language to the world of technology have had a real impact, as evidenced by the actual interest in the subject of language computing. This was reflected in the encouragement of linguists, and the emergence of a generation of specialists in the field of computer engineering, who have been interested in developing the Arabic language computing, so that it can keep pace with technological changes and be intricately linked to trade, industry and management through technology. They thrived to establish a scientific association for language engineering (founded in 1996 within the Faculty of Engineering at Ain Shams University). One of the association's objectives was to pay attention to linguistic engineering with a focus on the Arabic language, in a way that would enable the establishment of lexical databases and systems for translating texts from foreign languages into Arabic, electronic processing of the spoken language and the creation of databases on research published in the field of engineering. The association held 18 conferences, the last of which was in 2018. It has also been publishing the "Egyptian Journal of Language Engineering" since 2014.

Experts confirm in this regard that the journey is very long, but Egypt has come a long way, thanks to the contribution of experts in the field of computing, and

the sponsorship of local companies that started in the nineties in the Arab region, then of large international companies, such as Microsoft, IBM and Google, which came to operate in the region later, in addition to the efforts made by the Arabic Language Academy in creating applications for dictionaries and electronic content. All these local and international efforts have contributed to providing models and applications for language computing, including grammatical and morphological analyses, text and translation analysis, the development of computerized language dictionaries, the reproduction and dissemination of ancient texts, the use of the voice and text recognition technology, the use of important applications in the commerce and industry fields and finally, the analysis of meanings. This development led to the emergence of many websites in which the Arabic language constitutes the mainstay for communication, and even international companies are adopting this approach in order to achieve more profits. An example of this is the adoption of Arabic by Google in its Blogger service, which allows the Arabic language users around the world to communicate and express their thoughts and opinions. All this facilitated the possibility of using the Arabic language in computer applications in various fields, such as advertising, accounting software in industrial and commercial companies, and in national, tourism and commercial banks, in addition to automating accounts and various utility bills. The Egyptian government has also succeeded in computerizing several services in order to localize technology in people's daily lives, but despite the achievements, it has a long way to go.

There is a growing interest in Egypt to firmly introduce the Arabic language into the knowledge society by integrating it into information technology and the world of industry

The essence of the vision of the Ministry of Education and Technical Education in Egypt is to form human resources with growing capacity and efficiency, with the highest degree of quality and professional ethics in order to build a society based on learning and an economy based on knowledge

This does not mean that the Arabic language has been fully harnessed in the world of economics. There are several problems surrounding the relationship between the Arabic language and the world of industry and entrepreneurship, including the failure in some cases to develop guidelines in Arabic, the inclination to use colloquial dialect in advertisements, the use of foreign languages in job advertisements and the tendency of global companies to impose training and conduct business meetings in a foreign language. There are also problems that arose during the discussion of the relationship between the Arabic language and the scientific production, as well as its role in the localization of knowledge through translation and the extent to which it is harnessed in the service of industry. These problems include: the threat posed by the Franco-Arab language to the Arabic language, both in terms of the linguistic dimension and the aesthetic dimension represented by the danger to Arabic calligraphy¹⁶ and the lack of an information infrastructure in the Arabic language, or an integrated Arabic technological dictionary that would fulfil all researchers' needs in the technology field, in spite of the fact that attempts are now being made in the Library of Alexandria to create a corpus that meets such needs. The dialectical diversity among Arab states is also one of the difficulties hindering the inclusion of the Arabic language in the world of technology and leading to the inability of the Arabic language vocabulary to assimilate some computer terms. The Egyptian colloquial dialect poses a particular danger as it is invading the strongholds of Classical Arabic, and this fact is evidenced, for instance, by the use of colloquial vocabulary to teach the Standard Classical Arabic.

The Arabic Language and the Pillars of Knowledge Society

The education and training system: building people and building language capabilities

The essence of the vision of the Ministry of Education and Technical Education in Egypt is to form human resources with growing capacity and efficiency, with the highest degree of quality and professional ethics in order to build a society based on learning and an economy based on knowledge. The vision of the Ministry of Higher Education also focuses on education, scientific research, innovation and building the learner's personality according to four pillars: availability, quality, competitiveness and universality.¹⁷ All of these pillars have a place in the knowledge society. The two visions reveal an awareness of the role education plays in building knowledge society through the comprehensive development of young people.

General system of education

The Egyptian educational structure is divided into a basic education level and a secondary education level with its many branches, including technical education. Moreover, Al-Azhar has a special educational system in which Islamic religious sciences are being taught together with other scientific studies. The education sector in Egypt offers a kindergarten program for children aged 4-5 years, but it is not an essential part of the educational structure or of the compulsory education.

Higher education is divided into several educational programs for all disciplines of natural, social and human sciences that

Table (C.2-3): General expenditures on education according to the general budget (2016/2017-2017/2018)

Indicator	2016/2017	2017/2018
State General Expenditure (million Egyptian pounds)	974,794	1,207,138
General Expenditure on Education (million Egyptian pounds)	103,962	107,075
General Expenditure on Education/ State General Expenditure (%)	10.7%	8.9%
Expenditure on Pre-university Education (million Egyptian pounds)	72,402	70,512
Expenditure on Pre-university Education/ General Expenditure on Education (%)	69.6%	%65.9
Expenditure on University Education (million Egyptian pounds)	22,627	25,754
Expenditure on University Education/ General Expenditure on Education (%)	21.8%	24.1%
Other forms of expenditure on education	8,932	10,809
Source: Central Agency for Public Mobilization and Statistics. 2019. Egypt in figures, Education, March 2019. https://www.capmas.gov.eg/Pages/StaticPages.aspx?page_id=5035 Accessed on April 15, 2019		

are being taught in public and private universities and higher institutes.

Expenditure on education

Expenditure on education is steadily expanding, both in pre-university and university education. Total spending on education exceeded 107 billion pounds in 2017/2018, of which about 71 billion were allocated to pre-university education and 26 billion to university education. Expenditure rates are expected to increase more and more in the future. The government repeatedly emphasizes that one of the most important objectives of the economic reform program is to provide a fiscal space that would allow it to increase

expenditure on the education sector and improve its quality. This was reflected in the provisions of the 2014 constitution, which stipulates that a percentage of no less than 4% of the Gross National Product (GNP) should be allocated to education, and should gradually increase to comply with the international standards.

Number of students and their disciplines

Education in Egypt has focused for a long period of time on availability, and neglected quality, which has only been given attention in the past ten years. Consequently, Egypt ranked 130 out of 137 countries in the world in terms of quality of education for the year 2017¹⁸. This fact has created the problem of

Expenditure on education is steadily expanding, both in pre-university and university education

Education in Egypt has focused for a long period of time on availability, and neglected quality

student overcrowding from which education is suffering, both at the pre-university and university levels. Data reveal a significant increase in the number of students. The total number of pre-university education students in the 2018-2019 academic year was about 22.5 million (Table C.2-4). Furthermore, the number of government and private university graduates in 2016-2017 reached about 390,000 (Table C.2-5). It is noted that the number of students graduating from

universities and higher institutes in certain disciplines is increasing. Law, management and business studies account for 32% of graduates, followed by health and well-being studies at 14%, engineering and manufacturing at 11% and teaching at 10%. As for human studies, ICT, languages, and pure sciences (mathematics, natural sciences and statistics), the rates of graduating students were low. (Table C.2-6).

Table (C.2-4): Number of schools and classes, total number of students (males and females) and total number of teachers

Affiliation	Number of schools	Number of classes	Number of students		Total number of students	Total number of teachers
			Males	Females		
Governmental	47,043	429,884	10,291,689	9,829,640	20,121,329	947,282
Private	8,171	70,284	1,232,538	1,099,514	2,332,052	91,385
Total	55,214	500,168	11,524,227	10,929,154	22,453,381	1,038,667

Source: Ministry of Education and Technical Education. 2019. Statistical summary of pre-university education 2018/2019, General Administration for Information and Decision Support Systems. <http://emis.gov.eg/Site%20Content/matwaya/2019/matwaya2019.pdf>. Accessed on April 15, 2019

Table (C.2-5): Total Number of graduates from governmental and private universities (2008/2009 - 2016/2017)

Years	Number of graduates from government universities (1,000 graduates)	Number of graduates from private universities (1,000 graduates)	Total number of graduates from government and private universities (1,000 graduates)
2008/2009	362.4	7.6	370
2009/2010	316.8	9.5	326.3
2010/2011	332.8	11.2	344
2011/2012	321.8	12.4	334.2
2012/2013	325.4	13.8	339.2
2013/2014	189.6	10.6	220.2
2014/2015	252.7	9.1	261.8
2015/2016	324.5	16.7	341.2
2016/2017	367.5	22.3	389.8

Source: Egypt Statistics. Database of the Egyptian Central Agency for Public Mobilization and Statistics. https://www.capmas.gov.eg/Pages/IndicatorsPage.aspx?page_id=6142&ind_id=1082. Accessed on April 15, 2019

Table (C.2-6): Total number of higher education graduates in 2017, by fields of study and gender

Fields of study	Number of higher education graduates in 2017		Total number of graduates	Percentage for each field of study
	Males	Females		
Law, Management and Business	99,979	70,632	170,611	%32
Health and Well-being	27,191	50,331	77,522	%14
Engineering, Manufacturing and Construction	42,819	14,683	57,502	%11
Teaching	14,011	38,298	52,309	%10
Human Studies	15,167	23,216	38,383	%7
Communication and Information Technology (ICT)	24,716	11,748	36,464	%7
Languages	7,708	24,983	32,691	%6
Natural sciences, Mathematics and Statistics	8,012	12,843	20,855	%4
Social and Behavioral Sciences	2,891	12,962	15,853	%3
Services	7,240	3,742	10,982	%2
Agriculture, Forestry, Fisheries and Veterinary	5,199	5,099	10,298	%2
Arts	2,082	5,578	7,660	%1
Journalism and Media	1,291	4,993	6,284	%1
Total	258,306	279,108	537,414	%100

Source: Central Agency for Public Mobilization and Statistics. 2018. Annual Bulletin of Higher Education Graduates and Higher Academic Degrees for the year 2017.

The Arabic language in the Egyptian educational system

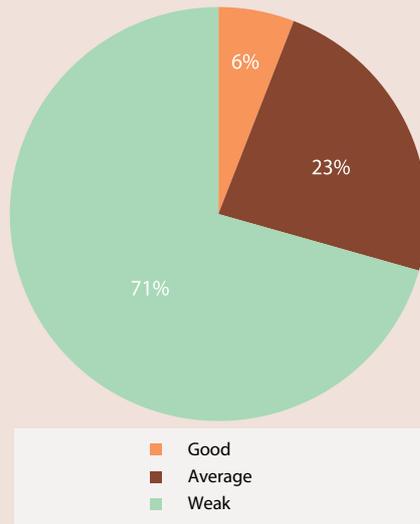
We emphasized earlier that Egyptian education suffers from overcrowding and low-quality problems. We focus here on other problems, including the bilingual educational system and the multiplicity of cultural frameworks that drive it. It is a multi-dimensional bilingualism that

can be observed in the multiplicity of school systems (morning school, double shift schools, full-day schools, integrated schools, smart schools and productive schools). It can also be monitored in multiple types of schools (governmental; international; national; Nile schools; model, experimental, Islamic and Christian schools; Azhar institutes and others). This situation is expected to lead to a multiplicity of

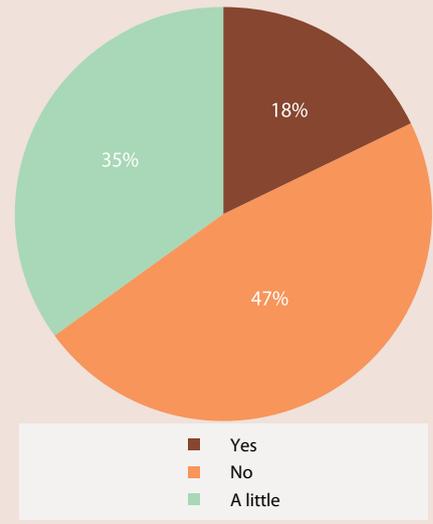
Egyptian education suffers from overcrowding and low-quality problems

Figure (C. 2-2): Opinions of the study participants about the reality of the Arabic language in education

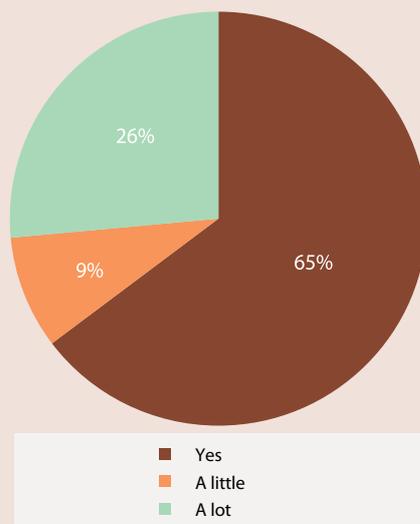
How do you find the level of pupils and students in the Arabic language today?



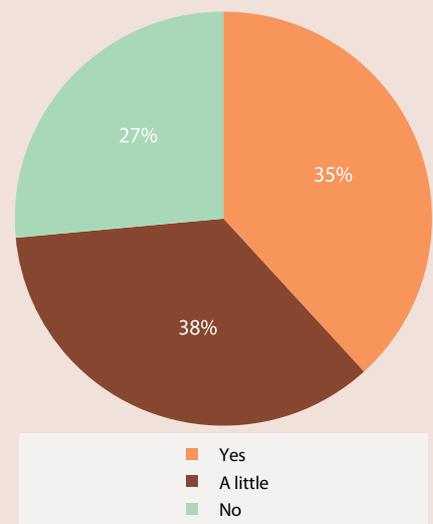
Do methods and modes of teaching Arabic in schools help in acquiring and mastering it?



Do learning and mastering the Arabic language make learning other school subjects easier?



Does education help pupils and students speak Classical Arabic?



Source: The results of the questionnaire prepared within the case study framework.

visions and cultural frameworks governing human formation. The Arabic language professors in schools and universities, who participated in the panel discussion and in-depth interviews that took place in the context of preparing for this study, expressed this situation, pointing out that the Arabic language curricula in schools and universities are extremely poor, and students are not required to study the Arabic language in all faculties. The curricula focus, instead, on the history of literature (pre-Islamic literature in the first year of secondary education, then Islamic literature in the second year, and modern literature in the third year). Moreover, the literary models that students study, even in the elementary and middle school, are “repulsive” models, and this applies to the teaching of grammar and morphology, which is being carried out in an outdated manner. Specialists here express a degree of self-criticism; they blame themselves for contributing to this situation when they teach in vernacular, lowering the level of the language to a degree of “*vulgarity and weakness*”.

However, the Ministry of Education and Technical Education pays great attention to the Arabic language, restoring its splendour in schools and motivating students to speak it, both through the curricula and student activities. The Ministry also obliges all schools, including international ones, to teach the curricula associated with the national identity, which are the Arabic language, religious education and civic education.

There have been earnest attempts to develop the educational system in various tracks, especially in the technological development field. This was carried out

through cooperation with the Ministry of Communications, where a number of projects were implemented; including the Smart Schools project, which aimed to intensify the use of information technology in the educational process by qualifying and training teachers on the latest technologies and the project to introduce high-speed internet in preparatory schools,¹⁹ in addition to enhancing service delivery levels through networked education systems.²⁰ All of this will contribute to increasing knowledge, achievement and research, leading to creativity and innovation, with the intention of reducing the digital divide, achieving the national goals of education and transforming the school into a productive unit and a societal education centre.

Creativity, innovation and development

Innovation is the main focus in “Egypt Vision 2030”²¹, which aspires to achieve a diversified and flexible knowledge economy guided by skilled Egyptian competencies and reinforced by the best expertise. Among the key performance indicators for this axis is the Global Innovation Index (GII),²² This index is based on metrics detailed in two axes, covering innovation inputs and outputs. It includes 80 sub-indices that provide a comprehensive view of the various areas of innovation. According to this index, Egypt advanced ten places in one year; It ranked 95th in 2018 compared to 105th in 2017 (out of 127 countries).

It is expected that endeavours to support innovation will be reflected in strengthening the connection between scientific research and industry in Egypt, as well as in promoting local industrialization.

The Ministry of Education and Technical Education pays great attention to the Arabic language, restoring its splendour in schools

It is expected that endeavours to support innovation will be reflected in strengthening the connection between scientific research and industry in Egypt, as well as in promoting local industrialization

Box (C.2-2): Science and technology achievements in Egypt

The indicators of science, technology and innovation have made several achievements, which were confirmed by the Academy of Scientific Research and Technology in its bulletin of the harvest of scientific research for 2018, as follows:

- Egypt ranked 38th in the world in the field of published scientific research out of 230 countries worldwide.
- The rate of international cooperation in joint research with countries of the world has increased and the proportion of joint research has reached 51.1%.
- The number of patents reached 555 in 2017, of which 100 were for Egyptians, representing an increase of 39% over 2016.
- The number of Egyptian researchers in various sectors has increased, reaching 135 thousand researchers; an increase of 21.7% over last year.
- 20,000 international papers were published by Egyptian researchers during 2018; an increase of 7% over last year.
- The number of Egyptian female researchers reached about 55 thousand, equivalent to more than 43% of the number of Egyptian researchers.
- Since 1976, 500 issues of "Al-Ilm" magazine have been published. The magazine is a monthly periodical published in Arabic by the Academy of Scientific Research and Technology.
- The "Knowledge Bank" portal, which is the largest digital library in the world, has been hosted on cloud computing systems available through the second phase of the project, as well as hosting the national scientific publishing system in cooperation with the Egyptian Knowledge Bank, which now includes 165 scientific periodicals.
- The Technology Transfer Network offices were completed, and the number of offices reached 43 until 2017/2018, with a total funding of 40 million pounds. 2,000 papers have been published, 35 patent applications have been filed, 3 patents have been licensed, 32 technology ideas have been supported, 136 prototypes have been designed, 120 technology products have been marketed and the financial income for implementing technology marketing contracts have amounted to 25,000 Egyptian pounds.
- The Egyptian Patent Office was accredited as an international patent search and examination office for a period of ten years until December 2027.
- The National Specialized Scientific Networks Program was launched, and it is one of the initiatives of the Academy of Scientific Research, which supports each network with about one and a half million pounds. Several scientific networks were also launched, namely: the National Network for Nuclear Sciences, based at Cairo University, and the National Network for Nanotechnology, based at Mansoura University. Moreover, the national networks in the fields of biotechnology, informatics, mathematics, scientific media and herbariums (plant reference samples) were completed and instated. In Alexandria, the national network for cancer research, with a total of 13 institutions, was established, as well.

Source: Academy of Scientific Research and Technology in Egypt. 2018. The Harvest of Scientific Research for 2018. The Harvest of Scientific Research for 2018. <http://portal.mohe.gov.eg/ar-eg/Documents/Achievements-2018.pdf> The website was accessed on November 26, 2019.

One of the indicators, for example, is the establishment of two incubators at Assiut University and the "Ettisal" association to support 30 companies with a 5-million-pounds funding, bringing the number of incubators to 17 in various regions of Egypt to sustain 83 start-ups, with a total of 43.7 million pounds until 2017/2018.²³ 58 companies have graduated so far from incubation programs and became active on the ground. Scientific research is a major component of the strategy of the Ministry of Higher Education and Scientific Research, which focuses on two axes: the first is the axis of higher education, which includes providing educational services, improving the quality of higher education and universities, and enhancing the competitiveness of higher education systems and outputs. The second is the axis of knowledge, innovation and scientific research which includes: creating a stimulating environment for the knowledge localization and production, linking knowledge applications and the scientific research and innovation outputs to the national priorities of the state, in addition to activating and developing an integrated national system for innovation. 47.1 billion pounds were allocated for higher education and scientific research for the fiscal year 2019/2020, which represents an increase of 8.6 billion pounds, or 22.27%, compared to 35.8 billion pounds in the previous year. It is intended to raise the number of students on scholarships abroad in modern specializations in line with Egypt's Vision 2030 and the needs of the local and global labour market. The year 2018 also witnessed many projects and achievements at various levels in the fields of scientific research.

The status of Arabic publishing: the road to digitization

There is an upsurge in creative writings and literature in Arabic, represented by the steady increase in published books, including the number of novels, poetry collections, plays and story collections. Statistics on books that received a deposit number from the Egyptian National Library in the period from 2014 to 2018 indicate a steady increase in books of literary creativity in the Arabic language, rising from 3,425 books in 2014 to 4,569 in 2018. The same increase was observed in the fields of social and natural sciences, as well.

The number of scientific periodicals published in Arabic has also risen. Although these periodicals covered mostly literature and social sciences, which are usually written in Arabic, the data revealed that basic sciences and applied sciences have joined the field of publishing in Arabic through several specialized periodicals issued in Arabic. We were able to count 359 periodicals published in Egypt, distributed according to their specializations into several branches that can be classified under the category of social and human sciences (economics and management, humanities and educational sciences, media and public opinion research, legal and political sciences, literature, libraries, languages, arts and other disciplines). These sciences occupy the leading position with a large number of 339 periodicals, equivalent to 94% approximately, while the number of periodicals in the field of natural and applied sciences reached 20, representing 6% of the total periodicals.²⁴

There is an upsurge in creative writings and literature in Arabic, represented by the steady increase in published books, including the number of novels, poetry collections, plays and story collections

The data revealed that basic sciences and applied sciences have entered the field of publishing in Arabic through several specialized periodicals issued in Arabic

The digitization of intellectual production published in Arabic helps to transform Arabic into a global language

Despite this change and the steady growth of Arab intellectual production in Egypt, most experts believe that writing in the Arabic language alone is not the solution. Writing in Arabic makes this production just a local one, that is unable to reach the global scale. When we talk about any scientific theory in which the Arabs have contributed, only those who write in other languages are mentioned. Considering this, the various Arab contributions must reach the world through the interaction between the Arabic language and other languages, especially English, which is the world's first language. Efforts must also be exerted in the processes of natural sciences arabization, while maintaining their permanent interaction with other languages.

There is no doubt that the digitization of intellectual production published in Arabic helps to move towards transforming Arabic into a global language. By examining the effort exerted in this regard, it is clear that Arabic still represents the language of literature and social sciences. The publishing process in these two fields has been greatly influenced by the endeavours of Arabic language engineering and computerization. Electronic publishing is gradually replacing paper publishing, and the two may often coexist. It has been expanding in the field of electronic journalism, publishing digital dictionaries, preserving religious and intellectual heritage, as well as preserving Arabic manuscripts. This was accompanied by many attempts to publish scientific periodicals electronically and to create databases for intellectual production in the field of social sciences and scientific theses. It is worth mentioning here two attempts: the first is the establishment of a database of Arab research abstracts in the field of sociology and anthropology, which is known as the "Qabas" database, on the website of

the Centre for Research and Social Studies at the Faculty of Arts. The realization of this database began in paper form in 1994, then in electronic form at the beginning of the third millennium. The second is the creation of a repository of scientific theses and conference research by the Supreme Council of Universities, a project that has not yet been completed. This project resulted in the establishment of a digital library for the Supreme Council of Universities to reveal the citation rates in the scientific works submitted to the promotion committees.

These efforts have been reinforced at the Arab regional level with the initiation of databases for research published in Arabic throughout the Arab world. Among the most important of these databases is the "Dar Al-Mandumah" database, which was launched in 2004, and includes databases of theses, conferences and research published in a large number of Arab scientific journals in the educational, social, economic, administrative, Islamic, legal, language, literature and humanities fields. We have also the "Al-Manhal" database, which was established in 2010 and includes sub-databases for e-books, scientific theses, scientific periodicals and children's books. The activity of this base has expanded to cover the Arab production in Asia and Africa. These two databases have achieved a great development in terms of digitizing and organizing Arabic publications in electronic databases. The success of this activity in digitizing Arab intellectual production reflects the synergy between science, culture, money and government efforts, and how entrepreneurship in the cultural and scientific field could be an engine that integrates Arab culture and scientific production published in Arabic into the information system, thus contributing significantly to establishing a knowledge society.

Table (C.2-7): Some indicators of communication technology for the years 2018/2019

Indicator	Unit	February 2018	February 2019
International Internet Bandwidth	Gigabyte/s	1583.44	1219.80
Internet users via USB Modem	Million users	3.25	3.08
Internet users via mobile phone	Million users	32.9	32.49
Percentage of Internet users via mobile phone	%	32.02	34.52
Users of high-speed Internet via mobile phone	Million users	5.43	6.74
Total capacity of local telephone exchanges	Million lines	19.79	22.48
The number of fixed line subscribers	Million subscribers	6.61	8.36
Fixed line penetration rate	%	6.81	7.6
The number of open telephone exchanges	Exchanges	1517	1510
The number of open telephone exchanges in the Egyptian countryside	Exchanges	1051	1051
Mobile phone subscribers	Million users	100.24	93.13
Egypt's Stock Exchange Telecommunications Index	Points	647	534

Source: Ministry of Communications and Information Technology in Egypt. 2019. A brief report on ICT indicators in Egypt. http://www.mcit.gov.eg/Indicators/Ind_FixedLinesSrv.aspx
http://www.mcit.gov.eg/Indicators/Ar/Ind_Internet.aspx

Egypt has made remarkable progress in the field of information and communication technology

Information and Communication Technology: Indicators and Development Efforts

Egypt has made a remarkable progress in the ICT field, as demonstrated by the ICT Development Index, which increased from 3.4 points (2014) to 4.4 points (2016), then to 4.6 points (2017).²⁵ The capacity of terrestrial telephone networks has significantly increased (the capacity of local telephone exchanges increased from 19.8 million

subscribers to 22.5 million subscribers within one year). The number of fixed-line subscribers increased from 6.6 million to 8.4 million within one year. Internet access via mobile phone reached about 32.5 million (Table C.2-7). With these capabilities, Egypt occupies the first place among the Middle East and North African societies in terms of the rates of individuals' use of the Internet and the growth in the number of companies operating in the ICT sector.²⁶

Egypt occupies the first place among the Middle East and North African societies in terms of the rates of individuals' use of the Internet and the growth in the number of companies operating in the ICT sector

The telecommunications sector in Egypt is characterized by its high growth rates, which amounted to about 14% in 2017/2018, and contributed to the GDP by about 80 billion pounds or 3.2%.²⁷ The telecommunications sector is always adopting a permanent plan for technological development and human capacity building.²⁸

As for the technological development, endeavours have been launched to develop the engineering design for the technology innovation communities and to disseminate them in Egyptian universities, in addition to accomplishing the equipping process of Africa's Regional United Nations Technology Innovation Lab that would help develop the capacity of researchers and workers in this field in various parts of the continent.²⁹ Efforts are also being made to stimulate investment in start-ups and to adapt information technology to serve people with disabilities through establishing the Technical Centre for Services for Persons with Disabilities; the first centre of its kind in Africa. Various ministries are cooperating in the project of building integrated databases by technologically linking 60 databases, providing more than 20 government services via the Internet, as well as developing the infrastructure of the telecommunications sector and the electronics industry in Egypt.

This development cannot take place without working on building human capacities through intensive training programs for youth; launching several initiatives that encourage young people to become entrepreneurs in the field of communications and digital applications, as well as in the installation, maintenance and operation of fibre optic networks; and

qualifying start-ups to develop, operate and maintain smart city solutions and systems. This will certainly lead to localizing global technologies and qualifying companies to implement similar projects based on the Egyptian experience. In the same context, agreements have been signed with some international companies to train newly graduated engineers on the latest communication and information technology.³⁰

However, despite the quantitative progress in the ICT sector, Egypt has witnessed a noticeable decline in the global ranking of IT indices. In one year, from 2017 to 2018, its ranking on the ICT index decreased from 86 to 90, on the ICT input indicator from 80 to 86 and on the ICT output indicator from 88 to 92 (Table C.2-8). This fact indicates that the Egyptian competitiveness at the global level is still weak despite the great efforts exerted in this field. Therefore, there is an urgent need to accelerate the pace of work, not only to progress, but also to catch up with the world, which is moving fast paced in this track.

Media and Communication

Egypt has a large media base that has played a leading role in introducing mass communication technology in the Arab world. Radio broadcasting began in Egypt through private stations in 1934, followed by official public stations in 1947, while television broadcasting started in 1960. The means of satellite and radio broadcasting are now proliferating; thus, we count 27 satellite channels and 58 radio stations operating in Egypt. The number of television broadcasting hours in 2017/2018 was about 179,000.³¹ The mass communication sector is currently

Egypt has a large media base that has played a leading role in introducing mass communication technology in the Arab world

Table (C.2-8): ICT Index for the years 2017/2018 according to the Global Knowledge Report

Information and Communication Technology (ICT)	2017		2018		Direction and value of change
	Value	Ranking	Value	Ranking	
ICT INDEX	44.2	86	44.2	90	0
ICT INPUTS	57.7	80	58.6	86	0.9
Infrastructure	44.8	79	46.6	86	-1.8
Population covered by mobile-cellular networks (%)	98.9	39	98.7	45	-0.2
International Internet bandwidth per Internet user (Kbit/s)	35.3	96	41.1	106	5.8
Secure Internet servers (per million inhabitants)	0.2	108	0.1	17	-0.1
Sector Competitiveness	70.6	86	70.6	89	0
ICT Price Basket	95.7	73	95.7	73	0
Internet and telephony level of competition	80.0	88	80	92	0
Laws on ICTs	35.9	102	35.9	104	0
ICT OUTPUTS	38.4	88	38.1	92	0.3
Subscriptions	23.3	90	18.8	96	4.5
Fixed-telephone subscriptions (per 100 inhabitants)	11.9	88	11.4	90	-0.5
Mobile-cellular subscriptions (per 100 inhabitants)	37.9	73	33.2	88	-4.7
Fixed-broadband subscriptions (per 100 inhabitants)	11.2	86	11.8	87	0.6
Mobile-broadband subscriptions (per 100 inhabitants)	32.3	76	18.7	96	-13.6
Usage by Individuals	55.7	85	57.7	82	2
Internet users (%)	36.9	91	42.7	87	5.8
Use of virtual social networks	79.5	50	79.5	51	0
Business-to-consumer Internet use	50.8	86	50.8	87	0
Usage by Government and Institutions	45.7	83	47.4	93	0
Firm-level technology absorption	52.2	97	52.2	98	0
Government Online Service Index	47.1	86	53.5	99	6.4

Government success in ICT promotion	43.6	92	43.6	94	0
Unlicensed software installation rates	39.7	57	40.5	55	0.8
Impact on Development	31.7	93	31.7	94	0
ICT patent applications (per million inhabitants)	3.8	69	3.8	70	0
Impact of ICTs on business models	50.3	94	50.3	95	0
Social impacts of ICT	41	98	41	99	0
<p>Sources:</p> <p>The United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2017. Global Knowledge Index 2017. http://www.knowledge4all.com/ScoreCard.aspx?id=1&language=en</p> <p>The United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation. 2018. Global Knowledge Index 2018. http://www.knowledge4all.com/ScoreCard2018.aspx?id=1&language=en</p> <p>Accessed on November 15, 2019</p>					

managed by the National Media Authority (Ex- Egyptian Radio and Television Union), which replaced the Ministry of Information. The authority was established, pursuant to Law No. 92/2016 on the institutional organization of the press and media to take over the management of state-owned media institutions and provide services of television, radio and digital broadcasting and production).³² A number of companies working in the media field are affiliated to this authority: The Sound of Cairo for Audio-Visuals (Sono Cairo) Company, the

Egyptian Media Production City, the Nile Radio Company and the Egyptian Satellite Company. The National Media Authority is working to introduce Egypt to the world of digital media, so it signed an agreement with Google and its YouTube platform to protect the digital content that it owns. The Authority has also launched a unified website for all its sectors.³³ Several groups and Non-Governmental Organizations (NGOs) are also active in Egypt in projects that use Free Open Source Software (FOSS) and promote its use in Egypt.

Box (C.2-3): Developing knowledge society and the digital economy in Vision 2030

The Ministry of Communications plan emphasized that among the main tasks of the Ministry of Communications in Egypt's Vision 2030, is *"Enabling the development of a knowledge-based society, a strong digital economy based on equitable access to knowledge at affordable prices, and the enjoyment of digital rights, as well as the development of a competitive and innovative national ICT industry."*³⁴ The emphasis on knowledge society was not limited to "Egypt Vision 2030" and the vision of the Ministry of Communications, but it also appeared in the vision of the Ministry of Education and Technical Education that we referred to earlier. This interest is reflected in the emergence of a prominent discourse about knowledge society, a discourse of a general cultural character (as exemplified in the proliferating press articles about information society and knowledge society)³⁵ and of an academic character as manifested by the expansion of research and studies dealing with this subject.³⁶

Digital content in Arabic: Increasing rates of digitization

All these developments flow into outcomes that contribute to establishing knowledge society, and to integrating the Arabic language into its fabric. This is clearly demonstrated by the growth of digital content. Egypt has developed a strategy for digital Arabic content in 2018 (with the combined efforts of the Ministries of Communications, Culture, Education and Higher Education and Scientific Research), with the aim of enhancing the role of the Arabic language in communication and knowledge sharing and adapting it to serve science, in addition to other benefits associated with providing job opportunities, contributing to increasing national income and achieving benefits in the field of education and cultural heritage protection.³⁷ There are problems facing the Arabic language in developing its digital content through the means of modern technology, including the necessity to develop Arabic structures and enrich it with innovative new terms to keep pace with developments.³⁸ Another problem is the failure to provide capabilities for computing and analyzing the language

in an accurate scientific manner, for developing Arabic search engines and for enriching this language with reputable dictionaries of high quality similar to those in other languages,³⁹ as well as the need to update the methods of teaching Arabic. Despite these challenges, efforts to provide digital content in Arabic are constantly increasing.

Digital content covers different areas. Several parties participate in its development, the most important of which is the Alexandria Library, which is taking the lead with the Ministry of Communications in promoting the digital content. Heritage and educational content is at the forefront of the Arabic digital content (15 projects and 8 projects respectively), followed by news content (5 projects), then tourism, environmental and developmental content (with two projects each) and science comes at the bottom of the list with one project. These projects include archives, digital libraries, manuscripts and important books, such as Description of Egypt, newspaper issues, press articles, educational digital content and Al-Azhar's heritage content.⁴⁰

Digital content covers different areas. Several parties participate in its development, the most important of which is the Alexandria Library, which is taking the lead with the Ministry of Communications in promoting this content

Box (C.2-4): Selected examples of Egyptian initiatives to enrich Arabic digital content

Arabic digital content, how to promote and develop it and identify the challenges facing its growth are among the priorities of the strategy of the Ministry of Communications and Information Technology, and the plans of ministries and relevant government bodies, to catch up with knowledge advancement by providing a rich, value-added Arabic digital content. In the last ten years, the Ministry of Communications and Information Technology and several relevant ministries and government bodies have adopted a number of projects and initiatives that can be included, when classified, under a national program aimed at enriching Arabic digital content. Among the most important Egyptian initiatives in enriching Arabic digital content are the following:

- Egypt's pioneering experience in modernizing the education process, through the "Knowledge Bank" (the largest digital library in the world, which was launched in January 2016 to make all knowledge, educational

and research content produced by major global publishing houses freely available to all citizens inside Egyptian country). It contains two main portals, each of which is divided into many sub-portals, to form one of the largest digital libraries and electronic knowledge centres in the world. The Egyptian Ministries of Antiquities and of Communications and Information Technology have signed a cooperation agreement to launch the “Egyptian Digital Cultural Content Portal” on the Internet and make it available to the world in digital form, with the aim of spreading the rich Egyptian culture and maintaining its leadership.⁴¹

- The Centre for Documentation of Cultural and Natural Heritage (CULTNAT) in the Alexandria Library has completed documenting the Egyptian heritage in cooperation with the Egyptian Ministry of Communications. The Council of Arab Communications Ministers has adopted a regional project for documenting the world heritage, based on the work of the Centre as its nucleus.⁴²
- The educational channel of the Egyptian Knowledge Bank: Discovery Education is broadcasting its new channel on the Knowledge Bank website. It is a channel directed to all teachers and students in pre-university education.
- The Professional Development Program for Teachers⁴³: The project is presented by “Discovery Education” in partnership with the Specialized Council for Education and Scientific Research. It aims to train and qualify teachers and principals to acquire the necessary skills to create an interactive work environment inside and outside the classroom and to provide students with communication, teamwork, as well as critical thinking and innovation skills.

Media, information technology and the Arabic language

the challenges of competition with other languages.

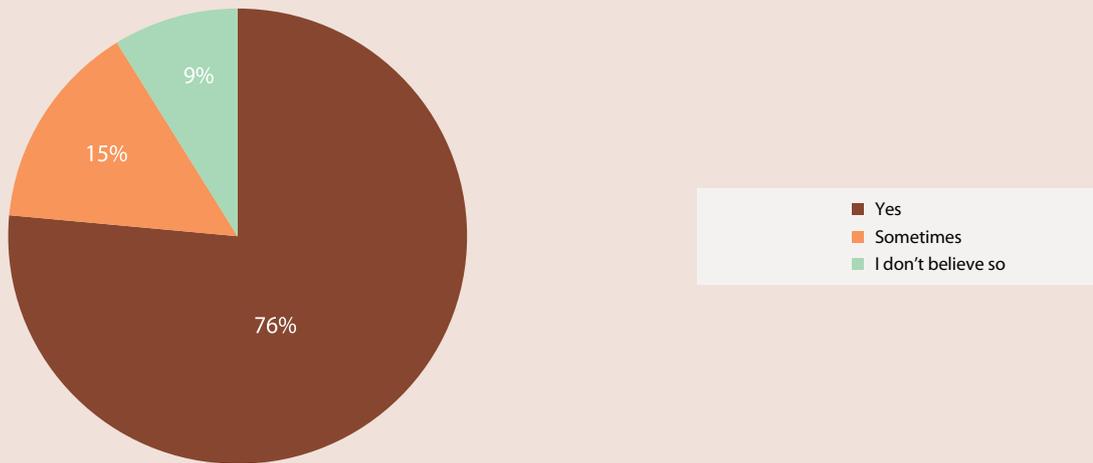
Media has entered every home; it could - if it used the Arabic language correctly - introduce the language to the souls and minds of individuals

While digital content is developing in Egypt as we have described, we find that the way of dealing with the Arabic language in mass communication, television or radio broadcasting, or through advertisements, leads to further deterioration of the language and undermines its ability to compete with other languages. The use of the Arabic language in mass communication is a basic requirement for supporting the language and making it capable of facing the challenges of the times. Since media has entered every home, it could - if it used the Arabic language correctly - introduce the language to the souls and minds of individuals and make it a strong language, being able to protect itself from the dominance of the vernacular, as well as

However, the reality indicates the opposite in many cases. Media outlets widely promote vernaculars, whether in shows, series and even cultural and educational programs and news. In the context of the in-depth interviews that took place in the course of preparing for this report, one of the media experts expressed what he calls the absence of the Arabic language in the media or the demolition of Arabic in the media. He pointed out that the reasons for this situation lie in the lack of awareness of the importance of the Classical Arabic language or appreciating its role in preserving the nation’s personality, dignity, identity and unity. There are also reasons related to the increasing use of Internet, which has led to weakening

Figure (C.2-3): Extent of the contribution of the media in developing the Arabic language

Can the media contribute to developing the Arabic language?



Source: The results of the questionnaire prepared within the framework of the case study.

the Arabic language. Why? Because the language of Internet is mostly English or other languages... Furthermore, we have another problem related to the media, which is the spread of some private satellite channels that have negatively affected the Arabic language because of their use of the vernacular, and even vulgar terms in some cases, in drama and in advertisements.

Enabling environments

Enabling environments are defined as the conditions of incubation and support that help the immersion in knowledge society. This definition is based on a broad concept of enabling environments that can be replaced by the concept of the cultural and social context, which is supposed to constitute the broader incubating environment for all policies aiming to

access knowledge society. Enabling environments are particularly important in the Arab world, whose indicators in this aspect are low. For example, the Global Knowledge Report reveals a decline in the enabling environment indicator in Egypt, as it ranked 118th out of 134 countries,⁴⁴ in 2018 despite its progress in several areas.

Economic environment

The international and local development discourse is currently striving to emphasize the need to catch up with the changes of the times, and the importance of achieving knowledge society. Knowledge is the main engine capable of adding value to economic production through the applications of technology and new ideas, both in the form of inventions or new applications to

The international and local development discourse is currently striving to emphasize the need to catch up with the changes of the times and the importance of achieving knowledge society

Box (C.2-5): Knowledge in Egypt Vision 2030

The “Egypt Vision 2030” referred to the knowledge society, emphasizing in the third pillar - knowledge, innovation and scientific research - that *“by 2030, Egypt will become a creative, innovative and productive society for science, technology and knowledge, characterized by an integrated system that ensures the developmental value of innovation and knowledge, as well as links knowledge applications and innovation outputs with national goals and challenges”*.

Source: Sustainable Development Strategy: Egypt Vision 2030 (knowledge, innovation and scientific research pillar).

There is a strong trend on making these new cities and universities smart and a tangible interest in education issues by introducing a new strategy for its development, while encouraging talents in all fields

make a change in all markets and sectors. The knowledge economy is a pivotal tool for measuring the state’s ability to acquire the means of progress and the necessary ingredients for the success of development plans and programs. The traditional assets of the economy (land, labour and capital) are no longer the only effective ones; the cognitive dimensions of technical knowledge, culture, creativity, innovation, artificial intelligence and information have been added to them. Indeed, these elements have currently become more important than the traditional.⁴⁵

Increasing economic development in societies benefits the progress in various fields of knowledge. On the other hand, knowledge is an essential component of economic development and growth. Also, economic development greatly affects the possibilities of relying on ICT, and the development of human capabilities, especially in terms of creativity and innovation. It also helps improve educational performance in schools and universities, thus proceeding to achieve the highest levels of quality in the educational process.

Egypt has endeavoured to develop a comprehensive strategy for development (2030), in which both the economic and knowledge aspects occupy an important position. The adaptive policies during the past two years have led to more economic stability that enabled the state to advance in the development plan to implement major projects, such as the New Capital, developing the Suez Canal area, developing gas and oil fields, establishing a sophisticated network of roads, enhancing the various sectors of education, health, and housing and founding a number of new universities. Although these policies have not yet fully borne fruit, they will definitely have an effective contribution to Egypt’s access to knowledge society because there are a strong trend on making these new cities and universities smart and a tangible interest in education issues by introducing a new strategy for its development, while encouraging talents in all fields. This was clearly reflected in the national initiative that has been launched to discover talents. Undoubtedly, further development in this field will improve Egypt’s position on the indicators of knowledge society, and will enable attention to be focused on science, education and the Arabic language.

Political and legislative frameworks

At the beginning of this report, we presented the constitutional and legal frameworks that protect the Arabic language, and here, we stress the importance of legislation since it is the environment incubating knowledge society and establishing its legitimacy. The Egyptian Constitution affirmed the importance of education, as Articles 19-25 of the 2014 Constitution stipulates that education is a right for all Egyptians, and the state is

committed to providing it in accordance with international quality standards, while indicating to allocate no less than 4% of the gross national product to education spending. The articles of the Constitution also focused on the Arabic language, religious education and national history in all its stages as basic subjects in pre-university education. The state is constitutionally obligated to develop a comprehensive plan to eradicate spelling and digital illiteracy (see the Constitution of the Arab Republic of Egypt, 2014, Articles 19-25).

The telecommunications sector, whose general strategy states the importance of building a knowledge society, as we mentioned above, has tended to promulgate a package of laws aimed at achieving digital inclusion and protecting information, such as the anti-cybercrime law of 2018, the law on electronic signature of 2004, the intellectual property law of 2002 and the law on land transport services for passengers using information technology of 2018, as well as preparing a draft law for data and privacy protection and another for the protection of the Arabic language.

The family: the most important enabling environment

The family is the most important enabling environment. It is the institution that plays a major role in transmitting culture to new generations by contributing to the process of socialization. It is the main carrier of language, as the child learns his first words within the family and continues to develop words and sentences until he is able to communicate linguistically with others. The 2014 Arab Knowledge Report emphasized that language is the incubator through which the culture of the

community is transmitted to its successive generations, and that preserving the language means preserving the identity of the community.

In fact, the family, like other institutions, has been exposed to destructive influences that have made it less influential in the processes of socialization. The family has become subject to many sources of disintegration due to general conditions, such as excessive modernization and development in the means of communication or special circumstances, such as excessive reliance on servants or migration of the head of the family.⁴⁶ Undoubtedly, this contradictory situation between the role entrusted to the family in caring for young people and transmitting culture on one hand, and the threats and forms of disintegration it is exposed to on the other hand, affects it as an enabling environment for knowledge society and for the status of the Arabic language therein. The participants in the focus group discussion held in the context of preparing for this report, in the presence of more than thirty experts and specialists, stressed that the Egyptian family's return to use the Arabic language is of a great importance, as it is the language that incubates culture and confirms identity and enables its children to open up to other languages while mastering their mother Arabic tongue. (Figure C.2-4).

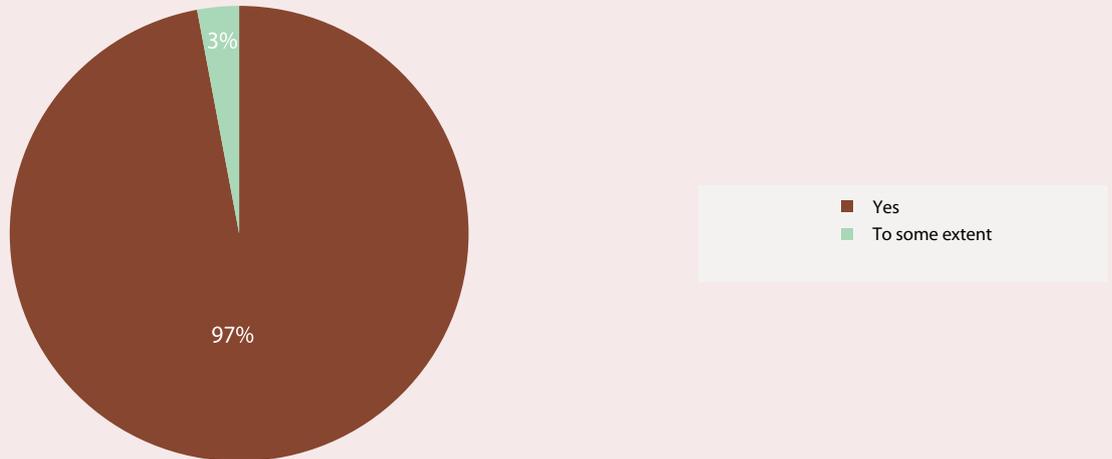
Civil society

Civil society is considered one of the most important supportive environments, especially since it represents the backbone that stands in a middle position between the official bodies of states and the citizens. It consists of voluntary efforts made by citizens

The family is the most important enabling environment. It is the institution that plays a major role in transmitting culture to new generations by contributing to the process of socialization. It is the main carrier of language

Figure (C.2-4): Role of the family and society in linguistic upbringing, developing the linguistic repertoire and linking with the Arab culture

Do you think that the family has a great importance in the linguistic upbringing of the child?



Source: The results of the questionnaire prepared within the framework of the case study.

Figure (C.2-5): Use of Standard Classical Arabic

Do you feel comfortable using the Arabic language verbally or in writing?



Source: The results of the questionnaire prepared within the framework of the case study.

through Non-Governmental Organizations that are intended to serve specific purposes. Civil society in Egypt consists of many NGOs that work in different fields. However, quite a few of these organizations suffer from a lack of funding and weak capacities, which necessitates providing additional support to this sector to play its required role in supporting the development and knowledge process in Egypt.

Nevertheless, civil society plays a direct role in education, as it contributes to the establishment of civil associations that make education and the eradication of illiteracy one of their most important goals. Some of them seek to establish the so-called community schools in remote areas where children (and especially females) are deprived of education. Schools of this type have been opened, accommodating tens of thousands of pupils.

Furthermore, there is a tendency that timidly manifests itself within civil society with regard to paying attention to the Arabic language, as in the efforts of the Egyptian Society of Language Engineering, the Egyptian Society for the Arabization of Science, the 'Reading Forum' at the Faculty of Arts, Cairo University and the Kalila wa-Dimna Association.

General cultural framework

General culture is the weakest element in supportive environments. The recent changes society has witnessed have not helped establish a modern culture that values creativity, innovation and achievement. Cultural and other components do not represent general cultural frameworks as opposed to traditional cultural frameworks, such

as patriarchy and masculinity. Rather, some aspects of modern culture have adversely been acquired, which may lead to obstructing the role that culture plays in embracing and preserving language. This includes, for example, the preference for foreign schools over Egyptian schools, the preference for learning a foreign language while neglecting Arabic and the development of rigid stereotypes about the Arabic language and its teachers. This culture interacts with de facto policies produced by the state to support parallel education in foreign languages, resulting in a state of neglect of the Arabic language.

In fact, some of the cultural systems prevalent in society have invaded the Arabic language. About a quarter of the respondents to the questionnaire distributed in the course of preparing this study reported that they just feel "somewhat" comfortable when using Standard Arabic. However, the fact that three-quarters of the participants expressed their comfort in using Standard Arabic may indicate that there is still hope for preserving the Arabic language in Egypt.

Conclusions and Recommendations for Activating the Role of the Arabic Language in Creating Knowledge Societies

The case study in Egypt showed that linguistic strength is an integral part of civilizational strength and comprehensive development. There is no renaissance or development, whether at the social, economic, cultural or scientific levels, without linguistic development according to established principles and rules that are open to the developments of the era. Hence, the Arabic language constitutes a

General culture is the weakest element in supportive environments. The recent changes society has witnessed have not helped establish a modern culture that values creativity, innovation and achievement

Despite the efforts made to computerize the Arabic language and introduce it to the world of technology, this path is still in its infancy

The case study indicated that production in the Arabic language is still confined mainly to social and human sciences

The case study emphasized that the future of the Arabic language is linked to its increasing and serious use in global information networks

prominent preoccupation in the societal project in Egypt. This is reflected in the apparent attention paid to it in the state's political and developmental discourse and in numerous documents, foremost of which are the constitution and laws, in the strategic vision for sustainable development and in the national plan for education that attempts to make Arabic the main teaching language in all scientific fields.

The study showed that the first challenge facing the Arabic language and its role in building knowledge society is the great contradiction between the constitutional and legal texts, as well as the political, developmental and cultural discourse on one hand, and what is happening on the ground on the other hand. In education, we notice an expansion of programs, foreign schools and private schools that teach natural sciences in other languages; in media, we find a linguistic hybridization that negatively affects the use of the Arabic language; in the family sphere, we observe the spread of a culture that favours young children to learn other languages while neglecting the Arabic language and considers the Arabic language teachers as being inferior than others.

Despite the efforts made to computerize the Arabic language and introduce it to the world of technology, this path is still in its infancy. The technological infrastructure is not fully available, and exerted efforts to arabize concepts and terms, as well as develop dictionaries and thesauruses are still insufficient, in addition to the significant shortage of specialists interested in Arabic language computing issues in the engineering and technical field and the incomplete efforts made by Arab start-ups in this regard.

The case study indicated that production in the Arabic language is still confined mainly to social and human sciences; there is an unequal division between natural and applied sciences on one hand, and social and human sciences on the other. It is expected that this gap will persist in the future in light of the Egyptian universities' policies that encourage publishing in foreign languages and the inability of academic papers and works published in Arabic to reach the global level.

Despite the consensus of experts that the Arabic language can incubate the creativity and innovation processes, and be effective in the world of technology and industry, there is still a long way to go in this respect. This is due to the economic dependency in the commercial and industrial fields, which makes the use of applications in foreign languages more preferable and makes communication and exchange within commercial and industrial systems easier if it is carried out in other languages.

The study revealed that despite the large number of publications and translations in Arabic in the cultural, artistic and literary field, the rates in Egypt are still below the world averages, whether in academic publication, literary cultural publication or translation. The same applies to Arabic digital content and technological capabilities to use and benefit from.

The case study emphasized that the future of the Arabic language is linked to its increasing and serious use in global information networks, which requires: (a) making efforts at both the linguistic and IT levels, so that the Arabic language becomes a means of transmitting information with advanced technologies;

(b) making Arabic a productive language for science to occupy the high position it deserves among the languages of the world. Qualifying the Arabic language to cope with the challenges of globalization is mainly based on dealing with it as a living organism capable of development and on consolidating the relationship between the process of language development, reform, improvement and renewal, and the changes experienced by society; (c) working on forming a scientific and research base that would be the starting point for participating in technical progress, so that Egypt becomes a participant in technology-making, rather than just a consumer in terms of terminology and products.

Recommendations

The recommendations of this study should not be so general, which may make their application difficult and remain, like many others, on paper without seeing the light of day forever. Therefore, we will divide the recommendations we have concluded through research, workshops and in-depth interviews into general and procedural recommendations. General recommendations will include general arrangements that create or stimulate the context or link its linguistic components with social, economic and cultural components. The procedural recommendations, on the other hand, will relate to some initiatives or practical solutions that can transform the Arabic language into a language that incubates knowledge and science, a tool for quality education and a vehicle for innovation and creativity, so that it becomes an integral part in the processes of knowledge production, localization and use. It is understood, of course, that the procedural

recommendations are different in their time range and are distributed over the short, medium and long terms. However, the general recommendations remain continuous frameworks that are not tied to a specific period. We will present below the general recommendations, followed by the procedural recommendations, distributed according to the components of knowledge society (production, transfer, localization and use), and we will end by displaying them in a matrix according to their time range.

General Recommendations

- Developing a national plan to be adopted by the state to advance the conditions of the Arabic language in Egypt.
- Enforcing teaching all scientific subjects and disciplines in schools and universities in the Arabic language and paying attention, at the same time, to teaching foreign languages.
- Maximizing the efforts exerted in language engineering and computerization, developing communicative capabilities in the Arabic language, regulating its digital content, and enhancing cooperation and coordination between the international companies' efforts and local efforts, not to mention, providing great support to entrepreneurs in this field.
- Being open to recent developments in the world, especially in the fields of science, technology and modern linguistics, as well as seeking to assimilate, transfer and make wide use of the results of all these sciences in enriching the Arabic language and

It is necessary to develop a national to be adopted by the state to advance the conditions of the Arabic language in Egypt

linking it to the movement of human thought, in addition to giving it a central role in the everyday discourse in houses of worship, public places, as well as public and private institutions.

- Raising awareness on the dangers of linguistic hybridization over identity and instilling a culture of pride in Arabic, verbally and in writing, theoretically and practically, in addition to, working on designing extra-curricular activities in schools to inculcate a passion for the Arabic language, such as groups of poetry, story and theater, and working on setting aside a day for speaking in Standard Classical Arabic during the school day, paying attention to school radio and training children in recitation skills.
- Developing simplified educational programs to facilitate learning Arabic for its native and non-native speakers, renewing the textbook to compete with the foreign one in form and content, changing the way the Arabic language is being taught in Egyptian schools and universities by focusing on induction and text analysis, instead of grammatical and morphological rules, which lead to alienate students from the Arabic language; making Arabic the language of education in all its different stages.
- Developing a national strategy to make the Egyptian media a strong platform to support the progress of the Arabic language, based on various factors, including reforming the educational system. The media must also be effective in this regard by refraining from spreading westernization and superficiality, urging the masses to pronounce the correct Arabic language, not drifting with improper linguistic behavior and creating programs that host experts and specialists to familiarize the audience with new language vocabulary and styles. Advertising agencies should take care of the linguistic aspect of advertisements. It is also assumed that films, serials and other foreign works must be accompanied by Arabic translation through dubbing or subtitling using a correct Arabic language.
- Emphasizing the importance of the child having a family upbringing that helps develop the values of rationality and stimulates creativity and diligence; and this leads to providing him with a mental ground prepared for the assimilation of science and knowledge, and the acquisition of proper cognitive behaviors that make him a student who loves and strives to obtain knowledge, then a citizen capable of adapting to his society and actively participating in public life.

Procedural Recommendations

Procedural recommendations on knowledge production

- Working on transforming Egyptian scientific journals into international journals by including them in the international databases.
- Establishing scientific departments in engineering colleges for computing the Arabic language and integrating it into the world of digitization.
- Setting a time plan to be implemented in stages by Egyptian universities to translate Arabic scientific, intellectual and literary productions into other languages.
- Motivating Egyptian universities to publish scientific research in the field of natural and applied sciences in Arabic, then republish them in other languages. Requiring the scientific promotions committees to accept research written in Arabic in various scientific fields.
- Introducing the Arabic language as a compulsory course in all academic disciplines in Egyptian universities.
- Granting awards to researchers in the natural sciences field who submit their research reports and patents in Arabic or in both Arabic and English.
- Stimulating innovation and creativity through the expansion of scientific and cultural awards and effective contact with international centres of excellence.

Procedural recommendations on the transfer and localization of knowledge

- Developing a large Arabic lexicon, administered by an independent body, or the Academy of the Arabic Language, that collects the results of previous efforts and continuously adds to them, as well as ensuring to provide it in a digitized form.
- Working to expedite the issuance of the Arabic language protection law developed by the Academy of the Arabic Language in Cairo.
- Working on developing a national translation plan, establishing a body to train translators at the National Translation Centre and allocating sufficient financial resources for that.
- Creating a database of various studies that dealt with the Arabic language.
- Increasing the support to the National Centre for Translation to enable it to work on translating the most important Arabic cultural and academic works into foreign languages.
- Offering material and symbolic incentives to educational and university institutions that are exerting great efforts in the field of science arabization and working to make Arabic the language of education and science in all fields.

It is recommended to introduce the Arabic language as a compulsory course in all academic disciplines in Egyptian universities

It is recommended to work on issuing more legislations that establish trust in the e-commerce field

Procedural recommendations on the use of knowledge

- Writing all advertisements, signs and street names in a correct Arabic language.
 - Necessity of writing data of all commodities - whether produced inside or outside Egypt - in Arabic.
 - Using the Arabic language in all banknotes, coins, stamps, badges, medals, certificates, equivalencies and endorsements.
 - Working to lay down an Arab media code of honour that regulates the uses of the sound Arabic language and applying symbolic and material penalties for those who misuse or denigrate it.
- Working to complete the e-government project through the expansion of e-management, e-communication and e-services.
 - Working to issue more legislations that establish trust in the field of e-commerce.
 - Working to encourage major and international companies to use the Arabic language as a language of work and communication.
 - Requiring the necessity to use the Arabic language in all fora and fields, as well as providing an Arabic translation when foreign languages are used.

Time plan for the mechanisms of activating the dimensions of knowledge society (production - transfer and localization - use)			
Time Range	To be implemented on the short term (within three years)	To be implemented on the long term (within five years)	To be implemented on the long term (within ten years)
Knowledge Production	<ul style="list-style-type: none"> Working on transforming the Egyptian scientific journals into international journals by including them in the international databases. Introducing the Arabic language as a compulsory course in all academic disciplines in Egyptian universities. 	<ul style="list-style-type: none"> Establishing scientific departments in engineering colleges for computing the Arabic language and integrating it into the world of digitization. Setting a time plan to be implemented in stages by Egyptian universities to translate Arabic scientific, intellectual and literary productions into other languages. Motivating Egyptian universities to publish scientific research in the field of natural and applied sciences in Arabic, then republish them in other languages. Requiring the scientific committees for promotions to accept research written in Arabic in various scientific fields. 	<ul style="list-style-type: none"> Granting awards to researchers in the natural sciences field who submit their research reports and patents in Arabic or in both Arabic and English. Stimulating innovation and creativity through the expansion of scientific and cultural awards and effective contact with international centers of excellence.
Transfer and Localization of Knowledge	<ul style="list-style-type: none"> Working to expedite the issuance of the Arabic language protection law developed by the Academy of the Arabic Language in Cairo. Working on developing a national translation plan, establishing a body to train translators at the National Translation Centre and allocating sufficient financial resources for that. 	<ul style="list-style-type: none"> Developing a large Arabic lexicon, administered by an independent body or the Academy of the Arabic Language that collects the results of previous efforts and continuously adds to them, as well as ensuring to provide it in a digitized form. Increasing the support to the National Centre for Translation to enable it to work on translating the most important Arabic cultural and academic works into foreign languages. 	<ul style="list-style-type: none"> Creating a database of various studies that dealt with the Arabic language. Offering material and symbolic incentives to educational and university institutions that are exerting great efforts in the field of arabization of science and working to make Arabic the language of education and science in all fields.
Use of Knowledge	<ul style="list-style-type: none"> Working to lay down an Arab media code of honor that regulates the uses of the sound Arabic language in the Arab media and applying symbolic and material penalties for those who misuse or denigrate it. 	<ul style="list-style-type: none"> Requiring the necessity to use the Arabic language in all forums and fields and providing an Arabic translation when foreign languages are used. Necessity of writing all advertisements, signs and street names in a correct Arabic language. Requiring writing data of all commodities - whether produced inside or outside Egypt - in Arabic. Working to complete the e-government project through the expansion of e-management, e-communication and e-services. 	<ul style="list-style-type: none"> Using the Arabic language in all banknotes, coins, stamps, badges, medals, certificates, equivalencies and endorsements. Working to issue more legislations that establish trust in the field of e-commerce. Working to encourage major and international companies to use the Arabic language as a language of work and communication.

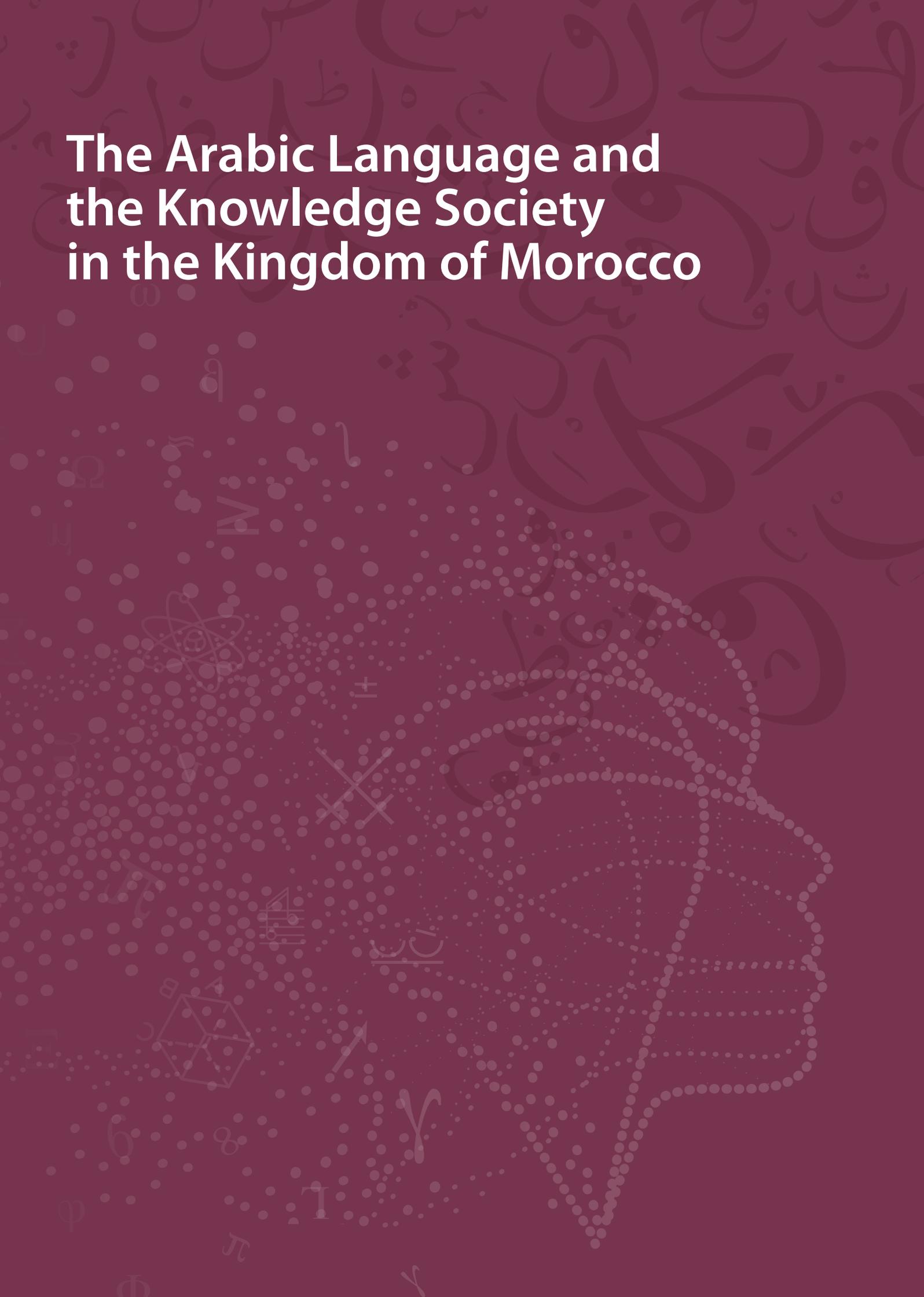
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The Arabic Language and the Knowledge Society in the Kingdom of Morocco





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Introduction

Language is the stronghold of human thought and his vast space for contemplation; it is the hedge protecting oneself and one's identity and a proof-of-existence for any civilization. Language is the strongest expression of human culture, for it represents a unique symbolic system, marked by a duality that integrates the physical structure of sound with the representative structure of thought. It strengthens the link between the heritage of humankind's past and present and stretches to touch the promise of their future. Language is a record for the history of peoples and their epics, as well as a means of expression, communication and connection between the people of one nation across the generations and over the distances. For the Arab and Islamic worlds, the Arabic language is a highly symbolic cultural determinant, as it bears a heavenly message that has brought light and guidance for the whole of humanity. It is the embodiment of a heritage, a history, a civilization and an identity. During the Middle Ages, Arabic was the instrument of science localization, as well as its production and dissemination to the four corners of the globe. Arab and Muslim scholars excelled in several fields of knowledge, such as philosophy, medicine, mathematics, chemistry, astronomy, nature, tafsir (Exegesis), jurisprudence, theology and other domains of science, which were expressed in Arabic in the finest manner; and what an expression it was, a wellspring of knowledge and culture, from which the West sipped and equipped itself.

It has become undeniable that the progress and development of nations is conditional upon the preservation of their language, as well as its evolution and ability to assimilate all scientific, knowledge and technological innovations. Undoubtedly, the Arabic language today, under siege and confinement by globalization, still yearns to regain its proper status and stature. A great interest has emerged in teaching Arabic in the new curricula, not only in the Arab world, but also across its borders to reach several countries of the world.

In fact, the Arabic language holds a special status, as well as a religious dimension for 1.9 billion Muslims approximately. More than four hundred million Arabic speakers throughout the Arab region speak it, and it is the official language of twenty-two Arab states.

If this is the case, what is then the status of the Arabic language in Morocco? To what extent was it able to free itself from the shackles of colonialism, which attempted to expunge and replace it with its own language? Moreover, to what degree has the Arabic language been able to assume its scientific, economic and social roles, to become a means for practical, knowledge, cultural and civilizational communication and an immune bridge for the transfer of knowledge, its localisation and production and to access the knowledge society and govern the knowledge economy?

Language is the stronghold of human thought and his vast space for contemplation; it is the hedge protecting oneself and one's identity and a proof-of-existence for any civilization

The Arabic language today, under siege and confinement by globalization, still yearns to regain its proper status and stature

The Reality of the Arabic Language in Morocco

The linguistic mosaic in Morocco

The phenomenon of multilingualism in Morocco is not a product of the modern era. It is rather deeply rooted in the past. Because of its geo-strategic location, overlooking the European continent to the north and extending deep in Africa to the south, it has always been coveted by invaders. Consequently, the Amazigh language, spoken by the first inhabitants of Morocco, was exposed to the languages and cultures of multiple peoples and civilizations. The Phoenician language was the dominant language, as attested by travellers who found difficulty in communicating with the inhabitants of North Africa. Then, the Phoenician language evolved and was replaced by the Carthaginian language, in and of itself a distortion of the Phoenician language. With the occupation of the Roman Empire, the Latin language was imposed on the Moroccans, yet it remained the language of the elite, and the Romans continued to employ the Carthaginian language in their dealings with the Moroccans. Thus, a duality between the Carthaginian language, the local Berber dialects and Latin as the official language persisted until the Arabs came and brought the Arabic language, thereupon, Arabic became the dominant language in Morocco with its religious and cultural dimensions. Evidently, this was reflected in the Maghreb intellectual and cultural movement, considering that the formulation tool, i.e. the visualization tool, changes according to the times, and that dualities hinder the movement of thought and its potential for creativity.²

Furthermore, the start of the French colonization at the beginning of the last century exacerbated the linguistic dilemma in Morocco. With its economic and cultural supremacy, the colonizer imposed its language and firmly established a foothold for the French language, which became the overall language of administration and the language of modern education, especially in the fields of science, technology and technical training. Moreover, the colonizer endeavoured to marginalize and edge out the Arabic language.³

However, Moroccans clung to the language of their identity, in order to surmount the crisis in which the French coloniser sought to trap them in, and established private national schools (the Free Schools), to teach in Arabic language. The *“founders of this movement were reformists, and they were seeking to combat the serial of cultural alienation waged by the protectorate regime against Moroccans, so they established schools that taught the Arab-Islamic culture and modern scientific courses employing state-of-the-art pedagogical techniques.”*⁴ Upon attaining independence in 1956, the four famous principles guiding national policy were adopted by national consensus: Arabization, generalization, unification and Moroccanization. The cultural scene in Morocco has witnessed a continued contest between supporters of Arabization and those who cling to French as a language of modernization and modernity. This was evident in the hesitation and political vacillation of the state and its semi-neutrality against siding with one party or the other. However, the balance of power was always reflected in the Ministry of Education’s state of reality, which was known to be reluctant in its choices of teaching languages and languages

The French colonization at the beginning of the last century exacerbated the linguistic dilemma in Morocco because of its economic and cultural supremacy

The cultural scene in Morocco has witnessed a continued contest between supporters of Arabization and those who cling to French as a language of modernization and modernity

taught in schools, despite the clarity of the constitution in this matter. There is a party that advocates for Arabic on the basis of identity and another that adopts French with openness as a justification. Although the directions of the Strategic Vision 2015-2030 confirm that the Arabic language is the basic teaching language, this has not been implemented as is required.

The issue of the Arabic language and its reality in Morocco

The Arabic language is experiencing a set of thorny dualities in the Moroccan society that muddles its linguistic use. Several linguistic formats exist, and they range from the contemporary classical to the traditional, then to a hybrid format that is neither traditional nor modern. Moroccan society features several dialects as well, and they vary according to the geographical regions. These issues are joined by the deep and direct influence of foreign languages (French in most cities and Spanish in the cities of northern Morocco, in particular). This influence especially affects students who think scientifically with the foreign language in which they studied at university (science, engineering, informatics, etc.), and which they use in their academic and professional lives, while using the vernacular in their daily lives. In parallel, the French language enjoys a strong presence in education alongside the Arabic language, which influences some Moroccans, including professors and students, to inject foreign vocabulary into their conversation in Standard Arabic, Darija (Slang language) or Tamazight. This leads to the use of a language that transcends linguistic entanglement into a hybrid language that has no rules and is not subject to a clearly defined format.⁵

The Arabic language between a proclaimed principle and an actual practice

The constants of discourse in Morocco define the Arabic language as an official language according to the constitution; however, things are different in practice. Morocco has witnessed a heated linguistic debate for more than two decades, that is, since the royal speech on 20 August 1994, which treated the issue of national languages, foreign languages and local dialects. The royal speech in the city of Ajdir in 2001 authorized the establishment of the Royal Institute for Amazigh Culture and made Tamazight one of the languages to be taught within the education system. Chapter 5 of the 2011 constitution stipulated the adoption of two official languages; Arabic and Tamazight. This was a major shift in language policy, especially regarding public administration, which now adopts two languages instead of one. Despite the presence of two official languages in Morocco, French and the local dialects continued to crowd out the two official languages in every domain, including education, media and the various public facilities. This has prompted some to question the extent to which the texts and legislation regulating language policy in Morocco are reflected on the ground.⁶

The language of the media in Morocco, between theoretical legislation and actual practice

Language is the nerve centre of the media with which it thrives, especially if it is sound and sophisticated. Hence, the role media can play in spreading the Arabic language across the world should it be competent and capable.

The constants of discourse in Morocco define the Arabic language as an official language according to the constitution; however, things are different in practice

Media, through its multiple channels, has helped spread the Arabic language in an unprecedented manner, which is a positive aspect

Media is expected to promote the Arabic language in the Moroccan society, as well as uphold its integrity and streamline its syntax and lexis in everything that is broadcasted

Media, through its multiple channels, has helped spread the Arabic language in an unprecedented manner, which is a positive aspect. However, its improper use in the media transformed Arabic into a hybrid language. Linguistic integrity is almost absent in a large percentage of the media pieces, which are riddled with linguistic, grammatical and morphological errors. Moreover, some channels resort to the use of foreign vocabulary in the discourse directed at the recipient, with the prevalence of vernacular in several programs that deal with different issues. This is taking place despite the fact that the Arabic language gained an important position in the new constitution, adopted in 2011. Chapter 5 of the 2011 constitution stipulated that the two official languages are Arabic and Tamazight, and pledged to protect and develop them. This is in addition to the texts that define the linguistic landscape through the issuance of the conditions and specifications constituting the body of the legal texts that regulate public and private television and radio channels.

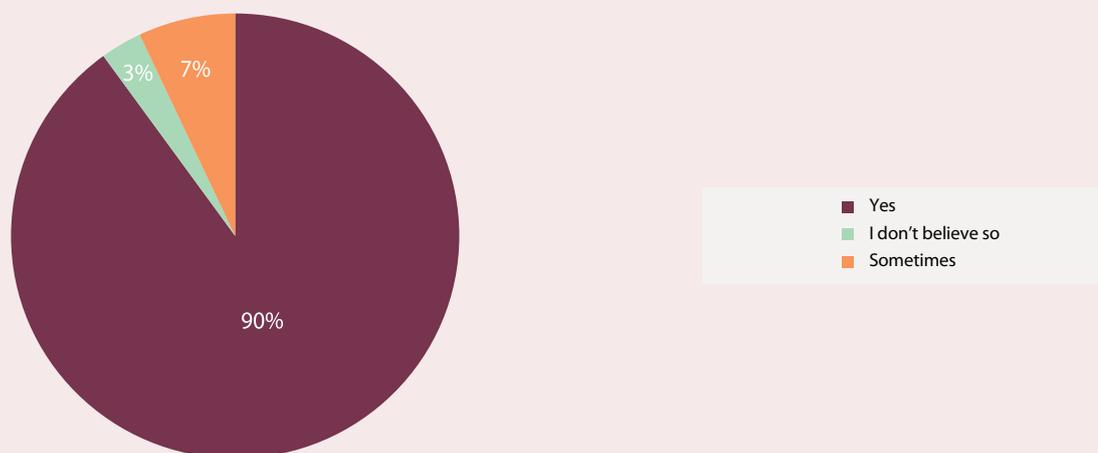
The linguistic scene in the media went through two main stages that chronicle the language policy in Morocco during the last two decades. The first stage was the promulgation of the Audiovisual Communication Act No. 03-77 and the second was the release of the specifications and conditions in 2012.⁷ What caused confusion and disarray in the language of the media pieces being broadcasted by some channels, is that the 2003 Act, promulgated before the adoption of the 2011 constitution, was clear in demarcating Arabic as the sole official language, and it has not been updated to accommodate the amended

2011 constitution. The audio-visual media was defined in Paragraph 11 of Article 1, Section 1 of this law as follows: *“Any audio-visual production that is in Arabic, Tamazight, dialects or any other languages, is considered a national audio-visual production.”* Through this text, it is clear that the legislator has not defined the language in which the media productions should be broadcasted, leaving the field open for media organizations to broadcast their programs in any language they wish. This suggests that the text of the constitution is nothing more than a dead letter, particularly in this field. Liberating the media sector from any linguistic restrictions may lead to dire consequences for the official language of the country, and it may open the door wide for its dialects to crowd it out and for foreign languages to replace it in several fields.⁸ The legislator went further than that regarding the publicity, they licenced broadcasting *“in Arabic, Tamazight or any Moroccan dialect if it was targeting the Moroccan public; however, other languages may be used [...] if it proved difficult to broadcast this parlance in Arabic, Tamazight or the Moroccan dialects, due to the technical concepts it contains.”*⁹

In short, the media is expected to promote the Arabic language in the Moroccan society, as well as uphold its integrity and streamline its syntax, derivation and lexicon in everything that is broadcasted. 90% of the participants in the debate session, held in preparation of the case study, agreed that the media has the ability to develop the Arabic language and elevate it to the position it deserves (Figure C. 3-1).¹⁰

Figure (C.3-1): Role of the media in advancing and developing the Arabic language

Can the media advance and develop the Arabic language?



Source: The results of the questionnaire prepared within the framework of the case study.

The issue of the Arabic language and the establishment of the Knowledge Society in Morocco

It is undeniable that language is connected to development, as it expresses the thinking that leads to action. Hence, the question arises about the status of the Arabic language, its role in Morocco today and how to make it an engine that drives effective knowledge and progress, as well as an incubator for creativity and innovation in the different domains. As for the language that is not the mother tongue, it carries with it the awareness of the other and their understanding of life and humankind, and lacks one's sense of being, identity and nation. Therefore, the disruption and marginalization of the national language would shackle the efforts to achieve the desired development, considering that "when acquiring scientific and technical knowledge in a foreign language, it would be difficult to advance

the cultural level of the community.¹¹" Actual development can't be achieved in a society by a foreign language, but a few groups at best. As for those who do not speak the language, they are unable to effectively participate in the development process and are marginalized and excluded.

There is a close relationship between language and society. Consequently, mainstreaming the use of the national language would expand communication between the various strata of society, as it becomes the language of communication, work and production in its various forms. "Err who believes that the presence of foreign languages in the development projects is a component of development, and that learning the languages of developed countries will gain the ability to join their ranks in all walks of life. As holistic growth requires a single language [...] and there is no self-development within the framework of linguistic and cultural dependence."¹²

Mainstreaming the use of the national language would expand communication between the various strata of society, as it becomes the language of communication, work and production in its various forms

The wherewithal of advancing the Arabic language and making it the language of science, scientific research, administration and management in Morocco is only lacking in will, initiative and active implementation

Accordingly, it is indispensable to employ and promote the national language to achieve the desired development, and every disruption of its role would hinder development and create “developmental gaps” that a foreign language can never bridge. The exclusive use of the national language in technology will enable its propagation among ordinary people¹³, a point that was affirmed by the participants in the debate session that was organized during the preparation of this study.

On this basis, knowledge transfer, localization, production, dissemination and optimal usage are processes that require uniformity in the language of society, in order to enable communication between scientists and experts and the remaining segments of society. Many researchers believe in the necessity of Arabizing education in general, as it is the key to a cultural and intellectual renaissance, considering its importance in developing the intellectual abilities and honing the creative talents and its competencies.

Languages of teaching and teaching languages

The constituents for advancing the Arabic language and making it the language of science, scientific research, administration and management in Morocco are only lacking in will, initiative and active implementation, for you cannot swim without getting wet, as it is often said. Up to the 1970s, the language of teaching for a number of subjects in secondary school was Arabic, while scientific subjects, humanities and social sciences were taught in French prior to their Arabization in the 1970s and 1980s. The Arabization process was completed in a gradual

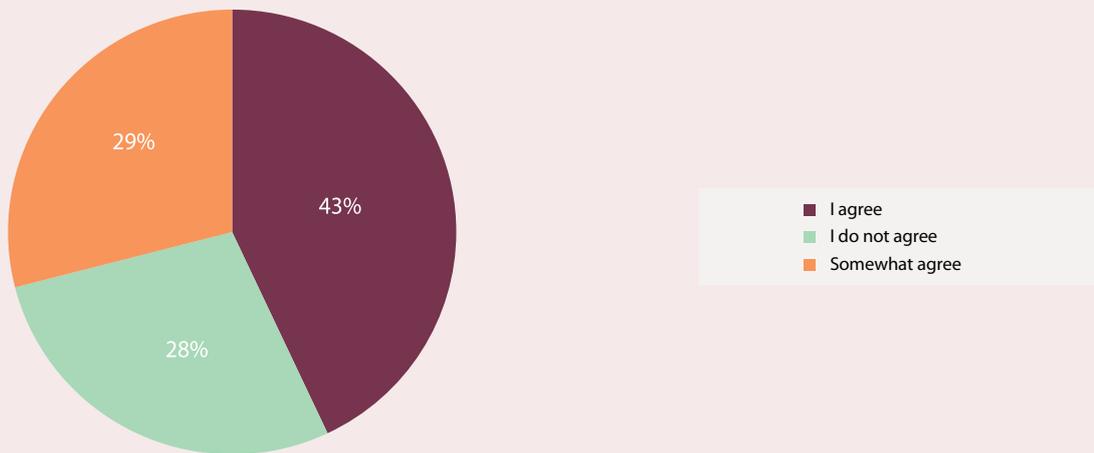
manner; (Philosophy 1973-1974, Sociology 1974-1975, Mathematics, Natural Science and Physics 1985-1989). However, it has stopped at the secondary education level without any objective rationale, leaving French as the teaching language for these scientific subjects in higher education to this date, which constitutes a thorny issue among a wide spectrum of the Moroccan society.

To make matters worse, reverting to French as the teaching language for science and mathematics eroded the gains made by Arabization since independence. On 16 July 2019, the Education, Culture and Communication Committee at the House of Representatives endorsed, by a majority, the draft framework law No. 17-51 related to the education, training and scientific research system. The media famously referred to the draft law as “Frenchizing education”, and it was adopted despite opposition, in particular, from two major parties that had weight in the parliament (namely, the Justice and Development Party and the Independence Party).

Article 31 of the framework law stipulates the necessity of “*implementing the principle of linguistic alternation, through the teaching of some subjects, in particular, scientific and technical, or some content or component thereof, in a foreign language or languages.*” The same article also provides for “*enabling the learner to master the two official languages, as well as foreign languages, especially in scientific and technical disciplines, taking into account the principles of equity and equal opportunities,*” also “*establishing linguistic pluralism in a gradual and a parallel manner with the aim of making a learner with a baccalaureate degree (secondary school graduate) fluent in*

Figure (C.3-2): Standardize Arabic as the teaching language

Do you agree to make Arabic the language of teaching in all subjects
(primary, secondary and university)?



Source: The results of the questionnaire prepared within the framework of the case study.

the Arabic language, able to communicate in Tamazight and is proficient in at least two foreign languages.”¹⁴

The framework law affirms “assigning priority to the functional role of the adopted languages in the school, which aims to consolidate the national identity and enable the learner to acquire knowledge and competencies, achieve openness to his local and global environment and ensure his economic, social, cultural and value integration.”¹⁵

The adoption of this law sparked criticism from several parties and associations that issued statements denouncing the law for adopting French as the sole language in teaching several subjects, instead of adopting other languages in teaching a number of subjects, such as English; even though, the draft law provides for teaching in foreign languages.¹⁶

With regards to making Arabic a teaching language for all subjects at Moroccan schools, the participants in the debate session held in preparation of the present report had different opinions on this issue. 43% of the participants agreed on making Arabic the teaching language for all subjects (from primary school to university), while 29% stated their agreement to some extent and 28% stated that they disagreed (Figure C.3-2).

The foreign language in Morocco, a bridge for the migration of the competencies

Evidently, the use of a foreign language in teaching and learning scientific and technical subjects would facilitate the brain drain in favour of the countries using the foreign language, providing them with the elite of the learned and the talented

“The use of a foreign language in teaching and learning scientific and technical subjects would facilitate the brain drain in favour of the countries of origin of the language”

France is the N°1 destination for the migrated Moroccan brains

Arabic is the main language in the fields of social and human sciences, Sharia and legal sciences, media and translation

from all walks of science, subsequently weakening the country and bankrupting it, in terms of culture and civilization. As *“there are close to 50,000 Moroccan students pursuing their studies abroad, not to mention more than 200,000 multidisciplinary professionals who decided to settle and work outside Morocco”*¹⁷, Morocco is losing large numbers of its human capacities and competencies which contribute to the progress of other countries. One study indicated that the rate of the Moroccan brain drains to Europe steadily increased in the period 2000-2010. It also revealed that 45% of the Arab Maghreb competencies that immigrated to Europe were Moroccan competencies¹⁸. Since the French language was the dominant teaching language for science and technology in Morocco, France is the N°1 destination for the migrated Moroccan brains; as it received more than five thousand Moroccan doctors and more than 52 thousand immigrants with a degree (baccalaureate +2). Generally speaking, France welcomed close to 139 thousand Moroccan competencies.¹⁹ Moreover, data released by the “Moroccan Federation of Information and Communication Technologies” reveal that, every year, approximately 8000 engineers and technicians specialised in the field of information technology graduate from Moroccan universities and institutes, 10% of whom migrate abroad despite the strong need for their talents in the Moroccan job market.²⁰ In spite of a few positive gains from the aforementioned migration, as is evidenced by the development in the aptitudes of the migrants and the valuable expertise they acquire by virtue of their involvement in the research centres there, the losses cannot be compared to what can be considered gains.

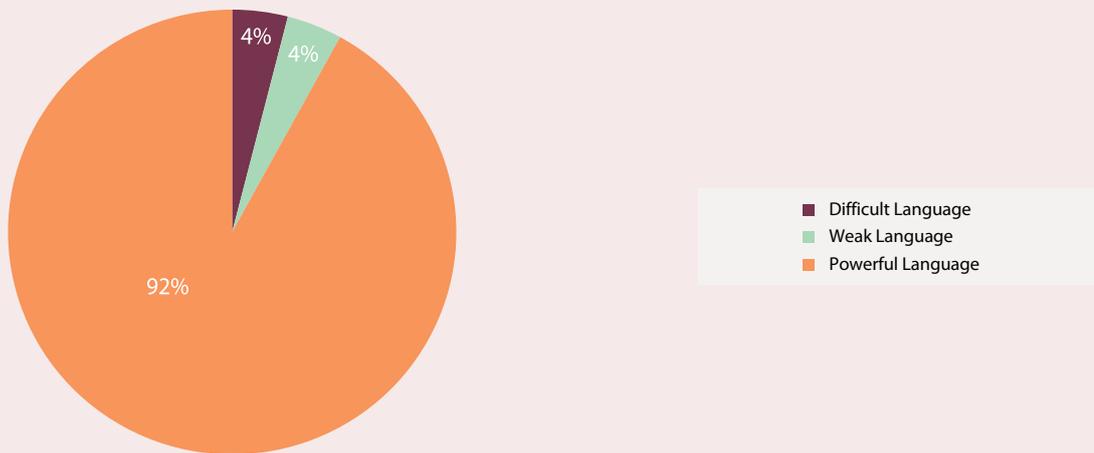
In 2008, the League of Arab States, with the support of the United Nations Population Fund, released a regional report on the Arab brain drain entitled *“Arab Labour Migration: Brain Drain or Brain Gain”*.²¹ The report illustrated that 54% of the Arab students studying abroad did not return to their countries of origin, and that Arab doctors represented 34% of the total number of doctors in the UK. Other studies reveal that approximately 75% of the Arab scientific competencies migrate to three Western destinations, in particular: the UK, the US and Canada.²²

To what extent does the Arabic language contribute to the production of knowledge in Morocco?

Arabic is the main language in the fields of social and human sciences, Sharia and legal sciences, media and translation. As for scientific research in exact sciences, technology, vocational training (i.e. technical education) and other related disciplines, namely, institutes and faculties of science, medicine, pharmacy, veterinary sciences, agriculture, energy, minerals, business, tourism, economics, mathematics and engineering, they are chiefly institutions for education, scientific research, production and innovation that adopted the French language. The majority of participants in the debate session that brought together a group of experts in the context of preparing the present study called for demanding the Arabization of all the subjects in education, parallel to promoting the learning of other languages, as they have a positive image of the Arabic language and consider it a capable language. The participants expressed this in the questionnaire, where 92% declared that Arabic is a capable language, while

Figure (C.3-3): Ability of the Arabic language to achieve society’s goals

How do you perceive the Arabic language?



Source: The results of the questionnaire prepared within the framework of the case study.

only 4% consider it a difficult language and another 4% believe it to be a weak language (See Figure C. 3-3).

This does not at all mean a call to be limited to learning Arabic and solely Arabic, for *“the more languages one speaks, the more benefits one reaps...”* As much as mastering the primary foreign languages, especially in reading and understanding, this will enrich the Arabic repository in the exact sciences and their practical applications, equipping Arabic with an advanced technological and industrial arsenal, along with the skills and expertise that enable the person who has them to transform abstract ideas into tangible experiences²³. Hence, *“Arabic is not impotent in itself, this is a clear and undisputable fact; yet, we in fact made it powerless with the policies we enact...Practical solutions exist, but the*

*longer we delay their implementation, the more difficult and costly it will become.”*²⁴ Participants in the discussion panel called for instituting a firm language policy that would establish the national language as the teaching language for science and the language of scientific research.

Scientific production in the Arab heritage, a testament to the capability of the Arabic language

During its era of prosperity, the Arabic language produced the greatest scientific treatises in several disciplines, and its celebrated scholars left deep imprints on the scientific and intellectual human history in general. The creations they left behind, in translation and authorship, attest to that. Hence, the question arises: how do we make Arabic once more, a language of scientific and technical knowledge

During its era of prosperity, the Arabic language produced the greatest scientific treatises in several disciplines, and its celebrated scholars left deep imprints on the scientific and intellectual human history in general

transfer; a language that history testifies to its ability and mastery?

Moroccan universities teach humanities, law, literature and religious sciences in Arabic, while science and technologies are taught in French

Moroccan universities teach humanities, law, literature and religious sciences in Arabic, while science and technologies are taught in French. The French language remains the dominant language in scientific and technical education in higher schools, as well as in institutes and faculties of science, health professions and vocational education institutions. Thus, students of secondary education who received their pre-university education in Arabic encounter enormous difficulties in integration when being enrolled in scientific, technical or vocational branches in higher education, where teaching is in French. Moreover, *“graduates of Arabized courses have meagre chances of securing a job in modern private sector enterprises,”*²⁵ which mostly rely on foreign languages in most of their dealings. This is what the debate panel concluded, as they expressed the need to change this abnormal situation and to establish the national language as the language of acquisition science at all educational levels. They justify this standpoint by the fact that the entirety of the countries that top the international excellence rankings are countries that teach all academic subjects in their national language, and that the Arabization of businesses is a decisive factor in addressing this issue.

The experience of Arabizing human and social sciences in Moroccan universities, nearly half a century ago, helped these sciences to assert their presence in teaching, research and production. Why then this experience has not been used in the Arabization of exact sciences, especially since lexicons

are readily available to shore up this endeavour? The Arabization Coordination Office in Rabat, in the context of its work within the comprehensive Arabization plan, has produced alone more than 42 dictionaries in various scientific and technical disciplines.²⁶ Muhammad Al-Baghdadi, the founding professor of the physics laboratory at the Faculty of Science at Mohammed V University, has recently published a scientific encyclopaedia on physics consisting of five volumes in Arabic, which tangibly affirms the ability of the Arabic language to express the various exact sciences.²⁷ The national language is the language of education and scientific research in 19 countries that technologically lead the world, and a recent study has concluded that the best 500 universities in the world are located in 35 countries where teaching languages are the national languages²⁸. These studies and experiences should refute the claim that progress can only be achieved through education in a foreign language.

Weak spending on scientific research and a lack of growth stimulation

Morocco spends 0.71% of its GDP on scientific research (according to the 2010 World Bank Statistics), which is slim compared to international standards identified by the World Bank to be at a minimum of 2%. Moreover, according to the Director of the National Centre for Scientific and Technological Research, the paltry spending on scientific research has led to shrinkage in the sector as evidenced by the decline in the scientific co-production between Moroccan academics and their traditional partners, the French. The rate of Moroccan-French scientific co-production has shrunk

from 35% in 2000 to about 22% in 2014. The Director of the National Center for Scientific and Technical Research notes that scientific research in Morocco has, in recent years, turned towards the peers of the Moroccan researchers in non-French-speaking countries, such as Spain, the UK, the US, Germany and Italy, as English became the language of scientific research par excellence, and as Moroccan researchers wished to seek broader horizons. Regarding Arab cooperation in the field of scientific research, it is experiencing a remarkable resurgence. Moroccan researchers, with their colleagues in the Arab region, published 1,322 joint scientific papers during the years 2005-2014. However, this number does not reflect Morocco's ambitions compared to what Saudi researchers have accomplished in the same period by publishing 14,093 scientific articles and Egyptian researchers at 13,183 papers. As for the field of research, the Director of the Centre stated that most of the published articles fall within the medical, biological and agricultural specialties.²⁹ Furthermore, the data of the Moroccan Office of Industrial and Commercial Property revealed the weakness in entrepreneurship. Patent applications filed by businesses in 2012 decreased by 19% compared to 2011; as it moved from 32% in 2011 to 26% in 2012.³⁰ However, a recent report by the Office for the year 2017 indicates an increase in Moroccan applications to 9%, as their number reached 7,859 patent applications, which is equal to 60% of the total applications registered for trademarks. The office stressed the fact that, at the African level, Morocco ranks first in terms of adopting the international system for the registration of marks, commonly known

as, the *Madrid System*, and it stressed that 111 Moroccan trademarks have been registered at the global level. The report also revealed that the office received 182 Moroccan applications, while 11% of which were from research centres and 14% from entrepreneurship. Moreover, 40% of all processed applications in 2017 are considered original and innovative.³¹ This is a cause for promising optimism in the field of innovation and creativity.

In addition to the weak budget allocated to scientific research in Morocco, other obstacles hinder progress in the field, such as poor equipment, weak infrastructure and laboratories, and the underestimation to scientific research in general, which spurs the scientific competencies to emigrate. The *2018 Global Knowledge Index* confirmed this status in light of Morocco's GKI value and position. It ranked 89th internationally, with a value of 17.1 out of 100, which is a meagre score compared to neighbouring states, as Algeria ranked 58th with a GKI value of 24.8 and Tunisia 63rd with a value of 24.2.³² However, the effectiveness and feasibility of scientific research and development remain a point of contestation, indicating a gap that must be addressed. Despite ranking 77th internationally from an input-based scale, the output pushes Morocco to rank 108 globally, which illustrates the ineptness and ineffectiveness of research and development. This status poses major challenges to scientific research in Morocco, as it still constitutes one of the main obstacles to overcome. The discussion panel attested to that and called for granting scientific research the importance it deserves, as the lever for social development and progress.

The success of knowledge transfer and localization depends largely on the capabilities of the individuals to whom it was transferred, as well as its use in the various projects and goals that achieve inclusive development

According to the annual report on the state of publishing in Morocco for the year 2017-2018, the total number of translated texts increased by 67% compared to the previous year

Internet users in Morocco reached 61.6% of the population in March 2019

The potential and limitations of the Arabic language in knowledge transfer and localisation in Morocco

Knowledge is transmitted through many channels, the most important of which are education, training and the various cultural means, such as the Internet, media, translation, etc. It is certain that the success of knowledge transfer and localization depends largely on the capabilities of the individuals to whom it was transferred, as well as its use in the various projects and goals that achieve inclusive development.

Undeniably, science academies and institutions play a central role in the transfer of knowledge. Education through its various stages, from primary to higher education, provides young people with knowledge and values that enable them to develop their intellectual capital, especially if they are subject to an educational system whose knowledge is efficient and capable. Translation, in turn, is of paramount importance in the transfer of knowledge. The transfer of knowledge into the Arabic language contributes to the processes of achieving the coveted development and progress in their social, economic, and educational aspects. Translation is rightly considered the gateway for culture and its transfer from one society to another. It is, therefore, a tool for knowledge dissemination, transfer and localisation, in order to benefit from the science of developed nations and to extend bridges towards their culture and civilization, thus accomplishing a qualitative transition towards growth and social development. What are then Morocco's efforts towards achieving communication and cultural contact through translation?

According to the annual report on the state of publishing in Morocco for the year 2017-2018, the total number of translated texts increased by 67% compared to the previous year. This confirms an upward trend, not only in printed materials, but also in digital/electronic publications, which accounted for 21.5% of the total publishing. Moreover, it is concluded from a sample of translated literature that Arabic is the target language, to which it was highly translated from several different foreign languages, led by French with a 44.7% share. As for Moroccan translations from Arabic into foreign languages, they did not exceed 12% of the total translated material. In terms of distributing translated books by field of knowledge, literature tops the list, followed by history, social studies, philosophy, literary and Islamic studies, and arts.³³ What is particularly striking is the lack of translated books in the fields of natural sciences, economics and technology, which are the scientific domains that experienced great advances in recent decades and had a significant role in development. The discussion panel realized this deficiency and called for attention to be accorded to translation, with the need to prioritise.

Issues of the Arabic language in the use of knowledge and the status of Arabic on the Internet

Concerning the Internet in Morocco, its users reached 61.6% of the population by the end of March 2019. The question, however, is: to what extent does the Internet contribute to the transfer and use of knowledge?

Recent advances in digital sciences contributed to the emergence of new and innovative technologies in computational

Table (C. 3-1): General total of hours allocated to teaching Arabic, French and English over the three cycles: primary, lower secondary and upper secondary

Discipline	Arabic	Tamazight	French	English
Literature and Humanities	2,465	612	2,006	510
Experimental Sciences (Life and Earth Sciences, Physics, Agriculture)	2,159	612	1,938	374
Industry and Economic Technology	2,159	612	1,802	374

Source: Compiled by the head researcher of the case study of Morocco based on the data of the Ministry of National Education, Vocational Training, Higher Education and Scientific Research contained in the Pedagogical Guide for Primary School (2009) and the Arabic, French and English Language Curricula for the Primary and Secondary cycles (2007).

linguistics, like the technique of optical character recognition that enables text editing, digital dictionaries whose deployment garnered great success in the fields of traditional and machine translation, as well as voice recognition that enables the transformation of sound into written texts or written texts into audible sounds. However, applications for most of these technologies remain lacking when it comes to the Arabic language, which impedes their optimal utilization for the users of the Arabic language. This situation calls for intensifying the efforts of linguists to develop the use of Arabic in digital processing. The participants in the debate session, in turn, emphasized the fact that the Arabic digital content is very modest when compared to the rest of the living languages, and that websites do not allow searches and connections to international platforms, as they use languages other than Arabic.

"The distance that still separates Arabic from the age of digitization and the Internet has an undermining effect on the language

*and contributes to its isolation from knowledge society and its progress [...] The use of Arabic and its presence in the virtual world remain limited and weak compared to what this language deserves in terms of its demographic heft, communicative capabilities and cultural and aesthetic value."*³⁴ The weakness of the digital production is evident despite the steady expansion in Internet use among more than 22 million users which is nearly two-thirds of the population in Morocco.³⁵ Undoubtedly, Internet applications open up opportunities for users to absorb knowledge and avail themselves of its benefits, thus transitioning from the consumption stage to the production phase.

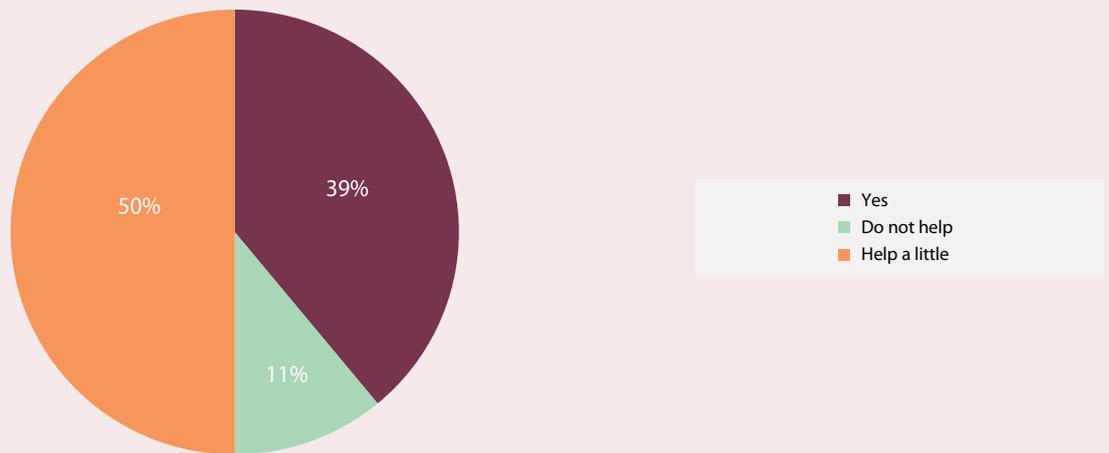
The position of the Arabic language in the educational system

National and international reports indicate a weakness in acquiring and mastering the Arabic language for Moroccan students despite the large volume of hours allotted to its learning. Table (C.3-1) illustrates the number of

National and international reports indicate a weakness in acquiring and mastering the Arabic language for Moroccan students despite the large volume of hours allotted to its learning

Figure (C.3-4): Methods and modes of teaching Arabic in schools and their impact on acquisition and proficiency

Do the methods and modes of teaching Arabic in schools aid in its acquisition and language proficiency?



Source: The results of the questionnaire prepared within the framework of the case study.

The participants in the debate session stressed the fact that Arabic, as a language of instruction in higher education today, is in a real crisis, due to the state of reality in universities and higher institutes, where French is predominant

hours allocated to each speciality, from the primary level to the end of secondary education (12 years).

The table illustrates that the number of hours allotted to the Arabic language is almost equal to the combined number of the allotted hours for French and English, which should narrow the opportunities of acquiring the Arabic language. Add to the mix the deficiencies in the pedagogical methods of teaching Arabic, as opposed to French and English, and the reason behind the inability of secondary education students to be linguistically proficient in the scientific, technological, economic and technical subjects will become clear. As these subjects are essential to the development of Arabic, the situation requires an evolution in teaching methods, to achieve better results. The discussion session's participants called for this

considering that they didn't completely feel satisfied with the current teaching methods of the Arabic language, as only 39% of the participants believed that the approach to teaching Arabic aid in its mastery, whereas 50% said that it only helps a little and 11% believed that it never helps (see Figure C 3-4).

Strengthening and developing the student's vocabulary

For several decades until today, the Moroccan educational system has been contented with translating or developing textbooks in Arabic and asking teachers to deliver their lessons in Arabic. It never considered establishing the scientific disciplines in Arabic language with all that this entails, from production, to research and to the extended translation of new knowledge.³⁶ The participants in the debate

session stressed the fact that Arabic, as a language of instruction in higher education today, is in a real crisis, due to the state of reality in universities and higher institutes, where French is predominant. Moreover, the teaching approaches remain traditional in their vast majority because of the length of the curricula and the insufficient teaching hours.

Therefore, male and female teachers focus on transferring knowledge rather than building higher-order thinking skills. Despite the important position of the Arabic language, in terms of teaching hours across the various educational levels and branches, its stature does not meet the desired level, be it inside the educational institutions or from the viewpoint of most Moroccan families, which necessitates a review of its positioning.

The Arabic language and strengthening the pillars of the knowledge society

Education: a key pillar of knowledge

Education constitutes one of the most important pillars of the knowledge society. In it, the youth are prepared and provided with the prerequisite values and skills. Modern international experiences affirm education as the path towards development and prosperity. Indeed, the most developed super-powers today accord the highest priorities to education in their policy-making, interests and strategic planning. Hence, education represents the main axis of the Global Agenda for Sustainable Development for the year 2030, in its quality as the decisive factor in achieving the overall sustainable development goals, if it represents

Box (C.3-1): Empowering the National System for Education, Training and Scientific Research: Draft Framework Law No. 17-51

Draft Law Framework No. 17-51 aims to “empower the national system of education, training and scientific research to consolidate its achievements, remedy its current failures and ensure its comprehensive reform.” To achieve these goals, the educational policy should realistically achieve the following:

- A. Generalize an inclusive universal education for the benefit of all children without discrimination
- B. Make primary education compulsory for the state and families.
- C. Enable affirmative action for children in rural and peri-urban areas, as well as in disadvantaged areas.
- D. Secure the right of access to education for children in cases of disability or special needs.
- E. Continue the efforts to address school dropouts and develop incentive programs to mobilize and sensitize families to the dangers of dropping out of school at an early age.
- F. Work to create the conditions necessary to eradicate illiteracy

Source: Ministry of National Education, Vocational Training, Higher Education and Scientific Research.

Draft framework law no. 17-51 on the education, training, and scientific research national system (preamble)

quality, equitable and inclusive education and works to enhance life long learning opportunities.³⁷ Global competition is in essence an educational competition, even if it takes different forms, thanks to the comprehensive development that education achieves in all aspects of life, and in building the features of human intellect and emotions, as well as dealing with and assimilating the sciences, technologies and knowledge of the time.

Pre-university education

Modern societies are experiencing a set of various economic complexities and social tensions, in addition to several developmental dilemmas they are unable to withstand unless they redefine a new educational project, based on an advanced vision of education and development³⁸. Perhaps, this is what motivated Morocco to draft the recommendations of the Strategic Vision for Reform in Education 2015-2030 and which is built upon six levers to advance the individual and the society, as well as achieve the following goals:

1. Adapt education and training to the needs of the country and the careers of the future, as well as enabling integration.
2. Enhance socio-cultural integration.
3. Establish a society of citizenship, democracy and equality.
4. Ensure lifelong learning.
5. Active involvement in the knowledge economy and the knowledge society.
6. Strengthen Morocco's position among emerging countries.³⁹

In fact, *the Charter on Education and Training*, which preceded both the Strategic Vision for Reform 2015-2030 and the draft Framework Law No. 15-71, unlocked several avenues for reform in the education and training system at the start of the third millennium. It represented a qualitative leap and an essential path for the educational system, in the quest to integrate into the knowledge society, with all that it entails, from designing outstanding educational projects to training students to become scientific elites capable of positive engagement in the knowledge

society. Therefore, efforts in education and training represent a basic and central building block of the knowledge society. This endeavour requires a mastery of the Arabic language and an ability to employ it in a manner that enables problem solving and the expression of all that is national and global. It also necessitates a command of the foreign languages that promotes openness and development in all sectors and helps prepare a generation of specialists who excel in the varieties of knowledge in multiple languages.

However, these visions were not realized due to the disruptions that impeded the implementation of the Charter on the ground and stumbled the components of the educational system. The result of this failure was manifested by Morocco's low knowledge indicators, as illustrated in various international and national reports, as well as the flaws that still plague the enrolment of children in schools and their liberation from ignorance, in addition to the decline in efforts to eradicate illiteracy among adults, especially in rural areas and among females. Furthermore, student dropout and failure to complete fundamental education limits the educational outcomes and output, which remain below the required level. What competencies learners acquire, such as problem-solving skills, innovation, and analytical/critical thinking, fail to equip them with the prerequisite qualitative knowledge that enables them to address the challenges of the globalization and knowledge societies era. This is most clearly illustrated by the indexes that put Morocco at the lowest ranks in analytical/critical thinking (Figure C.3-5), compared to sub-Saharan countries, Mauritania, and Egypt.

Student dropout and failure to complete fundamental education limits the educational outcomes and output, which remain below the required level

Figure (C.3-5): Rate of using analytical thinking in teaching according to the 2018 Global Competitiveness Index report



Source: World Economic Forum. 2018. Global Competitiveness Report.

Note: The index value ranges between 1 and 7 (7 = best).

Table (C. 3-2): Pre-university education index in Morocco (2018)

Pre-university education	Rank out of 134 countries	Value /100
Enrolment	60	54.1
Graduation	101	43.4
Output	74	24.1

Source: UNDP and Mohammed Bin Rashid Al Maktoum Knowledge Foundation. 2018. Global Knowledge Index 2018. p. 52. <https://knowledge4all.com/countryprofilepdfs/AKI2018/5-en.pdf>
 Accessed on 27 November 2019.

Perhaps this shortcoming is what ranked Morocco 94th in the 2018 Global Knowledge Index out of 134 countries, based on its poor output in technical education, and down from rank 77 in the previous year. Moreover, Morocco’s rank on the Pre-University Education Index was 89 with a value of 48.8, as indicated in GKI 2018. Table (C.3-2) illustrates Morocco’s position on the Pre-University Education Index (enrolment, completion and outcomes).

Furthermore, the different levels of the educational system are lacking in quality, in a manner that impedes openness to the job market, obstructs technological development and its positive and constructive applications, discourages scientific research and does not qualify individuals with intellectually and morally balanced personalities. The economic reality, in turn, contributes to these shortcomings. It is unable to create job opportunities because it is the product of a failing education system. Hence, the

The different levels of the educational system are lacking in quality, in a manner that impedes openness to the job market, obstructs technological development and its positive and constructive applications, discourages scientific research and does not train individuals with intellectually and morally balanced personalities

education system in Morocco has been classified among the underdeveloped educational systems in the world to a degree that does not call for optimism. Despite the declining state of affairs, replacing one language with another will not be the solution because of the accumulating and deeply rooted issues that require concerted and constructive efforts to overcome these shortcomings and impotences, if a strong will is present.

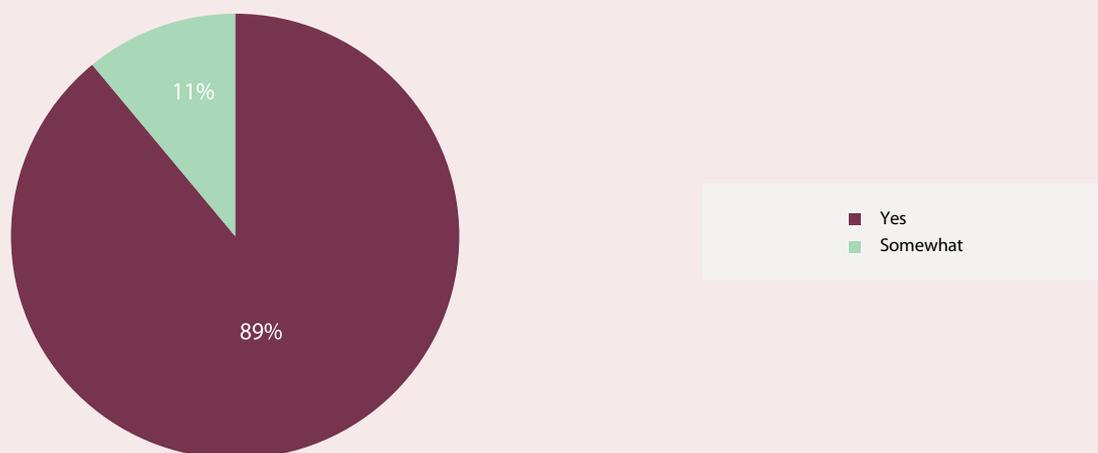
Higher Education

Higher education is one of the key sectors; it serves the individual and society, as it forms their educational, cultural, intellectual, social and economic aspects. It cultivates society with its scientific output of the conducted scientific research and studies, in a way that develops society and brings great benefit. The value of higher education in each country is measured by the extent to which its institutions interact with the requirements of societal development and progress. It is also measured by the level of its achievements in scientific research, as well as its cooperation with the economic sector in the fields of research and development. Another factor lies in the extent of its influence and its standing among the prestigious international universities, as well as the type of education it provides, and the skills and competencies with which it equips its students, enhancing their prospects of taking a prominent position in society after graduation and assuming leadership roles that lay the foundation for progress and development in society. Considering this, the state must remain mindful of education in general and higher education in particular, as it represents the path to advance society and the state.

In describing the failing condition of the Moroccan University, Muhammad Al-Sharqawi adds that the Moroccan University of today is suffering from a countless list of intellectual, systematic and structural problems, and that it stands at a crossroad and among strategic options that it took a long time to decide, since the beginning of the century: Is the language of instruction Arabic, French or English? The consolidation of a Moroccan-Arab format in university curricula or an effort to reconcile between Francophonie (which is losing its luster not only in Morocco, but also in the rest of the world), and Anglophone, whose leadership has become a foregone conclusion, be it in social and human sciences, natural or applied sciences? However, there is one key question of greater importance that is lost in the midst of this competition between Arabs, Francophones and Anglophones: What are the intellectual and scientific features that we seek for students and graduates of the Moroccan University in 2020, not to mention 2030 or 2040?⁴⁰ The Moroccan University, according to Al-Sharqawi, is in a state of decline at the onset of the 21st century; that is, a regression of the mind and a fading capability for scientific and political innovation among academics today. The current status implicates a missing guiding compass, in fundamental areas, such as education and health. They are *“intellectuals who enter a state of voluntary absenteeism, as if they seek to bury their heads in the sand, emulating the strategy of an ostrich. They prefer to retreat into themselves not stirring the stagnant waters ripe for the onslaught of cultural rot, so they turn into advocates of the resigned mind.”*⁴¹

Figure (C.3-6): Use of Standard Classical Arabic

Do you feel comfortable when speaking Standard Arabic?



Source: The results of the questionnaire prepared within the framework of the case study.

The higher education system in Morocco has not experienced the transformations witnessed by society and the world, which impeded its imperative participation in the chain of development and the process of building the societal enterprise. However, despite these seemingly harsh assessments, Moroccan universities are doing their best, within the limits of the possibilities. This has led some of them to hold high standings among international universities.

Moroccan University Rankings

Among the prestigious universities, Ibn Tofail University in Kenitra holds an honorable position in the Times Higher Education World University Rankings for the most influential higher education institutions. With this achievement, it is the only Moroccan university listed among the most influential universities in the annual global performance tables of University

Impact Rankings⁴². Mohammed V University in Rabat, in turn, topped the list of Moroccan universities. It ranked 16th among the best Arab universities and 27th among the top 200 universities in Africa, according to the leading international higher education directory and search engine uniRank, as well as its University Ranking for the year 2018. The uniRank University Ranking is based upon the online presence of the university and its online traffic, in terms of the estimated number of visits, trust, visibility, domain authority and the popularity of quality links. Mohammed V University accounts for 30% of the national scientific output, and by the year 2018 it was able to register more than 200 patents. It also holds high global standings in three scientific fields, among which are health and hospital sciences. It ranked 59th in the Arab world according to the 2019 American Rankings, preceded by Al Akhawayn at rank 46. In any case, only three universities rank between 801 and 1000 in the *Times* Rankings. As for

The higher education system in Morocco has not experienced the transformations witnessed by society and the world, which impeded its imperative participation in the chain of development and the process of building the societal enterprise

the rest of the prestigious global rankings, no Moroccan university ranked among the first one thousand universities.⁴³ These indicators clearly highlight the failures of higher education in Morocco, despite the exerted efforts to modernize and develop it.

In the 2018 Global Knowledge Index report, higher education in Morocco ranked lower than the average at 93/134, with a score of 33.2 points. This may be attributed to the poor output in qualitative terms.⁴⁴ In most cases, the diploma of a university graduate does not qualify them for the labor market. This necessitates a comprehensive educational reform, as well as encountering the challenges of the knowledge economy within a society that has been gradually submerged in globalization. For the educational reform to be effective, it must be realistic and selective. This requires modernizing the educational ecosystem as a whole, improving the selection and training of teachers and professors, as well as adopting a new form of governance for the public school.⁴⁵

The Arabic language and Higher Education in Morocco

The Arabic language in Morocco is experiencing a state of restriction and disturbance, especially in the scientific and technical disciplines, combined with the colonial tactics that aimed at weakening its stature and replacing it with the colonial language. Among the paradoxes observed in the Arab states is the constitutionalization of the Arabic language and a reluctance to use it in practice at the same time. Morocco is no exception to this rule, as the official languages in the country are Arabic and

Tamazight, but in practice, the French language is predominant in the media, administration and science.

As mentioned above, the undermining and impoverishment of the Arabic language is reflected in the fields of education and scientific research in Morocco. The use of Arabic is limited to research related to Sharia sciences, Islamic studies and fundamentals of belief, as well as some fields of human and legal sciences. However, it is rarely used in the exact sciences and their technical branches, which the country needs to integrate into the knowledge society with all that required from scientific and practical competencies, in the fields of medicine,⁴⁶ health, pharmacy, agriculture, veterinary science, economics, engineering, industry and entrepreneurship. Furthermore, if Arabic is somehow present in the institutions of these sciences, it is in the form of a general or complementary culture. As members of the discussion panel observed, Arabic does not lack in creativity nor innovation. They emphasized their call to use the national language in the fields of science, knowledge, higher education and technical training, in order to appropriate and localise it for fear of its disappearance and fading from the map of civilization. Most of the respondents (89%) in the survey expressed that they are comfortable using Arabic, while only (11%) stated that they are somewhat comfortable with its use (see Figure C.3-6).

The Arabic language in Morocco is experiencing a state of restriction and disturbance, especially in the scientific and technical disciplines, combined with the colonial tactics that aimed at weakening its stature and replacing it with the colonial language

Research, Development and Innovation

Higher education institutions and scientific research centers play a major role in building human capital, with their output in innovation and creativity that challenges the issues of the time and achieves sustainable development, as well as the level of quality and pertinence of the education they provide. The reason lies in the multidimensional dialectical relationship that connects knowledge with the environment, culture and heritage of society. Knowledge is a powerful lever for development and improves the quality of life, and any positive development in the performance of knowledge will be reflected on development and its means.⁴⁷ Since the start of the third millennium, the progress and development of nations have been measured by the volume of the novel and innovative knowledge they produce, as the future now belongs to countries that possess knowledge and that are first in innovation and creativity.⁴⁸

The reality of scientific research, as described by a former Minister of Higher Education, *"is not good, indeed, Morocco is decidedly underdeveloped, it is lagging far behind in this field, not only at the global level, but even at the continental level."* Among the failings that scientific research suffers from is *"the lack of stimuli for professors and students wishing to conduct scientific research"*. In this regard, another official believes that Morocco *"has chosen a liberal economy and has acceded to a number of free trade agreements so as not to confine its commercial exchanges to Europe and the countries of the Mediterranean basin, and in order to unlock new opportunities with America and Asia as well [...]. Herein emerges the*

importance of the fields and priorities in which scientific research must be funded and supported." Morocco's quest for *"international competitiveness is what puts its scientific research apparatus at a crucial turn point in its history in order to achieve the goal of becoming a technological leader in Africa,"* and to bridge between the south and the north, which requires *"a national system of scientific research that is innovative and able to meet the social and economic demands."*⁴⁹

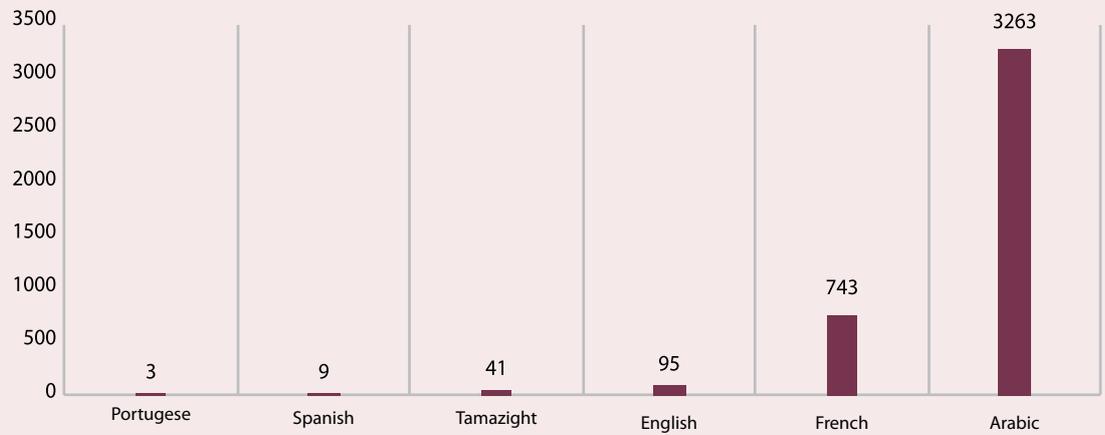
Innovation Indicators in Morocco

According to the "Global Knowledge Index 2018" report, Morocco ranked 84 out of 134 countries in the research, development and innovation index, with a value of 20.3. It also ranked 108 according to the quality of scientific research institutions in the Research, Development and Innovation Index, with a value of 33.8.⁵⁰ Spending on research and development accounted for 0.71% of the total GDP.⁵¹ These figures illustrate Morocco's failings in these key areas of development. These statistics and indicators demonstrate the necessity to redouble efforts and mobilize resources to bridge the gaps and move past the state of affairs that do not qualify Morocco adequately to integrate into the knowledge society and improve the situation of the population. This is because a society that does not innovate in the age of knowledge, its economy is doomed to extinction. The participants in the debate session indicated that the funding allocated to research, innovation and development clearly reveals a lack of will to advance in this field.

Higher education institutions and scientific research centers play a major role in building human capital, with their output in innovation and creativity that addresses the issues of the time and achieves sustainable development

The participants in the debate session indicated that the funding allocated to research, innovation and development reveals an evident lack of will to advance this field

Figure (C.3-7): Moroccan publications in 2017/2018, divided by language



Source: King Abdulaziz Al-Saud Foundation - Casablanca. 2018. Publishing and Books in Morocco: Annual Report on the Status of Publishing and Books in the Fields of Literature, Humanities and Social Sciences. 2017/2018. p.7.

Box (C. 2-3): Moroccans Read in Arabic Foremost... in Arabic Evermore

The data provided by the annual publishing report on the state of publishing in the fields of literature, human and social sciences demonstrates that Arabic is the language of publication in Morocco. Despite the wars that are waged here and there on Arabic (*"the Language of Dhad"*), and the contrived conflicts for the purposes of reducing its role in the fields of research, writing and creativity, the report has proven the inevitable truth to be recognized in the midst of the current identity debate, which is that Arabic remains the main publishing medium on the throne of publications in Morocco.

Source: Fouad 'Abu Ali. 2019. *Almaghariba yaqrawun bialearabia 'awala... bialearabia dayiman* (Moroccans read in Arabic foremost... in Arabic evermore). <http://www.m-a-arabia.com/vb/archive/index.php/t-38204.html> Accessed on 28 November 2019.

Publishing Statistics in Morocco

According to the annual report on the state of publishing in the fields of literature and human and social sciences, released by King Abdul-Aziz Al Saoud Foundation-Casablanca for the year 2017/2018, the Moroccan publishing industry yielded a total of 4,154 titles, with an increase of 8.37%, compared to the 2016/2017 reported numbers. This included titles in books, journals, as well as digital publications. Print accounted for the lion's share of the Moroccan publishing output in the knowledge areas covered by the report.

It is clear from Figure (C.3-7) that Arabic publications command a larger percentage compared to French and other languages (3,263 in Arabic versus 743 in French). This demonstrates that the arabization of the Moroccan publishing sector continues and that it is clearly established. Publications in French represent only 17.8% compared to 78.5% for the Arabic language. As for

Figure (C.3-8): Evolution of the publishing industry in Morocco, from 2014 to 2018

Source: King Abdulaziz Al-Saud Foundation - Casablanca. 2018. Publishing and Books in Morocco: Annual Report on the Status of Publishing and Books in the Fields of Literature, Humanities and Social Sciences. 2017/2018. p.7.

the other foreign publishing languages, their numbers are similarly very modest; English did not exceed 2.28%, and Spanish 0.22%. Moreover, publishing numbers in Tamazight remain very modest. It is noted from Figure (C.3-8) that the Moroccan publishing sector has experienced an accelerating growth rate, with Arab publications taking up the lion's share. In 2014/2015, the number of publications did not exceed 2.448, while it rose to 4.154 in 2017/2018.⁵²

As for books that only deal with sociology and anthropology, the report of the Arab Observatory for Social Sciences in the Arab World reveals that the total number of publications in the three Arab Maghreb countries (Morocco, Algeria and Tunisia) for the period 2000-2016, is 167 books, 47% of which were published in Morocco, 29% in Algeria and 24% in Tunisia.⁵³

The language of digital publishing and its themes

In the field of e-publishing, the linguistic distribution among the books electronically published demonstrates a strong presence of the Arabic language (457 titles), followed by French (168), then English (65). As for the knowledge domains that were dealt with in these publications, they were in stark contrast with the conventional fields in print; as literature, which accounts for 34.5% of print publications, represents less than 1% of digital publications. This also applies to the field of History (less than 1%), and Law (5.4%). Regarding economics which represents a mere 1.34% of paper publications, its share reached 24.35% of all electronic publications.⁵⁴ This raises the question whether e-publishing is more open to modern sciences, such as economics.

Table (C.3-3): Average reading statistics in Morocco

Average number of hours read per capita in a year	57 hours
Average number of books read per capita in a year	27 books
Average number of books read in Arabic	19 books
Average number of books read in a foreign language	10 books
Source: UNDP and Mohammed Bin Rashid Al Maktoum Knowledge Foundation. 2016. Arab Reading Index 2016.	

The data on Moroccan university graduates output reveals the modest level of knowledge production, which is required by the knowledge society

These statistics may lead us to investigate the state of reading in Morocco, a topic that is a subject of concern for many people, given that reading is the main portal for knowledge acquisition and the primary channel for its transfer. In this regard, the Arab Reading Index (2016) produced by the United Nations Development Program and the Mohammed bin Rashid Al Maktoum Knowledge Foundation indicates that Morocco ranked third with a score of 92% in the Extent of Reading (hours and books reading level), next to Egypt (97%) and Lebanon (96%). Morocco averaged 57 hours and 27 books read annually per capita, based on a sample of approximately 148,000 individuals, electronically taken from a selection of Arab states. The average number of books read annually in Arabic was 19, and the number of books read in French was 10. It was also found that the number of titles read outside the scope of study or work was 16 books, and the number of titles read in the context of study or work rested at 12 books.⁵⁵ If the reading level of the sample of Moroccans polled in the report contradicts the popular notion that “*the ummah of Iqraa (the nation of read!) does not read*”, then this level despite its importance does not meet the requirements for joining the knowledge society, which calls for stimulating the youth to acquire the habit of reading.

The data on Moroccan university graduates output reveals the modest level of knowledge production, which is required by the knowledge society. In a study by the Ministry of National Education in the field of social sciences and humanities (2009), it was found that the total output of Moroccan university students for half a century (1960-2006) did not exceed 57,000 publications, which included 30,000 papers, 13,000 books and 14,000 documents. In addition, there are Moroccan universities that did not support the publishing of a single document over the last fifteen years preceding the present study. The study also revealed that 55% of professors did not publish a single line during their careers. The study covered 1,400 research professors out of 3,600 professors when it was conducted.⁵⁶ However, the study demonstrates that these deficiencies in writing and publishing at the Moroccan universities are slowly being addressed.

The Minister of National Education, Vocational Training, Higher Education and Scientific Research revealed that the volume of the globally ranked Moroccan research stands at 6,800, and that these researches are published in the Scopus database, which is one of the largest databases of bibliographic references and

citations. The international classification of several Moroccan universities demonstrates that scientific research has significantly contributed to enhancing the level of innovation and patents.⁵⁷

To emerge from the cocoon that hinders innovation, the World Bank report on "Morocco 2040" recommends for Morocco to work on the following three strategic areas in order to unleash the innovation: enhancing fair competition and combating all forms of rent; keeping the economic actors well informed and involving them in making the decisions that affect them, especially the actors at the local level; and encouraging cultural change in relation to entrepreneurship and innovation.⁵⁸

Information and Communication Technology (ICT)

The digital content refers to the applications that store, process and display various data in Arabic. It also provides software that is used in applications to perform functions in Arabic electronically. Digital content includes all forms of audio, text or visual data that is digitally distributed. It has several benefits in disseminating information and ensuring quick access for the recipient, then achieving a digital knowledge accumulation that is stored and utilized for cultural and civilizational advancement.

According to a report released by the "Western Digital", which specializes in collecting and processing data, the number of WhatsApp users in Morocco reached 17 million people by the end of January 2019; as 81% of Moroccans use it to chat, followed by Facebook in the second place with 76%, then YouTube with 60% in the third place.

Instagram came in fourth with 45% and Snapchat in the fifth place with 25%.⁵⁹

A field study, conducted by the National Agency for Communication Regulation, in coordination with the Ministry of Industry, Investment, Commerce and Digital Economy, the Economic and Social Council, the Supreme Authority for Audiovisual Communication and the High Commission for Planning, during the first semester of 2018 on ICT indicators revealed that the use of smart phones and Internet among Moroccan families has expanded in recent years, as mobile phones spread among families with a rate of 99.8% in urban and rural areas. The study also demonstrated that 92% of individuals between the ages of 5 and 39 are more equipped with a smartphone, accounting for 80% of smartphones in use, knowing that the total number is estimated at more than 6.22 million phones. The research indicated that 86% of individuals over the age of 5 have a smartphone, which is equal to 6.1 million individuals, and they use it to access the Internet.

With regards to personal computer statistics, the research revealed that 60% of households are equipped with a personal computer/ tablet, up by 6%, compared to 2016. As for the Internet use, Morocco exceeds the global average by 8 points.⁶⁰ Had this significant percentage of Moroccans used this digital technology in Arabic as a means of acquiring information and producing knowledge, then it would have undoubtedly played a vital role in catching up to the information age. Previous data indicate that the monopoly barriers have been eliminated; therefore, a further step forward is required to make ICT a key learning instrument in order to help learners improve the quality of what they acquire.

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Enabling environments, with their various complex components and interacting elements, contribute to the promotion, evolution and openness of the language in any given country. The level of these contributions mirrors the extent to which the various institutions and sectors inside society use language as a vessel for thought and culture

During the past fifteen years, Morocco has achieved undeniable progress at the economic and social levels, as well as in terms of individual freedoms and civil and political rights

Enabling environments: from a creativity perspective and the role it plays in economic growth

Enabling environments, with their various complex components and interacting elements, contribute to the promotion, evolution and openness of the language in any given country. The level of these contributions mirrors the extent to which the various institutions and sectors inside society use language as a vessel for thought and culture. Hence, mastering the Arabic language and acquiring the means of its advancement is a mission that should begin with children at an early age. Family, school, media and learning resources, in addition to the promotion and stimulation of intellectual and cultural creativity, as well as the adoption of a robust cultural policy and planning inside society, would advance the Arabic language and turn it into the tributaries that lead to the coveted knowledge. Knowledge society is built upon the dissemination, production and the effective use of knowledge in all areas of societal activity. Accordingly, the localization of knowledge is an integrated system that can only be served by marshalling efforts and involving different parties to be a party to the sustainable development system.

The process of localization has three key components according to the conceptual model: the production and generation of knowledge, the use and investment of knowledge, as well as the dissemination of knowledge⁶¹. It can also be defined as the process of transitioning from consuming knowledge and recycling it in its original form to its possession and utilization. This transition is effected within the framework of a social and cultural system that seeks to

achieve progress and create conditions to an authentic development that is capable of actively contributing to building human civilization⁶².

Members of this study's debate panel unanimously agreed that innovation, research and development, which are the pillars of development, are achieved through education and training. Moreover, it is now evident that the classification of a country according to its level of development and progress hinges on the competent knowledge it has scored.

Perhaps the importance of the economy, as the engine that drives development and societal progress, is what prompted Morocco to engage with the global context that is experiencing a complete reconfiguration on an accelerating modernistic course based upon major sectoral structural projects. The strategies implemented in recent years have helped give a new impetus to the dynamics of strategic sectors, such as agriculture, minerals and energy. The acceleration of economic growth contributed in kick-starting economic cooperation with neighboring countries in southern Europe - Spain, France, Italy and Portugal. At the regional level, Morocco aspires to assume a strategic position as an economic and financial hub between Europe and Africa, thanks to its geographical location and new infrastructure.⁶³

During the past fifteen years, Morocco has achieved undeniable progress at the economic and social levels, as well as in terms of individual freedoms and civil and political rights. However, the course for the economy that Morocco embarked upon 15

years ago remains relatively slow-paced, especially if compared to other countries that have significantly managed to make up for the delay.⁶⁴ Therefore, Morocco's global standing in the economic indicators does not live up to its aspirations despite concerted efforts in several vital sectors of its economy to remedy the deficit and bridge the gaps resulted from its cumulative failings and to accelerate the transition from the traditional economy, based on a tangible capital, to knowledge economy, where knowledge represents a strategic choice. Morocco's economy globally ranked 68th in the 2018 Global Knowledge Index with a 44.8/100 value which constitutes an average position. In general, it is observed that higher education, ICT and economy indicators did not globally afford Morocco an average rank, but rather positions that are close to average. Through this survey, it becomes apparent that Morocco despite housing the potential and opportunities for a takeoff, has not invested these resources adequately.

Language becomes an economic resource that integrates with the rest of the other resources if invested in several areas that may form a cultural industry in the fields of education, entertainment or tourism. The culture sector should not be viewed as a sector that is only specialized in providing entertainment and enlightenment services, without contributing to social, political and economic development. Language is a multiform tool for expression, which may take the shape of literature, arts, theatre, cinema or any other literary product, such as art paintings, photography and musical or dramatic creations. Morocco has a rich and diverse historical, cultural and civilizational

heritage that can be economically exploited to contribute in increasing income and developing local communities. With effective planning, culture becomes the beating heart of tourism, by diversifying and increasing the number of museums, galleries and handicraft stands, which contribute in marketing the country's tangible and intangible cultural outputs. Morocco has been able to achieve a significant milestone in attracting tourists. The Ministry of Tourism announced that Morocco achieved record numbers of tourists in 2017, as approximately 11.3 million tourists visited the country, which represents an increase of 10% over 2016. Revenues in hard currency from tourism in 2017 reached 7.69 billion dirhams or 16.6 billion euros.⁶⁵ In addition, Morocco was able to attract investors in culture, as many filmmakers flock to the city of Ouarzazate (the Hollywood of Morocco) to shoot films, which generates significant revenues for the country and the region. Thus, culture rises in turn and becomes the perfect tool for advancing knowledge and thought by means of what it offers to the tourist in the national language, affirming its effectiveness, promoting its identity and fortifying its existence. This is evidenced by the large number of institutions and centers that specialized in teaching the Moroccan language and culture to foreign students from different regions of the world.

In the context of the existential challenges faced by single-resource economies, diversifying investment represents a basic factor to the success of the economy and investment in culture to promote the renaissance and jump start the economy wheel at the same time. It enables a future where the creative cultural act encounters the challenges

and unleashes the creative energies of the youth in various fields that advance the knowledge and intellect of society through its arts and literature, which adopt the national language as its expressive channel. Perhaps this is what made UNESCO believe that the cultural and creative industries are among the fastest growing industries in the world, and that they have proven to be a sustainable development option that depends on a unique and renewable resource which is human creativity.⁶⁶ It is the hope that the “National Council for Moroccan Languages and Culture” will protect and develop Arabic and Tamazight languages, alongside the various Moroccan cultural expressions, as an authentic heritage and a modern expression of creativity in the context of adapting to the major challenges related to language policy in Morocco.

Conclusions and Recommendations to Activate the Role of the Arabic Language in Establishing the Knowledge Society

The modern world is experiencing major cultural transformations, and language is closely related to human life and society; thus, it is not immune to these shifts, transformations and competition, struggle to survive and prove existence. This spurred in recent decades the growing interest of learning foreign languages at an early age due to a mixture of economic, political and ideological factors, which crowds out the Arabic language and clouds its prospects with uncertainty.

Considering the above, the present case study demonstrated the dominance of a linguistic duality that marks the public life in the Moroccan society.

This necessitates decisive action to find a solution that empowers the Arabic language, expedites its applications in all sectors and at all levels, and promotes its use socially, in addition to establishing the effective formula regarding the issue of teaching languages and languages of teaching inside the various educational institutions. There are deficiencies concerning the presence of Arabic inside the scientific and technical institutions and centers, as well as their knowledge output. This situation requires a deliberate action and concerted efforts to preserve the integrity of the Arabic language. At the same time, it also requires a review of the methods and curricula of teaching and learning Arabic, in accordance with modern pedagogical trends that are based upon scientific discoveries in neuroscience and cognitive psychology, in order to achieve constructive communication with learners and advance the Arabic language to become a productive language and rise to the level of development in thought, life and society.

The case study confirms that humans do not innovate outside their language. Comprehensive development cannot be attained without the national language that achieves communication among all members of society. This was affirmed by the experts participating in the debate sessions held within the framework of preparing the present report. They based their assertions on international reports on the quality of education, which illustrated that the common denominator among the countries that are highest on the human development scale is the use of their national language in the acquisition, dissemination, localization and production of science. Hence, the arabization of

The present Morocco’s case study demonstrated the dominance of a linguistic duality that marks the public life in the Moroccan society. This necessitates decisive action to find a solution that empowers the Arabic language, and expedites its applications in all sectors and at all levels

Morocco's educational programs and the promotion of teaching and learning the living foreign languages are of paramount importance if one seeks to create a citizen with a Moroccan identity and global specifications. One of the most important duties is to consolidate Arabization in Morocco's educational programs and to strengthen the teaching and learning of living foreign languages⁶⁷

The case study demonstrates, as well, that the current linguistic debates around the Arabic language often confuse what is related to the objective scientific method with what is related to ideological struggles. This puts Morocco face to face with a polluted linguistic environment, rife with stark contradictions and a societal rift that portends the worst consequences.⁶⁸ Advancing the Arabic language and giving it the true status it deserves can only be achieved by avoiding ideological stances and turning towards research and knowledge production that testify to the capabilities and potential of the Arabic language. Managing language affairs or policies requires more vigilance, knowledge and greater efforts from decision makers, peoples, civil bodies, as well as intellectual, cultural and scientific elites. The purpose of which is ensuring the ability to appraise the consequences of the adopted language choices and the methods of their implementation, as well as calculate their material, economic, educational and political costs, then continuously evaluate the language policy according to standard specifications and ensure accountability.⁶⁹

It is undeniable that educational decision making in managing language teaching is not limited to technical,

technological, educational and scientific aspects, but is primarily based on ideological and economic choices and implications, in addition to interests that have an active role in implementing this or that requisite⁷⁰. This calls for the relevant authorities to activate the official decisions of the state and implement the linguistic recommendations of the Arabic Language Academies with the aim of advancing and stimulating Arabic to keep up with the pace of development and the emerging scientific, technical and technological revolutions. The danger that threatens Arabic lies in the duality of living with the foreign languages, as they are the languages of progress, as well as cultural and scientific advancement, thus, the identity of the learner and his ability of expression are negatively impacted. Hence, moving to advance the Arabic language and to turn it into an access point to the knowledge society in Morocco requires making good use of Arabic in the community facilities and the various spheres of society for it to have greater efficiency and productivity in order to achieve development. Language is a means of cultural, social and economic development for it serves as a bridge for experiences and knowledge linking the science and technology systems with society's members and systems, especially in new societies whose economy is based on knowledge.

The present case study revealed that in recent decades, Morocco has undertaken several initiatives that clearly affirm its will for change and development, and it is possible to cite examples of impressive successful stories and ambitious projects. Morocco's development over the past fifteen years is, in many ways, unique in this

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part of the world that is plagued by serious political, economic and social difficulties.⁷¹ In conclusion, it may be useful to present some recommendations that would advance the Arabic language and promote its role to become a gateway for knowledge transfer, localization and production, as well as an access point to the knowledge society and its economy.

Recommendations

Recommendations for Short-term Implementation (within three years)

- A- Expediting the activation of Mohammed VI Academy of the Arabic Language's role, for it to fulfill its decreed function in preserving and advancing the Arabic language. Article 12 of its mission stipulates "*advancing the Arabic language and ensuring its protection and evolution and the development of its use as an official language of the state.*"⁷²
- B- Accelerating the fulfillment of the requirements stated in the National Charter for Education and Training, and the directions of the Strategic Vision 2015-2030, in accordance with recent scientific outcomes and research to improve teaching the Arabic language and its use. At the same time, endeavouring to master the foreign languages, being open to Tamazight and making Arabic the basic language of teaching in different educational levels.

Recommendations for implementation in the medium-term (within five years)

- A- Reviewing the rules and specifications for television channels and private radio stations in accordance with the constitutional requirements in order to regulate the use of languages, and accord the Arabic language the status that corresponds to the requirements of the constitution.
- B- Harnessing the media to change the perceptions prevalent in some social circles, which refer to the supposed difficulty of the Arabic language and its inability to express science, technology and daily life.
- C- Adopting an accessible Arabic language at the primary levels of education, whether in educational activities, curricula and textbooks, or in communication in the school space.

Recommendations for long-term implementation (within ten years)

- A- Ensuring the quality of the media contents in all its forms. Developing media channels and programs in order to contribute to the preservation and advancement of the Arabic language in a manner that enables an exchange of influences between language and media, thus, media becomes a language promoter and a factor that expands the scope of its dissemination.
- B- Organizing events and activities related to the Arabic language use and highlighting its importance among children and youth, as well as enhancing the role of the media and civil society in the service and advancement of Arabic.

- C- Propagating awareness of linguistic citizenship and raising citizen awareness of their language. Strengthening the ties between the citizens and the history of their nation, past, present and future in order to establish the bases of linguistic security and promote language development projects.⁷³
 - D- Expanding the Arabic language use on a daily and permanent basis in the social education spheres (family, school, media, civil society associations and forums).
 - E- Developing new methodologies for teaching and learning the Arabic language with modern techniques, which helps its acquisition using effective and stimulating pedagogical approaches that meet the learners' needs and suit their perceptions. Encouraging projects to produce educational programs in Arabic and in parallel, providing access to teachers and learners in order to habilitate the institutions' web spaces for their use.⁷⁴
 - F- Adopting a clear language policy of the state, while creating mechanisms to activate the legislations and laws governing the Arabic language use in various scientific and practical fields, as a language of the constitution and a language of identity.
 - G- The Ministry of Culture and the research centers must encourage publishing and translating the valued scientific and knowledge outputs, advocating the use of Arabic in conducting scientific research and studies, endeavouring to enrich the digital content in Arabic language in various scientific fields, granting the Arabic language an appropriate position as the national language and promoting its use in all spheres of daily life.
 - H- Activating and stimulating the role of the language academies and centers in arabization and translation in order to rehabilitate the Arabic language and make it a tool for expressing culture and knowledge in the digital age.
- It is necessary to encourage publishing and translating the scientific and knowledge outputs, endeavouring to enrich the digital content in the Arabic language in various scientific fields, granting the Arabic language an appropriate position and promoting its use in all spheres of daily life**

Notes

- 1 Deepest gratitude and appreciation from the working group to those who kindly reviewed this study and helped its direction with their valuable comments. In particular: Dr. Abdel Nasser Al-Naji, Dr. Khaled Fares, and Dr. Miloud Ahabado.
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Building Knowledge Societies in the Arab Region

ARABIC LANGUAGE AS A GATEWAY TO KNOWLEDGE

The pursuit of establishing knowledge societies and knowledge economies has become central to all progress and sustainable development rhetoric, for there can be no genuine progress today without a shift to knowledge societies and all what they entail in terms of high quality education and training programs, accumulation of scientific research and technical development output, and a mastery of communication technology and enhanced enabling environments that constitute the political, economic and social context for achieving all of these components.

Language plays a pivotal role in the knowledge society, as it is the incubator of culture, science and knowledge in any given society. It is also a component of the knowledge system and a prerequisite to its attainment. The processes of building knowledge societies are more effective, readily accepted and of a wider reach when the mother tongue is used.

Against this background, this report comes to elucidate the state of the Arabic language in the Arab region, and determine the nature of the analogous and interconnected relationships between Arabic and the pillars of a knowledge society. Ultimately, this analytical study aims to extrapolate the opportunities, strategies and methodologies for the most efficient manner to stimulate the role of the Arabic language in building the coveted knowledge societies and economies.

We hope that the report, with its rich information, data and recommendations, will contribute to launching an in-depth community dialogue and stimulating action to enhance the role of the Arabic language in the processes of building knowledge societies that we aspire to, in order to achieve a sustainable development in the Arab region and throughout the world.



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