

# New Mode of Diplomacy in the 21<sup>st</sup> Century: Science Diplomacy

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*Abstract*

The increase in the velocity and scope of international relations led the states to seek for a variety of instruments to carry out their relations. This change in the nature of international relations increased states' need for credibility and hence, increased soft power's importance. States have started to perform public diplomacy and science has been considered as one of its the most influential tools given the abundance of ways to establish relationship between the scientific communities and the states. Accordingly, because the exchange of science and technology across borders has offered many opportunities for the development of enduring relationships among people from different nations, science diplomacy came out as an important way of developing collaborative relationships between states.

*Key Words:* Soft Power, International Relations, Credibility, Public Diplomacy, Science Diplomacy

21. Yüzyılda Diplomasinin Yeni Şekli: Bilim Diplomasisi

*Özet*

Uluslararası ilişkilerin hızının ve kapsamının artması devletlerin uluslararası ilişkilerini yürütmek için değişik araçlar arayışına girmesine sebep oldu. Uluslararası ilişkilerin doğasının değişmesiyle devletlerin güvenilirlik ihtiyacı arttı ve bu durum, yumuşak güç kavramının daha büyük önem kazanmasına sebep oldu. Yumuşak gücün önem kazanması sonucu devletler kamu diplomasisi yürütmeye başladı ve bilimsel topluluklar ve devletlerin birbirleriyle birçok yoldan ilişki kurabilmesi bilim yoluyla mümkün olduğu için bilim, kamu diplomasisinin en etkili araçlarından biri olarak düşünölmeye başladı. Aynı şekilde, bilim ve teknolojinin sınırlar ötesi değişimi farklı milletler arasında kalıcı ilişkilerin geliştirilmesi için birçok fırsat sunduğundan bilim diplomasisi devletlerarasında işbirliğine dayalı ilişkilerin geliştirilmesi için önemli bir yol olarak ortaya çıktı.

*Anahtar Kelimeler:* Yumuşak Güç, Uluslararası İlişkiler, Güvenilirlik, Kamu Diplomasisi, Bilim Diplomasisi

## 1. Introduction

The main motivation of states has been to accumulate and maintain their power while carrying out their relations with foreign countries. It was mainly hard power that mattered for them before the development of communication technologies. As a result of the change in communication technologies, structure of the world politics has changed and credibility has become one of the most essential assets in states' perception of power. This led them to recognize the need for building up soft power capabilities. In relation to their quest for credibility in the international arena, foreign publics gained importance.

With the aim of influencing foreign publics and creating a positive image of the country, a new way of diplomacy, public diplomacy, has been started to be performed. Focusing on listening to

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and learning about each other, public diplomacy has enabled states to establish reliable and unbiased relationships. Given the focus of public diplomacy on two-way messaging between international actors, science can be considered as an effective tool to carry out relationships with foreign publics.

Interaction within the scientific community itself provides the states with various opportunities to establish a mutual dialogue with foreign publics. In relation to it, the increasing number and frequency of scientific activities strengthens the role of science to build ties with foreign nations and it leads to the emergence of science diplomacy as the new mode of diplomacy. Concerning this, operating through various ways and at different levels, it is not difficult to consider that science diplomacy will possibly change the nature of relationships to be established between states. In other words, it will change the scope of international relations and in case several reforms are made, it will open new doors for peaceful international relations.

## 2. Power as the Cornerstone of International Relations

Power is one of the main concepts that form the base of an endless debate both in theory and practice of international relations. It is defined as “the ability to affect others to obtain the outcomes you want” (Nye Jr, 2008, p. 94). However, differences between international relations theories stem from the distinctions in their perspectives to explain the way through which power functions. It is argued that power operates through “threats of coercion (sticks), inducements and payments (carrots), and attraction that makes others want what you want” (Nye Jr, 2008, p. 94). This leads to the categorization of power as hard and soft power (Table 1). Hard power includes military and economic power and hence, works through the first two dimensions of power that are about threats and sanctions. Soft power is, however, the ability to “make others want what you want” (Nye, 2003 cited from Noya, 2005, p. 54).

Table 1. The Symbolic Power of Nations

<i>Hard Power</i>	<i>Soft Power</i>
Coercion	Persuasion, ideology
Tangible reality	Image, symbols
Economic, military	Cultural, values
External control	Self-control
Information	Credibility, prestige
Government	Society
Direct (controllable by government)	Indirect (not controllable)
Intentional	Not intentional (by-product)

Reference: Noya, 2005, p. 54.

More clearly, soft power is the power to realize one’s goals through attraction rather than coercion, despite the presence of various actors and hence, different interests. A country’s soft power rests on its culture, its political values, and its foreign policies. That is to say that its culture

should be admired by others, its political values should be recognized positively both at home and abroad, and its foreign policy should be assessed as legitimate. It is, therefore, an indirect form of exercising power (Nye Jr, 2008, p. 94-95).

This indirect power operates through the capacity to attract (persuasion) and the capacity to establish preferences (ideology) (Noya, 2005, p. 54). Regarding this, despite the fact that motivation of using soft power is the same with the one of hard power as both aims getting what one wants, the point that creates the distinction between hard and soft power is the tools that are in their use. The tools in the use of soft power are not the military or economic weapons, but the capacity to manage and even to shape the preferences of others creating the perception that all actors share similar goals (Nye Jr, 2008, p. 94-95).

Additionally, soft power does not simply mean having impact on others since one can influence others through the use of hard power instruments as well. Given this, soft power implies more than convincing other actors to decide in accordance with one's own goals. Besides influencing others through persuasion, it is also attracting others to the extent that no objection will be made and rather, one's compliance will be based on its own motivation (Nye Jr, 2008, p. 94-95).

Moreover, another difference between hard and soft power is that getting and using soft power takes longer time. Since soft power operates through attraction and persuasion, states reach their target by employing soft power in a longer run when compared to the use of hard power. However, despite this, the importance of gaining soft power for states has become undeniable in the recent decades. This stems from the increase in the number and variety of international actors (Cull, 2010, p. 15; Chitty, 2008, p. 49) as a result of the development of communication technologies and globalization (Brown, 2004, p. 15-17; Sharp, 2005, p. 106). The development in communication technology has influenced the spread and extent of information (Brown, 2004, p. 19). It required the power to be understood "in terms of mobilizational processes rather in terms of structures or agents" (Brown, 2004, p. 26). Creating and managing perception (Brown, 2010, p. 297-301; Kirova, 2009) in order to have a positive "public reputation" (Keohane and Grant, 2005, p. 37) has become a fundamental goal of states. Hence, as states' need for a much credible image has become indispensable (Nye Jr and Keohane, 1998) accumulating soft power has appeared as a vital requirement for them while carrying out their international relations (Noya, 2005, p. 57).

### **2.1. Public Diplomacy**

Significance of having soft power under those new circumstances is undeniable (Nye Jr, 2008, p. 95). However, despite this, it is still under question that whether soft power is as fruitful as hard power regarding the difficulty that states experience to control soft power resources (Noya, 2005, p. 54). To this question, in the recent decades, public diplomacy -communications strategies that are in the use of states to get approval for their foreign policies within the international arena (Noya, 2005, p. 53)- appeared as a very strong response.

As the states have been in communication with each other through diplomatic channels, revolution in communications technology led to the practice of public diplomacy to influence inter-

national public opinion (Brown, 2004, pp. 18-20). Public diplomacy has emerged as the “post-modern tool of statecraft” (Van Ham, 2005, p. 57). States have accepted the need to adopt a network approach in order to generate legitimacy for their policies in the eyes of the international arena. Accordingly, the form of diplomacy that has been carried out mainly among states (Chitty, 2008, p. 48) has given way to a much transparent interaction between a number of actors and at various levels. At this point, public diplomacy has come out as a new dimension of diplomacy (Melissen, 2005, p. 5). It has been regarded as an indispensable instrument tool of promoting credibility and soft power (Noya, 2005, p. 53; Nye Jr, 2008, p. 100; Van Ham, 2005, p. 64).

Such a hopeful perception of states about public diplomacy as a magical tool to gain soft power stems from the ways that public diplomacy operates. Going beyond traditional diplomacy, public diplomacy aims at informing and influencing foreign publics for the benefit of national interests (cited from Cull, 2009, p. 19; Pratkanis, 2009, p. 112; Leonard, Stead and Smewing, 2002). Since it deals with the “psychological or the human dimension of international relations” (De Lima, 2007, p. 236), public diplomacy uses cultural exports, exchange diplomacy, and international broadcasting (Cull, 2010, p. 12; Nye Jr, 2008, p. 95).

Nevertheless, it should not be understood as consisting of mere propaganda to create an attractive image of one at the international level. Public diplomacy also means establishment of long-term relationships and an enabling environment for state policies through a cooperative dialogue (Nye Jr, 2008, p. 101). In other words, on one hand, public diplomacy is a way of propaganda as it mainly means persuasion through influencing foreign publics. On the other hand, it cannot be perceived as propaganda operating through one-way messaging (Melissen, 2005, p. 18) because it is vitally based on listening to the other in order to learn, analyze, and shape the international public opinion (Cull, 2009, p. 12).

Focusing on establishing mutual dialogue, public diplomacy has three main goals. It aims to convey information, to create a positive image of the country, and to establish long-term relationships. Conveying positive information enables creating a positive image in the international arena and this offers the opportunity to establish cooperative relationships. Establishing cooperative relationships helps generating proper conditions to the use of one’s own benefits. These all are achieved through establishing daily communications, strategic communications, and lasting relationships (Leonard et al., 2002, p. 8).

Daily communications means transmitting explanatory messages about the domestic and foreign policy decisions to the foreign publics (Nye Jr, 2008, p. 101). Strategic communication is developing a way of communication strategy to emphasize particular themes and/or to promote a particular government policy. Relationship building is the establishment of long-term relationships through getting access to media channels and through various activities such as scholarships, exchanges, training, seminars, and conferences (Nye Jr, 2008, p. 102).

These all allows identifying common points between different perspectives and serving building transnational social capital (Flink and Schreiterer, 2010, p. 666). In relation to it, these three

different but not separate dimensions of public diplomacy facilitate gaining attractive power in the eyes of others and hence, to increase its soft power (Nye Jr, 2008, p. 102). However, if those function irrelevantly from the foreign policy of a country and/or if they function apparently just to pursue hard power objectives, that country's soft power is more likely to deteriorate (Nye Jr, 2008, p. 102; Melissen, 2005, p. 15). It is to say that while carrying out public diplomacy, the notion of mutuality and the importance of engaging with foreign audiences should not be neglected (Melissen, 2005, p. 13).

That is to say that public diplomacy does not solely consist of government-sponsored messages to communicate with the foreign publics. Opinion is also built by the direct experience of individuals (Cull, 2010, p.16). Citizens of a country pursue "people to people public diplomacy" through their interaction with the world (Cull, 2010, p.15). As citizen diplomats, they reflect a much real image of their country when compared to crude governmental messages (Cull, 2010, p.14). Through interactions at citizen level, one learns about the other's desires, values, and needs in order to decide for a properly functioning public diplomacy. Because unless one understands the way that the other perceives of its messages and acts, it becomes almost impossible to find out the right attitude. In other words, knowing the other increases the effectiveness of public diplomacy since it allows the one to understand how the other filters information and to decide how to pursue public diplomacy (Nye Jr, 2008, p. 103).

#### **2.1.1. Science as an Effective Tool of Public Diplomacy**

Concerning the new prospect that the public diplomacy has offered the states to gain soft power, states have been in the quest of new instruments to enable them pursue public diplomacy effectively. To this quest of states, science can be considered as the answer since it is about establishing lasting and stable relationships with foreign publics given the nature of scientific activities. In other words, applying "scientopolitical" initiatives that focus on education and science (Zewail, 2010, p. 204) can allow states to advance their goals both in political and social aspects since integrating science with diplomatic efforts would facilitate establishing interaction with foreign publics, especially in those regions in which official relations are either ruined or less-developed (Flink and Schreiterer, 2010, p. 666).

A decade before, science was under consideration by the states solely regarding their research and development performance and international competitiveness. But recently, it has been witnessed that science has made inroads to foreign policy making (Flink and Schreiterer, 2010, p. 666). States have started to recognize the capacity of scientific and technological activities in order to establish peaceful international relations. With the recognition of the abundance of ways that scientists can contribute to the establishment of strong and continuous international relations by providing common language to different cultures, the role of science and technology has started to expand in several aspects of foreign policy (Fedoroff, 2009, p. 9-10). This move from the employment of science for developing hard power capabilities to its use for establishing cooperative

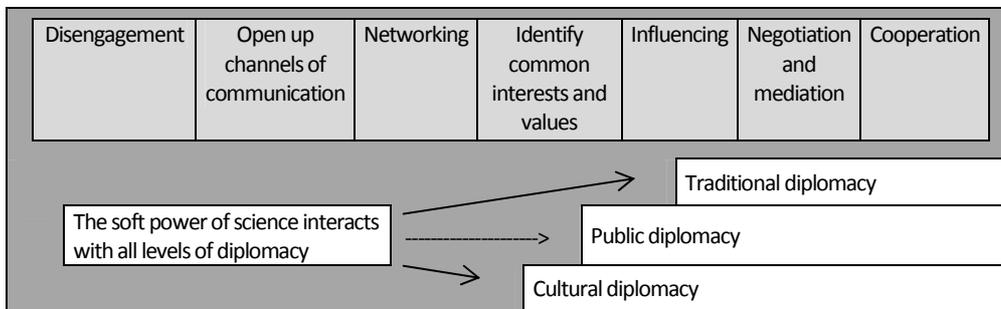
relationships as an instrument of soft power led to the emergence of science as an instrument of diplomacy on the side of the foreign policymakers (Lijesevic, 2010).

However, besides the awareness of foreign policymakers about the use of science as a diplomatic tool, the role that the scientific community plays is also important to mention for the appearance of science diplomacy as the new mode of diplomacy. As can be anticipated, foreign policymakers and scientific community are the main groups that play an important role in the use of science as a tool in international relations (Flink and Schreiterer, 2010, p. 666). For the foreign policy officers, science policies are used to promote foreign policy goals to the interest of their states. In addition to this, scientists regard the interaction of science with diplomacy to their benefit since they consider that interaction between science and diplomacy facilitates creation of new cooperation and funding opportunities to establish research and development activities with their foreign colleagues (Lijesevic, 2010, p. 2). Hence, the recent awareness about the benefits of integrating science and diplomacy with each other both at the state level and the group level strengthens the role of science as a diplomatic tool and states' motivation to implement science diplomacy in order to conduct their relationships with a number of actors.

**2.1.2. Execution of Science Diplomacy**

Given the fact that science and diplomacy interact with each other at different levels and for different concerns, science diplomacy is executed at three different dimensions. These are science in diplomacy, diplomacy for science, and science for diplomacy. Science in diplomacy is the use of science for making foreign policy decisions, diplomacy for science is the use of diplomacy to establish new scientific partnerships, and science for diplomacy is on the use of science to build stable and lasting relationships with the international community via scientific and technological partnerships (Royal Society, 2010, p. 4).

Table 2. The Soft Power of Science



Reference: Royal Society, 2010, p. 11

To explain each of these dimensions separately, science in diplomacy is “strengthening the contribution of science to foreign policy objectives” (Royal Society, 2010, p. 4). This can be possible by attaching importance to the recommendations of scientific experts to policymakers. Policy-

makers can benefit from scientific community to get updated information on various issues such as economic systems or social structures of different countries. Additionally, experts can also inform and warn the policymakers of the existing uncertainties and of the background of the existing situation in order to avoid their making bold decisions (Royal Society, 2010, p. 5).

This requires, however, building capacity at personal and institutional level to enable efficient delivery of scientific advice from the scientific expert to the policymakers and to make sure that the advice is easy to interpret on the side of the policymakers. It means that the policymakers should have the capacity to understand the focus of the recommendations made by the scientific experts and scientific experts should have the necessary channels of communication to have access to policymakers (Royal Society, 2010, p. 6).

In addition to the use of scientific information for the policy-making, that form of science diplomacy contributes to the creation of a real understanding about the limits of science for policy making. In accordance with this, it helps to avoid unreal expectations on the part of policymakers stemming from both the groundless perception about the limits of science and about the debasing attitude towards the contribution of science to policy making (Royal Society, 2010, p. 6).

The second dimension of science diplomacy, diplomacy for science, serves for establishing international scientific and technological cooperation through a much easier way. This dimension of science diplomacy provides researchers with many opportunities to establish new partnerships and to carry out projects with high budget and developed infrastructure. It allows for the creation of new networks among foreign researchers and research institutions. In order to create new partnerships, scientific community is in the need of working communication channels and diplomacy facilitates their getting into interaction with each other through several instruments, such as contract negotiations or bilateral and multilateral S&T agreements for joint research projects (Royal Society, 2010, p. 9).

In addition to the benefits of diplomacy for science for the scientific community, states get various advantages from the execution of diplomacy for science as well. Partnerships established through science diplomacy efforts enable states having access to “researchers, research findings and research facilities, natural resources, and capital” (Flink and Schreiterer, 2010, p. 669). This contributes to the development of their science and technology since they get the opportunity of following international research and development activities, learning about new technologies, having access to new markets, and attracting new brains. Moreover, establishing scientific relationships with different nations allows states to ameliorate their image due to their success in science and technology. As the states promote their achievements in research and development, they become centers of attraction for international scientific community and it leads to new incentives among states to cooperate. With the awareness of the abundance of their gains through having access to others’ research and development capabilities and through promoting a positive image based on its level of development in science and technology, states get motivated to establish scientific and technological relationships (Flink and Schreiterer, 2010, p. 669).

The third dimension of science diplomacy, science for diplomacy, focuses on “using science cooperation to improve relations between countries” (Royal Society, 2010, p. 4). Not being too distinct from the second dimension of science diplomacy, this dimension functions through the attractive power of science for the states as a necessary asset for achieving their development. Since states have become aware of the role of science for their development in several aspects from economics to industry, from social structure to political culture (Sütçü, 2013) establishing scientific and technological cooperation has become essential.

Science for diplomacy dimension of science diplomacy operates through the mechanisms established by the diplomacy for science. With the establishment of cooperation mechanisms between scientific people from different nations in order to pursue scientific and technological goals, science for diplomacy starts to function. Through the interaction between scientific communities of states, people from different countries encounter with each other and get the possibility to learn about each other on a real ground.

In addition to the opportunity of knowing the other within a cooperative relationship, scientific and technological partnerships also allow the global spread and assertion of civic values (Brookings Institution, 2005, p. 14). Sharing a common goal under the umbrella of research and development activities without considering the national interests or cultural differences, scientific people learn to respect each other, consider transparency, attach importance to rationality, show tolerance towards each other, and make assessment on merit-based rather than making biased evaluations (Brookings Institution, 2005, p. 10; Manzione, 2000, p. 24).

Embracing such values as a result of the scientific research conducted in an international manner offers a departure point to find a common position regarding conflictual issues (Flink and Schreiterer, 2010, p. 669). As “science provides a non-ideological environment for the participation and free exchange of ideas between people, regardless of cultural, national or religious backgrounds” (Royal Society, 2010, p. 15), finding a common ground on which negotiation becomes possible is much easier.

Nevertheless, witnessing the benefits of this form of science diplomacy takes much longer time than the other forms of science diplomacy. Besides establishing collaborative relationships based on science and technology, development of lasting and stable relationships between foreign publics necessitates the presence of various activities and in a continuous manner. It is to say that presence of mechanisms such as “training, seminars, conferences, language teaching, scholarships as well as international scientific, educational and cultural exchanges” (De Lima, 2007, p. 237) between nations does not suffice. Their continuity does also matter.

Therefore, rather than short-term interactions, international scientific, technological, cultural, and educational relations are vital to enable foreign publics get unbiased perspective about each other’s values, beliefs, and attitudes (De Lima, 2007, p. 238-239). As mentioned, since public diplomacy operates as a two-way communication, these activities provide the ground necessary for establishing a relationship on a reciprocal basis. Peoples of different countries get into interaction

with each other on personal basis. Through these direct interactions, it becomes possible that the false impression about the other can be replaced with the one based on experience (De Lima, 2007, p. 239).

The fact that ideas are not static, but easy to spread confirm the above point as well. Once false impression about a culture is replaced with the one based on direct experience, people transmit newly recognized aspects of that country back to their own surrounding. As the revised image of that country spreads out, the falsified image that has been eminent so far loses its negative impact on the attitude of people towards each other and this provides a much healthier ground for getting into interaction. This also reflects upon the policy-making field since acquiring better understanding about the other provides policy-makers with the capability to predict the way by which foreign publics will respond to a certain policy (De Lima, 2007, p. 241; Melissen, 2005, p. 15).

Science for diplomacy achieves these through several mechanisms. One of them is science cooperation agreements (Royal Society, 2010, p. 11). Through cooperation agreements in science and technology, states take a step further towards that country or region indicating its intention to establish new relationships or ameliorate the existing ones. These can be interpreted as the signs of bona fide of the countries to build stable and collaborative relationships with each other in addition to the motivation of developing their scientific and technological capabilities.

Besides signing agreements, new institutions can be established with the aim of transforming the existing relationships between nations to a more institutionalized one (Royal Society, 2010, p. 11-12). Continuity and stability of relationships can be much more possible under the presence of institutionalized channels. In other words, bringing different states under the umbrella of international institutions that foster cooperative partnerships and activities among themselves can contribute their knowing each other.

Educational scholarships also offer a proper ground on which foreign people get an understanding of each other based on direct experience (Royal Society, 2010, p. 12). It provides establishing networks and partnerships as the sending and the receiving country citizens start to perceive themselves through unbiased lenses.

In addition to above mechanisms, science festivals and exhibitions are also in the use of science for diplomacy. Activities such as science camps or places such as science museums remind of the contribution of different cultures to the development of science and technology. They present the universality of science (Royal Society, 2010, p. 12) and shift the focus of people from differences to commonalities.

Hence, considering the possible benefits of pursuing science diplomacy both for the foreign policymakers and the scientific people and considering the ways through which science diplomacy is carried out, science can be regarded as “the one human endeavor where common purpose and common interests among nations overlap” (Manziona, 2000, p. 27). Accordingly, since science has a huge potential to help states find out that they still share common interests and to allow them to

institutionalize their relationships (Kelley, 2009, p. 77), carrying out science diplomacy effectively can be understood as an important requirement for the states.

### **2.1.3 Hints for Effective Science Diplomacy**

Science diplomacy can contribute a lot to the establishment of reliable relations between states. However, since practicing science and diplomacy in interaction with each other is a very recent practice, it is an obvious fact that there are important points that need to be considered for carrying out science diplomacy effectively to the use of national interests.

One of them is the need for a clear science diplomacy strategy and for the clarity of people in charge of carrying out this strategy. It is to say that officers responsible for carrying out science diplomacy activities should be clear about their tasks and responsibilities. In addition to this, partners abroad should know with whom they should get into contact. They should also know the issues at stake and the people to get into contact in order to discuss these issues. Without knowing these, relations would be hard to sustain (Flink and Schreiterer, 2010, p. 676).

Furthermore, as mentioned before, science should not be politicized. Besides being aware of the benefits of scientific activities for establishing stable relationships and of the possibility that those relationships will make an impact on the nature of political relationships in the long-run, science should not be exploited for short-term political goals. Its limits for improving international relations should not be disregarded. It means that scientific cooperation should not be understood as the definite solution for conflicts, rather should be regarded as the one dimension of various dimensions of international relations (Flink and Schreiterer, 2010, p. 676).

Additionally, scarcity of mechanisms necessary to organize global scientific and technological cooperation and to convey scientific advice on an international level is necessary to overcome. Such mechanisms are necessary in order to lead to new partnerships between states and their absence diminishes the effectiveness of science diplomacy activities carried out by states (Stein, 2002). Since science diplomacy is a long-term effort, its being managed by several mechanisms that strengthen its continuity and maintenance would facilitate its operation and make it much more fruitful.

Science diplomacy's being a long-term effort also requires a continuous allocation of funds for the long-term science and technology activities. This, in return, implies the need for a robust commitment on the part of policy-makers. It becomes clear, in particular, when the difficulty of allocating human and financial resources for long-term tasks is considered. Besides the need for long-term allocation of human and financial resources, keeping concentration stable on an issue in the long-run is also necessary and not easy. Accordingly, given the need for acquiring a long-term outlook, strong commitment at the state level is highly important for the effective implementation of science diplomacy (Kelley, 2009, p. 77).

In addition to above, scientific organizations, such as national science academies, research institutes, and universities, can also contribute to the conduct of effective science diplomacy.

Through the establishment of scientific and technological cooperation agreements between these organizations, first the scientific community and then the states can get into a closer relationship with each other. The impact of cooperation agreements in the field of science and technology can be greater as the variety of actors involved in these efforts expands by the inclusion of non-governmental organizations, multilateral agencies, and other informal networks (Royal Society, 2010, p. vii).

The shared role between research institutions and governments to establish science and technology agreements also points out that there is a need for building effectively working mechanisms and spaces for dialogue between policymakers, academics, and researchers. Unless such mechanisms are established, foreign policymakers and scientific communities cannot have an understanding of the needs and capabilities of each other and this would be counterproductive to the effective functioning of science diplomacy. Through such mechanisms that provide them with communication channels, they can decide on new projects to the advantage of both sides and this facilitates execution of science diplomacy (Royal Society, 2010, p. vii).

Regarding the need for integrating science to policy-making field, educating foreign ministry officers in order to provide them with the ability of using science policy in diplomacy can increase the effectiveness of science diplomacy activities. Moreover, the involvement of scientists in foreign ministries at advisory positions and the invitation of independent scientific bodies to the Ministry Offices for delivering science policy briefings can provide the scientific community and the policymakers with many opportunities for establishing closer dialogue. Establishing closer dialogue between these two groups can also be possible with the recruitment of science graduates to the Foreign Service and creation of secondment and pairing opportunities between diplomats and scientists (Royal Society, 2010, p. 16).

Hence, realizing all these changes in the existing outlook and the institutional configuration of states, a close and strong dialogue between policymakers and scientific community can be established. This would also enable cultivation of the concept of science diplomacy in the minds of both the scientific community and the policymakers. As a result, science diplomacy can become a part of their working culture and it allows for performing effective science diplomacy.

### **3. Conclusion**

Due to the changes witnessed in world politics soft power has gained importance to a great extent. As the states comprehended the significance of having credibility to pursue their international relations successfully, they realized the need for going beyond traditional diplomacy. Public diplomacy emerged as a solution to states' this quest of credibility.

Among various instruments of public diplomacy, science has become to be recognized as one of the most effective and efficient sources of public diplomacy. It has been understood that science would allow people from different nations to build cooperative relationships. Since establishing cooperative relationships is one of the main goals of states in order to increase their credibility and hence, their soft power in the international arena, science has become a very useful instru-

ment of establishing diplomatic ties. As science has offered new prospects for peaceful international relations, states have started to integrate science into diplomacy. This resulted in the emergence of science diplomacy as a novel way of establishing ties with foreign states.

However, despite the use of science diplomacy for establishing collaborative international relations, there are various points to be improved for performing science diplomacy effectively. The burden to remedy the deficiencies both in the outlook about and the attitude towards science diplomacy is both on the states and the scientific people. Fulfilling these deficiencies will increase the efficiency of science diplomacy activities and hence, will increase the endurance of science diplomacy as a tool of foreign policy.

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