ISSN: 2347-7474
International Journal of Advances in Social Science and Humanities
Available Online at: www.ijassh.com

RESEARCH ARTICLE

Reality of Scientific Research in the Arab World and Suggestions for Development

Abdelkader Mohamed Abdelkader Elsayed[1*], Yasser Muhammad Naguib Sabtan[2]

[1]*Dhofar University, Oman & Benha University, Egypt.*

[2]*Dhofar University, Oman & Al-Azhar University, Egypt.*

***Corresponding Author: Email:** *abdelkader_elsaayed@du.edu.om*

Abstract: The study aims to identify the reality of scientific research in the Arab world and put forward suggestions for developing it, based on the researchers' view of the Arabic scientific research in the past and present, and proceeding from the roles of Arab societies and their educational institutions to promote the scientific research in the future. The study is based on the case study methodology of collecting and analyzing data through examining the reality, visions and policies of the Arab countries with respect to scientific research in the past, present and future.

Keywords: *Reality, Scientific research, Arab world, Development.*

Article Received: 01 Nov. 2018 **Revised: 24 Nov. 2018** **Accepted: 14 Dec. 20**

Introduction

Scientific research is the cornerstone for the advancement of both developed and developing countries and societies. In developed countries scientific research represents a main motivation for all institutions through which they attempt to keep their progress in economic, military, educational and other fields.

As for the developing countries, scientific research could help them get rid of backwardness, poverty and ignorance, and through which they can face the challenges ahead and catch up with the developed countries in their march for progress and development. In addition, scientific research is the basis for development in all fields, as it keeps institutions away from arbitrary actions that may happen to be right in some cases but wrong in others.

This, in fact, is a waste of time and efforts as well as money. Therefore, we see that the developed countries allocate big budgets for scientific research, and some institutions require their staff to publish research papers annually to ensure that their academic level is advancing in order to improve and develop their performance. Scientific research is gaining more importance, as all countries, especially the developed ones, are increasingly rely on it, since they believe that scientific research is very important for sustaining their progress and consequently achieving welfare for their peoples. Scientific research in general and procedural research in particular has become one of the styles of professional development which have emerged recently in different institutions that perform distinguished professional work.

Procedural research is one of the models of the professional preparation of employees, as it encourages them to think about their practices, examine their performance and specify the problems that face them to solve them using an appropriate scientific methodology [1]. Scientific research is an organized intellectual process carried out by a person called the researcher for investigating a certain problem called the research problem through following an organized scientific method called the research methodology so as to reach appropriate solutions or results that are valid to be generalized on similar problems.

Statement of the Problem

The Present Study Attempts to Answer the Following Research Questions

- What is the reality of the scientific research in the Arab world?

- What are the suggestions that could contribute to promoting the scientific research in the Arab world?

Limits of the Study

The study is limited to the researchers' view of the reality of scientific research in the Arab world, based on analyzing this concrete reality and making use of the Arabic and foreign studies in this regard.

Goals of the Study

The Study Aims to

- Identify the reality of scientific research in the Arab world.
- Specify the suggestions that could contribute to promoting scientific research in the Arab world.

Importance of the Study

The Study Derived Its Importance from the Following Contributions

- Drawing the attention of officials in the educational and research institutions in the Arab world to providing a suitable environment for the preparation and implementation of scientific research.
- Raising the awareness of officials and researchers in the educational and research institutions about the challenges that face scientific research in the Arab world, so that such challenges could be overcome and scientific research in the Arab world could be improved, in comparison to the other developed countries.
- Raising the awareness of officials and researchers in the educational and research institutions about the big gap between scientific research in the Arab world and developed countries, which motivates them to exert more efforts to reduce this gap.

Detailed Procedures of the Study

First: The Reality of Scientific Research in the Arab world

The reality of scientific research in the Arab world is reflected in this study through the researchers' personal experience and view of this reality, as well as through analyzing many studies such as: Al-Rimawi & Kourdi, [2], Al-Fara [3], Al-Barghouthy, & Abu Samra [4], Al-Shaqsy [5]. It was made clear that scientific research in the Arab world is experiencing a big crisis in all its aspects when compared with the other developed countries.

The Aspects of this Crisis can be Specified as Follows

Poverty in Most Arab Communities

Poverty, in nature, forces man to think only of earning a living and keeping away from other requirements related to research and thinking. As a matter of fact, poverty leads man to be narrow-minded and thus decreases his scope for creativity and minimizes the investment of his intellectual capabilities. This, in turn, reduces the chances of preparation and implementation of scientific research.

Arab Countries 'lack of a Well-Defined Scientific and Technological Policy

Generally speaking, Arab countries lack a well-defined scientific and technological policy. They do not have what is called information industry, and so there are no information networks or bodies for coordination between research institutions and centers. Moreover, there are no specialized funds for financing research and development.

As the Arab scientist Ahmed Zeweil points out in his book "Age of Science", the ratio of the scientific papers submitted by the Arab universities does not exceed 0.0003 % out of the total refereed research papers submitted by the world universities. Besides, the ratio of the Arabic scientific publications, as compared to the ratio of the world scientific publications, is estimated at 1.1%, in spite of the efforts of Arab scientists and researchers (Arab Knowledge Report, 2009).

In addition, most Arab universities and scientific institutions lack the bodies that are specialized in marketing research papers and their results, according to an economic plan, to the beneficiaries, which indicates that there is poor coordination between research centers and the private sector. Furthermore, there are no such advisory institutions that could exploit and finance the results of scientific research for turning such results into profitable economic projects.

Poor Infrastructure of Labs, Appliances and Libraries for Carrying out the oretical and Applied Research

The UNESCO report (2010) affirms that though the Arab countries are wealthy, they lack a strong database in the field of science and technology. Moreover, the efficiency of their systems and performance with regard

to higher education is still poor, especially when it comes to generation of knowledge.

Although there are distinguished universities in the Arab region, the Arab countries prepare only 136 researchers per one million people, given the fact that the average number on the world level is 1081 researchers. Besides that, the productive economic sectors are weak, as they depend on purchasing knowledge.

Arab Countries' Poor Expenditure on Scientific Research

The volume of annual expenditure on scientific research worldwide is estimated at 21% of the world gross national product (GNP), i.e. nearly $ 536 billion. The volume of the U.S. and Europe's expenditure on scientific research is estimated at 75% out of the world expenditure, i.e. roughly $ 417 billion. The expenditure of U.S. only is estimated at $ 168 billion, i.e. 24% out of the total world expenditure.

This is followed by the developed countries in that order: Germany, France, Britain, Italy and Canada. In this way, the total amount of what these countries spend on scientific research exceeds $ 420 billion. Most developed countries were keen on increasing the budget of scientific research, as the European Union's budget of scientific research during the period 2007-2010 reached nearly 300 billion euros. In addition, China's ratio of expenditure on scientific research has risen recently to nearly 2.5% of the GNP, as China's budget of scientific research reached roughly $ 136 billion, in comparison with the budget of 2005 which did not exceed $ 30 billion. As for the rest of the world countries including the Arab countries, their expenditure on scientific research does not exceed $ 116 billion. Of this amount the Arab nation spends only $ 535 billion, i.e. 0.011% of the GNP for the rest of the world.

It is worth noting that the expenditure of all Arab countries on the scientific research and development is estimated at nearly half of Israel's expenditure, despite the fact that the GNP of Arab countries is 11 times the GNP of Israel, and the area of the Arab countries is 649 times that of Israel.

Arabic Brain Drain

Migration and forced displacement drain the Arab scientists' contribution to the GNP of their countries, as many of them live in the western hemisphere. UNESCO statistics 2010 indicate that Egypt only offered 60% of Arab scientists and engineers to the United States. In actual fact, the United States, Canada and Britain account for 75% of the total number of the highly skilled and talented migrants. The statistics of Arab League, Arab Labor Organization and United Nations indicate that more than one million Arab experts and specialists who hold higher education degrees or skilled technicians are working in the developed countries. As a matter of fact, the United States and Europe contain 450,000 Arabs with high degrees, according to the Arab Labor Organization's report. The ratio of migrants with high degrees rose to 50% out of the total number of migrants in the period 1950-2000, and their number rose in the same period from 9.4 million to 19.7 million.

Dependence of Arabic Scientific Research on the Governmental Sector

The governmental sector is the main financier of scientific research systems in the Arab countries, as it accounts for 80% of the total funds allocated to research and development, as compared to 3% for the private sector, and 17% from different sources. This is in contrary to the situation in the developed countries and Israel. The private sector's share of funding scientific research in Japan is 70%, while it is 52% in Israel and the United States. The fact that the Arab governments are not able to provide sufficient funds for scientific research has its negative impact on Arabic scientific research.

Poor Basic Education in the Arab world

Most Arab countries suffer from the increasing number of students who do not join the basic education stage. In addition, the output of this stage of education is poor, which represents an additional burden on the Arab countries. Many problems arise due to the ignorance of these increasing numbers, and thus interest in and expenditure on scientific research diminish. UNESCO report on basic education, which was a nucleus for the Education for All Program with a plan extending from 2000 to 2015, indicates that 20% of population in the Arab region did not get basic education and need alternative tracks to gain the basic skills for work.

In fact, more than 10 million Arab people aged between 15 and 24 did not complete even the primary education stage. Also, there are 5 million people of school age in the Arab

world who are not enrolled at primary schools, in addition to 4 million teenagers not enrolled at secondary schools.

Arab Societies' Negative View of Scientific Research

Arab societies have currently a negative view of scientific research, which makes them unaware of the seriousness of the deterioration of Arabic scientific research as well as our lagging behind other civilizations, though the old Arabic civilizations were the basis of the development of the world including the developed western countries. In the past the Arabic countries were at the peak of progress and development while the western countries were living in the darkness of ignorance and backwardness. But the situation has changed now because of the Arab societies' lack of interest in scientific research.

Political Tyranny Represented in Lack of Freedom of Opinion and Absence of Democracy in All Aspects of Life

There is a positive correlation between academic freedom and scientific research. The more the public and academic freedoms as well as democratic practices diminish with more intervention by the state in universities' affairs, the more the scientific research diminishes and stays away from its mission. This is what happens in most universities and scientific and research institutions in the Arab world. But the situation in the developed countries is totally different as far as scientific research is concerned. In such countries there are academic freedom, integrity and transparency in all fields.

Moreover, there is no bureaucracy and there is less financial and administrative corruption in the scientific and research institutions. It has become clear, then, that there is a big gap between the Arab countries and the developed countries with respect to scientific research in all its dimensions and aspects. Despite the efforts that the Arab countries are making to promote scientific research, the gap is still increasing, as the developed countries take more steps than the Arab countries in this field.

The situation remains the same even after the Arabic spring revolutions on which we placed high hopes. In fact, the new Arabic regimes' view of scientists and science with its economic applications in all fields did not change except to a very low degree. While the developed countries spend billions of dollars on scientific research, the Arab countries spend similar amounts of money on non-productive, consuming sectors and on wars among themselves. Thus, the first question of the current study was answered.

Second: Promoting Scientific Research in the Arab world

Whatever the reasons for Arab backwardness with its different reflections, as mentioned above, may be, being away from development in scientific and research fields is unacceptable. We are the nation of Prophet Muhammad (peace be upon him) on whom the Qur'an was revealed with the first verse being "Read! in the name of your Lord who created (all that exists)" (Qur'an, 96:1).[1] This was the first divine call to the prophet and all Muslims to read and write. In the Glorious Qur'an Allah made a distinction between those who know and those who do not know, when He said "Allah will exalt in degree those of you who believe, and those who have been granted knowledge." (Qur'an, 58:11).

Moreover, in another verse Allah says "It is only those who have knowledge among His slaves that fear Allah" (Qur'an, 35:28). In fact, Allah urged man, in many verses, to contemplate and reflect on all things around him. Thus, the Glorious Qur'an includes 750 verses that contain facts related to astronomy, metaphysics, biology, botany, zoology, geology, embryology, genetics, preventive health, mining, industry, commerce, business, economics, etc. Islam has also urged Muslims to seek knowledge and study religion profoundly, despite the possible difficulties they may face in their learning. They should also do their best to increase their knowledge in all fields. Therefore, has not the time come for the Arab world to promote scientific research so that the Arab countries and civilizations could be leading the world countries as they were in the past?

Accordingly, having examined several studies, including: Ababna [6], Tien [7], Al-Noaimy [8] some suggestions that could contribute to promoting scientific research in the Arab world could be put forward as follows:

[1] The translation of the Qur'anic verses is rendered by Mohsin Khan, which is one of the Qur'anic translations shown on the Quranic Arabic Corpus website http://corpus.quran.com.

- Linking scientific research to the problems of society in both the public and private sectors in different fields such as industry, agriculture and services, in such a way as to constitute an integrated system for scientific research.
- Raising awareness of businessmen and private sector's leaders about the importance of the vital financial contribution to supporting scientific research in all fields.
- Allocating specific hours to scientific research to be reduced from teachers' teaching load in all educational institutions.
- Allocating a separate budget for scientific research within the different educational and non-educational institutions.
- Creating a real national (information and research) partnership between universities and research institutions as well as other community institutions, including commercial, industrial and agricultural fields, to benefit from researchers and scientists in developing such institutions.
- Establishing national scientific societies according to the world standards to promote scientific research and cooperation with different scientific and foreign societies.
- Developing the infrastructure of scientific research, especially with regard to applied and technological research, to provide the necessary devices and the technicians required for maintenance and support for carrying out research.
- Assessing those who work in educational and research institutions in light of their scientific production on an annual basis.
- Expanding the subscriptions of universities and scientific institutions in the Arab and foreign scientific journals in all fields, and making them available for researchers in such institutions.
- Encouraging university faculty members to take part in Arab and international conferences. This, in turn, will positively reflect on their academic level, as well as the level of their students and the university or institution in which they work.
- Encouraging writing and publication of papers in different universities and research and educational institutions.
- Encouraging translation from foreign languages into Arabic.
- Having reviewed such suggestions, we hope that they would be put into effect by those responsible for scientific research in all Arab countries, so that they may wake up and try to keep abreast of all scientific and research developments in the developed countries. Thus, the second question of the current study was answered.

References

1. Al-Maziny TA, Al-Mazroua HM (2010) Effectiveness of a Proposed Training Program on Action Research Skills and Science Teaching Conceptions Among in Service Science Teachers, Journal of King Saud University, 24(2):585-618.
2. Al-Rimawi Omar, Kourdi F (2015) The Scientific Research Obstacles from the Faculty Members' Viewpoint at the Humanitarian Colleges of Alquds University, Basic Education College Journal for Educational and Humanities Sciences, Babylon University, 21: 24-36.
3. Al-Fara MM (2014) The Difficulties Facing Academic Scientific Research in Colleges of Commerce in Gaza Governorates from the Viewpoints of the Teaching Staff. Journal of the Islamic University, 12(1):1-33.
4. Al-Barghouthy EA, Abu Samra M (2007) Difficulties of Scientific Research in the Arab World, Journal of Islamic University, Humanities Series, 15(2):1133-1155.
5. Al-Shaqsy A (2006) Impediments to Scientific Research in Higher Education Institutions in the Sultanate of Oman from the Viewpoints of the Academic Administration and Teaching Staff. Unpublished MA Thesis, University of Jordan, Jordan.
6. Ababna TI (2011) Essentials and Challenges of Scientific Research in the Arab World: Reality and Solutions, Journal of Surra Man Raa, 7(26):72-86.
7. Tien FF (2007) Faculty research behavior and career incentives: The case of Taiwan. International Journal of Educational Development, 27 (1):4-17.
8. Al-Noaimy T (1997) Scientific Research and Sustainable Development in the Arab World, Journal of Research in Environment and Sustainable Development, 1(1):12-16.