Scientific Associations and the Development of International Scientific Relations

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Abstract

Scientific Association can try some practices in line with long-term science and research objectives in order to promote the quantitative and qualitative level of science, globalize the scientific and research communication and cooperation, and exchange information with other credible research centers worldwide. Scientific Associations are institutions that both help the Iran’s scientific development and make their achievements applicable by promoting and developing scientific and technological activities and interactions with other countries worldwide. They can also provide essential solutions for the economy of science by creating added value and profit acquisition. Unquestionably, transfer of knowledge and scientific experiences, updated science and technology process, promotion of the universities and research centers, and the creation of incentives for progress among communities are vital in this regard. Along with the importance of activities in scientific associations to promote and develop Iran’s scientific relations and cooperation, this article provides recommendations.

Keywords: Scientific Associations, Scientific Relations, Knowledge Promotion, International Scientific Cooperation.

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Introduction
Technology revolution has caused worldwide politicians to consider innovation, science, and brain-based activities as the largest and most powerful tools. Science and technology are considered desirable alternative tools for international interaction and communication. In the era of globalizations, science and power have gained authentic relationship and science has exceeded national borders and become transnational. Science and technology and in particular science and technology diplomacy are new elements which have been developed as the supplier of national interest in different countries. Science and technology diplomacy is considered one of modern diplomacies in international level along with other types of diplomacies such as cultural, energy, and public diplomacy. Science and technology diplomacy means the use of science and technology, its capacity and achievements concerning the relationships with other countries and nations in order to communicate, strengthen the relationships among governments, create soft power for countries, and realize their national interests (Hadian, 2013). Scientific associations can take advantage of this opportunity. They can help Iran regarding the scientific development regardless of the administrative bureaucracy by promoting international scientific cooperation. Therefore, this article aims to study the role of scientific associations in expanding international scientific relationships and cooperation. A desk study was performed in this regard.

Necessity and Importance
Today, the international scientific promotion and cooperation are of importance as a modern approach of countries in international level. Science and technology globalization in the 21st century has increased the mutual dependency of countries especially developing countries. This has made scientific and technological interactions an undeniable necessity. It is, in fact, claimed that science is one of the most important indicators of human civilization and the product of collective human intellectual effort. Human beings play a key role to produce and accumulate knowledge. According to this, promoting, developing and expanding science require collective participation and activity of all human beings within international scientific frame.

Sixth article of General Policies of Science and Technology emphasize the active, constructive, and inspiring cooperation with other technical and scientific credible, regional and international centers in the field of science and technology and especially the world of Islam along with the consideration of Iran’s independence (http://www.barnameh-bodjeh.ir). In this regard, Ministry of Science, Research and Technology has set a central goal for internationalization of higher education and universities. Scientific associations are among the most effective institutions to establish this communicative link. International scientific cooperation emerged as activities to reduce and eliminate the gap between knowledge and technology and strengthen the scientific, educational, and cultural exchange among nations and cultures in order to cope with the globalization and take advantage of opportunities in international environment. It is also influenced by modern communication technologies. This requires countries to promote and develop international scientific cooperation in order to complete and develop the borders of knowledge and learn new sciences by science and technology progress. Scientific cooperation is the essential prerequisite for comprehensive development. Therefore, it is essential to actively participate in international scientific circles through scientific, educational, and research cooperation and communication with world scientists, especially the Iranian elites abroad (Commission's Website of Scientific
Associations, 2015). On the other hand, scientific associations are nonprofits and nongovernmental institutions trying to scientifically promote, expand, and progress, qualitatively develop experts, and improve educational and research affairs in different fields. Scientific and research exchange with scientific centers inside and outside of Iran is essential for any scientific association for excellence, growth, and progress. To this end, the communication is continuously required between scientific associations and international institutions concerning the updated information and scientifically promoted position of Iran. Therefore, the objective outlined here is based on the following topics:

What measures were taken into account concerning the scientific relationships and cooperation?
What measures can be taken into account concerning the scientific relationships and cooperation?
This would increase the share of Iran’s world production of science and technology by taking participatory strategy in international scientific promotion and cooperation.

Literature Review
Given the widespread and rapid developments in the field of international relations, non-governmental organizations have a special place in national and international decision-making process which can play a key and central role to world absorption and transfer of knowledge along with science production. Considering the high scientific and specialized capability of scientific associations, they obviously have the best position to develop international communication. This development is not possible without international cooperation (Commission’s Website of Scientific Associations, 2015). Higher education internationalization consists of sharing scientific activities, promoting innovation, and understanding different cultures in order to improve the life and welfare of humanity. In higher education, student’s success is of great importance to have a better life and improve the life of others. This appears impossible without national and international interactions, common activities, and learning from others. In addition traditional international communication, developed and superior developing countries have focused on exchanging students and faculty members, international cooperation among universities, developing common curricula, research cooperation, technology transfer, and increased interaction (Araste, 2008: 40-41). In summary, higher education internationalization is a trend toward intertwined educational, research, specialized services, and other university functions at local, national, regional, and global level. Thus, the international dimension of higher education is increasingly becoming more important, more complex, and more ambiguous. There are numerous reasons for these conversions and transformations. The mains reasons of change are rooted in the development of advanced information and communication services, the increasing international movement of workforce, a strong emphasis on free trade, focus on knowledge-based society, increased levels of private investment, reducing state support of education, and lifelong learning (Nyte, 2004: 5-7).

Ostad Zadeh conducted a study entitled "Scientific Relationship between Universities inside and outside of Iran. She indicates that experiences of scientific activity in different countries show that any movement in scientific development including education, research, technology, and its quantitative and qualitative promotion depend on mutual cooperation with scientific and technological countries and cooperation with prominent scientists and experts related to the updated science (Ostad Zadeh, 2005: 74).
Chun believes that international cooperation among universities consist of Academic Exchange, Curriculum Development, Joint Course Delivery, Research Collaboration, joint bidding for Research Projects, and Benchmarking (Chun, 2004).

Another expert believes that the importance of collaboration between universities is rooted in the development of strategic alliances. He also believes that globalization has also helped the creation of strategic alliances in university. In the world of higher education, the need is felt ever than before for international exchanges and cooperation. By expanding knowledge and technology borders, universities are seeking cooperation with other universities in order to fulfill the objectives that they are unable to achieve alone (Deborder, 2004: 4).

Universities in developed countries seek to strengthen private sector, develop educational infrastructures, develop tourism, and particularly exchange professors and students through scientific and international cooperation. These objectives need to be taken into account in the path of internationalization. International cooperation and communication are highly regarded to promote human resource knowledge and skills encompassing an important part of plans in universities and higher education centers (Mohseni et al., 2013: 111). Along with the phenomenon of globalization, the need to transform higher education institutions and more focus on international cooperation of universities and higher education centers have been performed. Apart from this, these institutions are expected to eliminate the gap between knowledge and technology and strengthen scientific, educational, and cultural exchanges among nations and cultures (Bazargan, 2007: 16).

Undoubtedly, associations and research centers provide the communication between science and research authorities and other science institutions who are the most important players in international scientific circles. Along with the production of science, they play a key and central role to transfer global knowledge and science (Commission's Website of Scientific Associations, 2015). Based upon the objective in the field of science and knowledge and high scientific, specialized capacity and capability, and taking advantage of elites and scientist as well as faculty members, scientific centers, having appropriate tools, associations are required to take more effective strategies and offer solutions in order to establish, expand, and strengthen international scientific cooperation. As the most important scientific ambassadors in international level, they are considered the link between science network inside and outside Iran and Iranian experts abroad (Commission's Website of Scientific Associations, 2015)

The results of studies show that the level of science production is heavily dependent on the level of scientific cooperation (Velayati and Norouzi, 2008).

**Discussion**

Iranian scientific associations have performed some activities to promote and develop international scientific cooperation and relationships with international centers and circles in order to promote the Iran’s international scientific position in 2013 listed in table 1.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Basic Science</th>
<th>Technical and Engineering</th>
<th>Humanities</th>
<th>Agriculture</th>
<th>Art</th>
<th>Interdisciplinary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of branches abroad</td>
<td>1</td>
<td>5</td>
<td>11</td>
<td>1</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Bilingual website</td>
<td>13</td>
<td>35</td>
<td>32</td>
<td>14</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td>Developing strategic</td>
<td>4</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>-</td>
<td>8</td>
</tr>
</tbody>
</table>

http://www.ijhcs.com/index.php/ijhcs/index
Studying 322 mentioned scientific associations in 2013 shows that:

1. In 2013, most activities consist of international scientific lectures (Engineering: 72 cases), cooperation and membership in international circles (Engineering, 47 scientific associations), participation in holding international conferences (Engineering department: 43 conferences), bilingual websites (Engineering Department: 35 websites). These show that scientific associations, in particular engineering scientific associations, have realized the importance of international communications and have tended to cooperation and participation in international scientific organizations. Other course, however, need to be more active.

2. The least levels of activities are holding international conferences (14 cases), holding international scientific competitions (19 cases), signing agreements with foreign
universities (19 cases), number of branches abroad (21 cases), and participating in international projects (23 cases).

**Recommendations:**
Scientific associations can help smooth the fields to put Iran on the path of science and technology development. They can help to provide the context to transfer technology to Iran by familiarity with science and technology achievements, in particular technical knowledge and knowledge-based products. This way the science and technology capacities are put into practice and smooth the path for national interests. In this regard, some factors are important including effective presence and interaction of scholars in meetings, conferences, congresses and international scientific communities at home and abroad, using the experiences of experts and researchers familiar with the latest scientific achievements in other countries through holding workshops, conferences, training courses, common regional and international conferences inside and outside Iran, and developing scientific relations with other scientific and research centers worldwide.

Participating in international competitions, offering international awards with the help international organizations, signing contracts with universities and international centers abroad, implementing joint scientific research projects and comparative studies in national, regional and international the fields, and publishing international journals are some other helpful measures (Commission's Website of Scientific Associations, 2015).

Taking advantage of the advisory ability of scientific societies in various fields in international level is another contributing factor worth mentioning such as developing plans, policies, and establishment of scientific association desk in Iranian embassies abroad. Considering the abilities of scientific associations, they can be engaged in future studies. They can also plan in the development of economic, social, cultural, and scientific fields to be prepared for future changes and events and scientific movement of Iran. Hopefully, Iran is engaged in scientific and technological changes of the world with the expansion and development of this cooperation. Scientific associations need to be strengthened in international scientific and technological institutions in order to accelerate the scientific and technological promotion and development. This way, Iran is able to produce science and export to the world.
References