



# STI Cooperation in Arab Countries: Challenges and Opportunities



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## Introduction

Arab Countries are the countries which are extended from the Arabic Gulf in the east to the Atlantic Ocean in the west, with an area of about 14 million square kilometers. It consists of twenty two countries; which are Egypt-Jordan- Palestine- Syria – Lebanon – Morocco- Mauritania- Tunisia – Algeria- Libya- Sudan- Somalia - Saudi Arabia – Yemen- Oman- Iraq- Kuwait-Qatar- Bahrain- the Comoros Islands- Djibouti –and the United Arab Emirates.

All of these Arab countries have a common history, culture and language. They are all members in the League of Arab countries which is established in 1945 to reflect these common ties between its members and to provide a mechanism for coordinating between each other toward common challenges.

On the other hand, Scientific Diplomacy is the concept that indicates for using of scientific cooperation among countries to solve their common problems and to build constructive partnership.

In this regard, and as one of the most important tools of the foreign policy since scientific and technological developments, science diplomacy can play a vital role toward facing common political, economic, social and security challenges among Arab Countries.

Thus, we can talk about three dimensions of science diplomacy which are:

- **Science in diplomacy:** this means that scientists present their scientific advices to serve the foreign politics goals.
- **Diplomacy for Science:** this means facilitating of international scientific cooperation using diplomatic tools.
- **Science for Diplomacy:** this means sciences in promoting relations between nations.

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The importance of science diplomacy appears in many dimensions, the most important ones are:

- Contributing in finding solutions for urgent challenges for globalization such as climate changes, epidemics, natural disasters and cyber security.
- Achieving sustainable development for countries on the long run in addition to developing solutions for improving food security, water purification, lack of energy and etc.
- Promoting cooperation in the international relations which allowing opportunities for solidarity actions.
- Science diplomacy represents common and non-political language which can gather both allies and enemies to deal with certain cross-borders challenges.

## STI Cooperation in Arab Countries

In the light of historical and cultural similarities and common challenges, science diplomacy and cooperation between Arab countries in the field of scientific research is very important to promote diplomatic relations among these countries from one side and between them and others of international actors from the other one by the way that allow for these countries to build a base of experience and common scientific resources to integrate science in the regional decision making for solving crisis. We can differentiate between two levels of this international cooperation in the field of scientific research on the level of Arab Countries in the frame work of science diplomacy as follows:

*First Level: Arab-Arab Cooperation (between Arab countries and each other) in the field of scientific research:*

- **Inter Academy Partnership (IAP):** a global network of national science academies that includes “Egypt, Morocco, Sudan, and Jordan” aims to build capacity in the sciences and to provide scientific evidence to inform national and international policymaking
- **Eastern Mediterranean Public Health Network:** this connects public health workers in seven Arab countries and provides epidemiological training.<sup>1</sup>
- **Researching Center of Water Desalination in**

**the Middle East:** this supports researches and training about water desalination and other issues related to water.

- **Sezamy Project:** which launched in 2002 under the auspices UNESCO and produced to use in different applications that serving the fields of medicine, energy and environment.<sup>2</sup>

**There some regional events that organized by some Arab countries such as:**

- **The regional forum for Science diplomacy and technology:** that holds in Jordan on December 2015 under the title of “Toward Comprehensive Transformative Partnership for Sustainable Future” and hosted by the Royal Jordanian Scientific Society in coordination with Economic Social United Nations Committee for West Asia.
- **Quatrain Sciences Stars Program:** aims to encourage Arab scientists from Arab youth and business men which will lead them to be interested in unlimited abilities of sciences and technology.

*Second Level: Arabic Cooperation with World in the field of STI:*

*International universities promote the cooperation in the field of scientific research:*

- **Egyptian -Japanese University for Sciences and Technology (E-JUST):** which established in Egypt in 2009 according to an agreement between Egypt and Japan. It is an Egyptian university that based on the partnership between Egypt and Japan and it follows the Japanese innovative education system based on the scientific research, it is a researching university including a number of Centers of Excellence that have the ingredients of creation and innovation.
- **The French University in Egypt:** it established in 2002 according to an initiative between the two presidents of Egypt and France, and in January 2019 an agreement was signed between the two ministers of foreign affairs of Egypt and France during the Visit of French president to Egypt in order to “refoundation of the French university in Egypt”. Regarding this agreement the French university of Egypt will play a vital role in enhancing scientific cooperation between Egypt and France. It states establishment of joint researching labs and scholarships for

Egyptian students to study in France, sending French faculty member staff to teach in the university and transfer their experiences and knowledge, training for Egyptian students in French searching labs.

### The German Jordanian University in Jordan.

#### *Joint scientific and searching programs:*

- **German Egyptian Research Long-term Scholarships “GERLS” and German Egyptian Research Short-term Scholarships “GERSS”:** Egyptian German programs allow for the Egyptians students to study in German and these programs are jointly funded by the two countries.
- **Egyptian- Japanese Education Partnership (EJEP):** it is an initiative which announced in a joint statement between the Egyptian and Japanese Government during the visit of the Egyptian president to Japan in 2016. According to this initiative there are scholarships from Japan to Egyptians students to complete their post graduates studies in Japan in addition to training programs for the undergraduate students in the Japanese university. The fields of these scholarships are the fields that have priority in the Egyptian government such as (renewable energy, water resources, nano- technology, medicine industry, education, nutrition and agriculture, engineering) <sup>3</sup>
- **International Fellowship Program (IFP):** it is the program of the international scholarships in cooperation between the Egyptian Ministry of Higher Education and Scientific Research and the Ministry of Sciences and Technology in China.
- **The Joint National Egyptian-Chinese Renewable Energy laboratory in Sohag:** which established on September 2019 according to the agreement between both countries during the visit of the Egyptian president in December 2014.
- **Joint initiative of Prema:** between Egypt and the EU in the field of higher education and scientific research through activation of the projects of Science and Technology Fund and Scientific Research Academy. This initiative aims to achieve the objectives of sustainable development plan of Egypt – Vision of Egypt 2030.
- **Gulf Scholarships for Scientific Innovative and**

**Knowledge Economy (GSIKE):** through these scholarships the British government funded Forum of Scientific Cooperation for Promoting Scientific Relations between Researchers in Bahrain and the United British Kingdom in cooperation between the British Council and University of Bahrain. That program includes workshops of capacity building for researchers, scientific seminars and funding of joint researches. <sup>4</sup>

## Challenges and Opportunities

The previous presentation for the reality of science diplomacy in the Arab countries showed that despite of the attempts of building science diplomacy bridges between Arab countries and each other and between them and world, it is still not the typical ones. In my point of view of Arab countries managed to cooperate regionally effectively, they will manage to do the same internationally. I think the Arab countries similarities, resources and ties must make them cooperate in the frame work of science diplomacy in the most perfect way.

So, it is interesting to think about what are barriers that prevent these countries to act perfectly. To know why they do not use their scientific tools to perfectly face their common problem. Then, here are some of the challenges that face Arab countries in its way to cooperate scientifically in the frame work of science diplomacy effectively:

- Political systems variables and factors: since the year of 2010, there are a lot of political, economical and social variables that happened in the Arab countries and led -in a number of cases- to political instability. For instance, EU launched an initiative for promoting the assistances for Egypt in 2012 but because of the events of 2013 and its dependencies of institutional and political transformation led for the program to stop affected the execution of the program.
- Some of Arab countries are still having a gap between its scientists and its decision makers.
- The absence of scientific societies for promoting the regional and international cooperation. <sup>5</sup>
- Laws and organizational barriers which are breaking down the scientific progress inside the Arab countries, for example the education

systems in these countries does not depend on the creation and innovation, labs are not equipped enough, there is no academic freedom regarding the independent thinking, and the absence of the stimulation of creation and innovation.

- The absence of high quality scientific journals on both national and regional level.
- The UNESCO report for science shows the scientific progress in each country as follow:
- In 2012 Tunisia has 1394 scholars for every one million of the people; this was the highest number in the Arab countries however in 2006 it was 1588 for every one million of the people. Also in Egypt, the number was 581 scholars for every one million of the people, while in 2006 it was 617. On the contrary, in Morocco it was 647 scholars for every one million of the people, and 864 scholars for every one million of the people in 2012. <sup>6</sup>
- Therefore, some actions need to be done ... new opportunities had to be created, such as:
- Preparing a suitable environment for interaction between sciences and politics including the awareness of scientists and politicians and employment of scientists to work with decision makers.
- Promoting the culture of joint science by connecting the existing scientists networks and benefit from the existing networks and the new ones. Also, establishing scientific platforms for sharing knowledge and as data base for scientists and researches for exchange information and knowledge between Arab countries.
- Display the vision of the science diplomacy inside Arab countries to include a clear definition for the commitment of the measures.
- Determining channels for science diplomacy between Arab countries and support cooperation through them.
- Develop of certain science diplomacy projects connect between the issues of water, nutrition and energy.
- Preparing programs for promotion of exchange Arabic brains and the mobility of young scholarships across the Arab countries.
- Preparing a full program that benefit from the advantages of each country. For example, Saudi Arabia has the huge wealth to fund and build equipped laboratories, while Egypt and Lebanon have smart researching brains.
- Spreading the Arabic culture concerning supporting of science diplomacy through preparation of infrastructure and improving capabilities of students of sciences, scientists and experts of public diplomacy in the fields of science technology and others.
- Governments should be commitment to providing suitable climate for cooperation.

## Conclusion

Arab countries have to reorganize their home from inside politically, culturally and scientifically to manage to cooperate in an effective way. It should be a long term clear plan through which they can act together to cooperate scientifically in all their common problems ,on the top of these are energy, water, and security, and not to be just a separate attempts. There is a need for clear mechanisms and objectives. My suggestion is to organize an event such a scientific forum with the active participation of the most important scientists of these fields in the different Arabic countries aiming at define objectives, determine mechanisms and set a road map in the frame work of science diplomacy. This forum should discuss the previous mentioned challenges and opportunities.

## Endnotes

- 1 Nart Dohjoka, Cathleen A. Campbell, and Brenna Hill, **Science Diplomacy in Arab Countries: the Need for a paradigm Shift**, 17/3/2017, [www.sciencediplomacy.org](http://www.sciencediplomacy.org).
- 2 Ibid.
- 3 The website of Egyptian Ministry of Higher Education and Research, [www.mohe.gov.eg](http://www.mohe.gov.eg)
- 4 Ibid.\_
- 5 Ibid.
- 6 UNESCO science report, <http://unesdoc.unesco.org>,