



# Why and How Does Policy Change over Time: a Narrative Explanation from Iran

Hasan DanaeeFard<sup>1</sup> · Tayebeh Abbasi<sup>2</sup>

Accepted: 6 October 2020 / Published online: 30 October 2020  
© Springer Science+Business Media, LLC, part of Springer Nature 2020

## Abstract

Over recent years, policy change explanation has grown into a topic of interest among scholars. Accordingly, various frameworks, theories, and models have been introduced to explain policy change through proposing different causal mechanisms to clarify policy change not necessarily aligned. This paper aimed to investigate the Act of Goals, Functions, and Structure of the Ministry of Science, Research, and Technology (MSRT) in Iran as an important and radical policy change in the fields of science, research, and technology (SRT). Moreover, there were attempts to identify causes of policy change. This paper had contributions to practitioners and researchers studying in the fields of SRT as well as those involved in promoting policy change.

**Keywords** Policy change · Public policy · Science · Research and technology area

## Introduction

Understanding policy change is one of the important topics in policy process literature, which has thus far attracted scholars' attention to "Why and how policy change occurs?" and "Why some public issues remain unchanged for a long time or suddenly change dramatically?" (Baumgartner and Jones 1993; Donnelly and Hogan 2012; Sabatier and Jenkins-Smith 1993; McBeth et al. 2007; Pralle 2003; Mintrom and Norman 2009; Blomquist 2007; Heikkila et al. 2014; Gerring 2007). For this reason,

---

✉ Tayebeh Abbasi  
t.abbasi@ut.ac.ir

Hasan DanaeeFard  
hdanaee@modares.ac.ir

<sup>1</sup> Department of Public Administration, the Faculty of Management and Economics, Tarbiat Modares University, Tehran, Iran

<sup>2</sup> Department of Public Administration, Management Faculty, University of Tehran, Tehran, Iran

most theoretical frameworks and numerous empirical studies have sought, in recent decades, to explain how policies change. Three of these prominent theoretical frameworks are the advocacy coalition framework (ACF) by Sabatier (1988), John Kingdon's multiple-streams framework (MSF) (1993), and Baumgartner and Jones' punctuated equilibrium theory (PET) (1993), offering important explanatory insights to policy change understanding.

As a powerful theory, John Kingdon's MSF (1993) elucidates policy change, especially agenda-setting theory. In view of that, there are three mostly independent processes i.e., a problem stream, a policy stream, and a politics stream, whose coupling produces dramatic changes. Policy entrepreneurs also play an active role in this respect (Schlager and Blomquist 1996). As well, the ACF developed by Sabatier (1988) underlines major actors and other elements in policy change process. Accordingly, policy change, occurring over a decade or more, represents a function of interactions between competing advocacy coalitions within a policy subsystem, consisting of actors from public and private organizations, actively concerned with a policy issue. It also changes perturbations external to a subsystem e.g., in socioeconomic conditions and effects of relatively stable system parameters such as constitutional rules and basic social structure. Advocacy coalitions convene actors within a policy subsystem. These coalitions are made up of individuals sharing a particular belief system, indicating a significant degree of coordinated activity over time (Knaggard 2015). Likewise, the PET concentrates on explaining why public policies tend to be characterized by long periods of stability punctuated by short periods of radical change. In this regard, Baumgartner and Jones describe stability or equilibrium as policy monopolies, comprised of both institutional venues (that is, institutions or groups in a society have authority and influence to make decisions), a policy image (i.e., how a policy is understood), or a shared understanding of a particular policy problem. Based on this model, change in policy monopoly causes policy change (Baumgartner et al. 2014).

These frameworks have significant contribution to explain policy change. According to them, policies change more likely if some events are highlighted; however, each one proposes different causal mechanisms to explain policy change not necessarily aligned. For kingdon Policy changes occur when policy entrepreneurs are successful in linking solutions to emerging problems. In Sabatier's theory, when advocacy coalitions are formed to influence policy-making and change policies. Also, in Baumgartner and Jones's theory, Policy change occurs when policy issues go beyond from the subsystem level to the super system level. Whereas, this research aimed to investigate the Act of Goals, Functions, and Structure of the Ministry of Science, Research, and Technology (MSRT) in Iran as an important and radical policy change and this change has been experienced in the different context in terms of social, economic, cultural and political attributes, the authors utilized an inductive approach to response research questions and describe the main incentives of change. That why such a change was raised on the public agenda and, why the Act was passed? What causes led to this policy change? How was the process of policy change? For this purpose, firstly, the history of changes in the structure and administration of the MSRT were discussed. Therefore, a comprehensive analysis and a description of policy change process were provided. Relying on data gathered, important factors and events affecting policy change are explained. This study could be of great help to practitioners and researchers studying in the fields of SRT as well as those interested in promoting policy change.

## History of Changes in Structure and Administration of the MSRT

The idea of establishing a comprehensive university was initially raised in 1928, leading to foundation of Tehran University in 1934 wherein the university council, as an important executive body, undertook educational and curriculum planning. With the increasing number of universities and higher education institutions, the Act of establishing Universities Central Council in December 1965, the Act for establishment of the Ministry of Science and Higher Education in 1967, and the Law for the Board of Trustees of State Institutions of Higher Education were approved in 1971 (Azizi 2006).

In 1974, the first general reform was performed in higher education entitled “the Act to amend establishment of the MSRT” and “the Act to amend some provisions of the Board of Trustees of the State Scientific Institution”. The most serious change was thus submission of “the university autonomy Act” to the National Parliament of Iran in 1978, which was not put into effect.

After the Islamic Revolution, the Board of Trustees of State Institutions of Higher Education was dissolved and replaced by a three-person committee. In 1978, the Ministry of Culture and Higher Education was formed by merging the Ministry of Science and Higher Education with the Ministry of Culture and Art. Following the Cultural Revolution, the Supreme Council of the Cultural Revolution in 1980 was established as an important policy-maker institution in this area (Frasatkah 2002). With the revival of the Act of Board of Trustees in 1991, changes were additionally made in the administration of universities; however, the effects of these rules were not practically significant (Davari Ardakani 2003).

Numerous events occurred in the higher education system, up to 1997, such as establishment of universities and several educational institutions i.e., the Islamic Azad University (IAU) (1982), Payame Noor University (PNU) (1988), and the University of Applied Science and Technology (UAST) (1993), as well as separation of medical education (1985), etc. However, no specific changes, aimed at structural and managerial reform, took place within this ministry. The issue of revision of the higher education system was put on the government agenda in 1993 and several research activities were conducted in this area e.g. the proposal for revisions in higher education (1994). The establishment of the University Board of Trustees was also passed in the Supreme Council of the Cultural Revolution in 1997 (the Act of Combination of the Board of Trustees of Universities and Institutions of Higher Education and Research 1997). Gradually, investigation and revision in the structure and administration of higher education were seriously discussed in order to promote scientific and technological positions (Priorities of the Minister of Science 1997). According to the Law of the Third Five-Year Economic, Social, Cultural, and Political Development Plan, the government focused on making fundamental changes in this area e.g. the Ministry of Culture and Higher Education was renamed as the Ministry of Science, Research, and Technology (so-called the MSRT). In accordance with Article 99 of this program, this ministry was commissioned to undertake planning, supporting, assessing, monitoring, analyzing, and formulating policies and strategic priorities in the fields of science and technology and to implement necessary reforms in its goals, functions, and structure in order to match administration and policy-making in the scientific system of Iran. Some structural issues regarding higher education sector in this Act have been lack of authority, inflexibility in higher education system and affiliated institutions to respond

quickly to changing needs of society, no cohesion, harmony, and stability in higher education policies, multiplicity of decision-making centers, and absence of a comprehensive and efficient system for evaluation and monitoring (Nooruzzadeh et al. 2009).

After the announcement of the Third Five-Year Economic, Social, Cultural, and Political Development Plan in May 2000, the Ministry of Culture and Higher Education was renamed as the MSRT. Subsequently, the Secretariat of the Council was established in 1999 that was in charge of organizing activities in this field. The Secretariat of Structure Reform was also established at the Institute for Research and Planning affiliated to the MSRT, and it was given the responsibility of drafting the structure reform bill (Malekiyar and Tabatabaiyan 2000).

To fulfill the assigned functions, the Secretariat of the Council formed two expert groups composed of faculty members of headquarters and academic experts along with affiliated research centers. In total, 43 sessions were held to adjust the proposed drafts as well as the agenda of the Council meetings (Draft for the Act of Goals, Functions, and Structure of the MSRT, 2000).

Furthermore, committees were formed under the supervision of Restructuring Council Deputy, which undertook functions in the area of preparing the draft bill. Along with holding expert meetings and discussions for expert support, the Secretariat of the Council studied research conducted in recent years as well as rules and regulations of higher education and universities in other countries, science and research policy-making in the world, plus expert decisions and recommendations of specialized international organizations and institutions.

Accordingly, in drafting the bill, the Secretariat of the Council took some important actions. First, the draft bill was formed in collaboration with officials of the ministry, university chancellors, and some scholars and experts in the fields of SRT and the academic community. Next, the adjusted draft was submitted for discussion, criticism, and analysis (i.e., survey) to experts, deputy ministers, university chancellors, heads of research centers and affiliated institutions, heads of state academies, and scientific associations. By late October, their suggestions and viewpoints were further discussed and summarized in order to improve and strengthen the text of the draft bill. Finally, in early 2001, the final draft bill was developed and presented for revision and approval in the Cabinet of Iran. After almost two months of study and analysis, on July 11, 2001, the bill for reforming the goals, functions, and structure of the MSRT was approved by the Cabinet of Iran and then submitted to the Islamic Parliament of Iran on August 19, 2001.

After five months of receiving the bill by the Islamic Parliament of Iran and upon initial assessment in the Education and Research Commission (ERC), the first public meeting on the bill assessment was held on December 2, 2001. During this period, the ERC as the main committee in assessing the bill did extensive studies and inquired of frequent opinions and views. Ultimately, the bill was submitted to the open session of the Islamic Parliament of Iran in the first reading following expert discussions and investigations.

The first reading of assessing the bill of goals, functions, and structure of the MSRT was finally completed with its own strengths and weaknesses, and the proposal draft was approved (November 2, 2001) (the First Reading of Open Session Negotiations, 2001). In this session, it was decided that the bill details and its associated problems be more accurately evaluated by the ERC. The results were also served to all members at the second reading.

After the adoption of the outlines of the bill in the first reading of the Islamic Parliament of Iran, the ERC took a closer look at the bill up to November 2002. The bill amended by the committee through expert meetings and negotiations (ERC Report to the Parliament 2002) was discussed with the members in the second reading of the Islamic Parliament of Iran formed on November 3, 2002. At a meeting on October 29, 2002, up to Article 7 of the bill amendment was approved by the committee and the rest of the items were postponed to the next session. Finally, six other Articles proposed by the committee were approved on the same day. The bill was passed after the completion of the second reading meeting by the Islamic Parliament of Iran and submitted to the Guardian Council of the Constitution (GCC) for final approval. By reviewing the bill, the GCC stated its view in the form of 33 objections and returned it to the Islamic Parliament of Iran.

Most of the objections raised by the GCC to the bill were related to the overlap of the tasks determined for the Supreme Council of Science, Research, and Technology with the functions of the Supreme Council of the Cultural Revolution. From this date onwards, the bill was returned to the committee to fix the problems addressed by the GCC. In the committee, the officials particularly the minister and his deputies attempted to cooperate with the members of the Islamic Parliament of Iran to make fewer dramatic changes in the content of the bill and maintain its overall objectives. Following numerous investigations and multiple consultations, on March 17, 2003, the reforms of the ERC were introduced in part, but it was rejected once again by the GCC (Ghofrani 2003).

Following the rejection of the bill in the GCC, a five-member committee was formed by the order of the Supreme Leader in order to study the interference cases of the new bill of the MSRT with the functions of the Supreme Council of Cultural Revolution. The given committee included the representatives of the Supreme Council of the Cultural Revolution (two people), the representative of the GCC, the chair of the ERC as the member of the Islamic Parliament of Iran, and the minister as the representative of the government. The committee was responsible for deciding on the segregation of functions in the MSRT and the Supreme Council of the Cultural Revolution. Meetings were also held on investigating objections of the GCC (6 sessions). The outcome of these meetings was changes in some provisions of the bill to meet the opinions of the GCC (Approvals of the committee meetings to investigate the objections of GCC dated to May 13 and 20, 2003, and June 7, 11, 18, 2003 and June 25, 2003).

With regard to the changes made in the text of the bill based on the decisions made in the five-member board and failure to meet the opinions of the MSRT, the minister (namely, Mostafa Moeen) resigned in September 2003. After a while, in October 2003, Jafar Tofighi (i.e. the deputy minister of education of the former minister) was appointed as the new minister. The new minister as well as the former one, made lots of efforts to appeal the idea of the opponents to pass the bill with minimal changes (that is, activities such as meetings with members of the GCC, members of the ERC of the Islamic Parliament of Iran, and the members of the Supreme Council of the Cultural Revolution). At this time, different views were introduced to determine the bill, referring it to the Expediency Discernment Council of the System, extraditing the bill by the government, and dereferencing to the five-member committee. Finally, in April 2004, the bill was referred for consideration to the five-member committee once again

but with a new composition. The committee held a meeting on April 8, 2004, and all cases of disagreement with the bill were examined and eventually the five-member committee came to an agreement with some changes in the Bill. On August 6, 2004, the bill was raised in the open session of the Islamic Parliament of Iran with the changes that had been made by the Committee on May 5, 2004. After three years, “the Act of Goals, Functions, and Structure of the MSRT”, with some changes on the bill was approved (see Table 1: A summary of events associated with policy change).

**Table 1** Events related to policy change

Year	Events
1993	- Raising the review of the higher education system in the agenda
1994	- Developing the proposal of the review of the higher education system
1997	- Changing the government and raising the review of the higher education system in the agenda once again (as the priority of the Ministry of Culture and Higher Education)
2000	- Developing the Third Five-Year Economic, Social, Cultural, Political Development Plan, forecasting the change of the “Ministry of Culture and Higher Education” to the “Ministry of Science, Research, and Technology (MSRT)”, and assigning the responsibility of coherent administration and policy-making of the scientific system of Iran to the “MSRT” in accordance with Article 99 of this program - Establishing the Secretariat of Structure Reform in the Institute for Research and Planning to develop the draft bill for “the Act of Goals, Functions, and Structure of the MSRT” - Conducting research and studies to develop the draft via expert meetings as well as analyzing rules and regulations of higher education systems and universities in other countries - Researching about recommendations of specialized international organizations and institutions - Submitting the draft bill to experts, deputy ministers, university chancellors, heads of research centers and affiliated institutions, heads of state academies, and scientific associations for further observations
2001	- Developing the final draft bill and raising the bill in the agenda of the Cabinet of Iran - Studying, analyzing, and approving the bill in the Cabinet of Iran - Submitting of the bill to the Islamic Parliament of Iran, raising the bill in the agenda of the Islamic Parliament of Iran, and obtaining the general approval of the bill - Sending the bill to the ERC to assess and check the details - Making expert examinations of the bill in the ERC in cooperation with the Parliament Research Center - Propounding the ERC’s comments in the second session of the Islamic Parliament of Iran- Approving the ERC’ comments in the Cabinet of Iran - Sending the bill to the GCC to confirm - Receiving oppositions by the GCC and posing 33 objections - Referring the bill to the ERC - Examining the bill in the ERC in cooperation with the MSRT
2003	- Putting the ERC’s comments on the agenda of the Islamic Parliament of Iran and approving them - Submitting the bill to the GCC once again - Receiving oppositions by the GCC
2003	- Forming the five-member committee composed of two people from the Supreme Council for Cultural Revolution, one person from the GCC, and two people from the Islamic Parliament of Iran and the MSRT - Resigning by the minister due to failure to meet his ideas and appointment of the deputy minister as new the minister - Holding multiple meetings to reach an agreement
2004	- Putting the agreed changes on the agenda of the Islamic Parliament of Iran - Passing of “the Act of Goals, Functions, and Structure of the MSRT (2003)”



Such changes were considered as the most serious reforms in the fields of SRT, and perhaps as one of the radical changes. The purpose of this paper was to explain the process of this change and to address the following questions:

- 1 Why such a change was raised on the agenda and, ultimately, why the Act was passed?
- 2 What events led to this policy change? How was the process of policy change?

## Methodology

To answer the above questions and to reflect on the factors affecting changes in the Act of Goals, Functions, and Structure of the MSRT, a qualitative analysis approach and a case study strategy were utilized. The data required in this study were collected from three main sources i.e., documentation and archived references, reports, as well as news and interviews. Documentation and archives of references included legal documentation and organizational documentation. Legal documentation was related to formulation of the Third (2000–2004) and the Fourth (2005–2009) Five-Year Economic, Social, Cultural, and Political Development Plans, formulation of the Act of Goals, Functions, and Structure of the MSRT in the ministry or the Islamic Parliament of Iran and the Government from 1993 to 2004. Besides, organizational documents consisted of reports, minutes, articles, and other files held in the institutes affiliated to the MSRT and in the Parliament Research Center.

Another important source to collect the data was interviews with key individuals associated with policy-making in the fields of SRT. They included 33 people i.e., 19 ministry officials, 6 members of the ERC of the Islamic Parliament of Iran, 3 members of the Supreme Council of Cultural Revolution, and 5 researchers and experts in this field. Participants in these interviews were selected using snowball or chain sampling methods as common strategies in qualitative sampling.

The data collected from these sources provided details and desired information on events affecting policy change. The interviews also provided an opportunity for authors to gain extensive data about the change process, explaining the events leading to changes in this policy. According to these data, the events of the policy change could be discussed in three phases.

At the first phase i.e., the issue-setting, issues related to SRT that emerged following previous policies as well as changing needs in society and the global environment were identified. These issues were then transferred from the academic community and the bureaucrats to the authorities and discussed through formal and informal interactions. At this level, the media (namely, conferences, papers, magazines, the Internet, etc.) helped to explain the issues. At the second phase, that is, policy formation, solutions and appropriate ideas to deal with problems were presented. At this level, policy-makers' approach, lessons from international experiences, policy-makers' experiences and resources, as well as limitations of this subsystem were among the factors affecting policy change. At the third phase, viz. policy legalization, factors shaping the legislation, from the bill formulation to the final phase of policy-making (both when the bill was in investigation in the Cabinet of Iran and once it was raised in the ERC in the Islamic Parliament of Iran, and the like) were highlighted. At this level, interest groups,

relationships between policy-making institutions, and strategies used for accepting changes and satisfaction of stakeholders were identified as effective factors, described in detail as follows.

## Explaining Policy Change

Based on the findings from interviews, documentation etc., the model of policy change about “the Act of Goals, Functions, and Structure of the MSRT” is explained as follows. The findings revealed that the process of policy change was the result of factors and events studied at three phases including issue setting, policy formation, and policy legalization.

### Issue Setting

After the Islamic Revolution, particularly in the early 1990s, there were some experiences in the field of higher education with their own strengths and weaknesses. Up to this decade, there have been also some requisites for a specific management approach in all parts of Iran as well as higher education, which had gone or faded in that time and with regard to social changes. The fundamental roots of such an understanding of the problem started before the mid-90s, but since the middle of this decade, such requisites have been deeply investigated. The issues of SRT are also actually considered as a major incentive to change the Act of Goals, Functions, and Structure of the MSRT and are studied on two levels, namely, institutional and meta-institutional.

At the institutional level, universities, as the crucial anchor of SRT, have become unable to have independent scientific and cultural identity due to centralism in planning and management of all affairs in the MSRT and at universities (Javadani and Pardakhtchi 2007; Javdani et al. 2008; Mahdavi and Ghofrani 1999; Salehi and Tajgarlo 1996; Zohoori and Sohrabpour 1996). Adopting a control-oriented approach, they have also failed to have minimum operational autonomy for decision-making in terms of planning activities, human resource management, student selection, as well as training and development courses (Ghofrani 1998; Rahmani Miyandehi 1997; Salehi and Tajgarlo 1996; Tayi et al. 2002). Secondly, it has become impossible to form a favorable scientific institution in these areas (Ghofrani 1999). Another issue at the institutional level has been lack of a validation system and financial resources required to make changes in this line (Bazargan 1997; Ramezani 2002).

At the meta-institutional level, incoherence and irrelevance in education, research, and technology have further raised problems. Moreover, improper attention to research and technology and lack of individuals working in these areas for making practical research in production fields have led to defects in technology development. There have been also problems with continuous monitoring of research and its suitable guidance, distribution of research priorities and funds, as well as impossible use of research results (Bureau of Investigation and Presidential Industrial-Scientific Studies 1998; Fayyasi Mahabadi 1998; Javdani et al. 2008). Despite the fact that several institutions have been legally accountable to technology, none has claimed responsibility for macro-management in Iran (Tofigi 2000; Roundtable on the need to organize management of science and technology 1997).



“If we want to examine our management in this area. It can be said that there was no coherence between the three pillars of education, research and technology and Some issues were completely forgotten.... One of the serious reasons for the change in technology. Ministry of Science officials believed that the country did not have a specific policy for technology development....”

Absence of a demand-orientated approach and no institutionalized and logical relationship between universities, industry, and society have further faced them with the issue of accountability to multiple and changing needs (Khaniki 1997; Ghofrani 1997; Mashayekhi 2000; Mansoori 1997). In addition, multiplicity of decision-making institutions and no coordination and overlap of functions between various entities involved in policy-making and implementation in education, research, and technology areas along with lack of coordinative and interactive planning and policy-making have been among the issues associated with low efficiency of higher education system with reference to international indicators. Reduction of social effectiveness in accomplishing missions (i.e., promoting scientific position of Iran, human development and excellence, and participation in economic, political, and cultural development) has been similarly observed. Besides, they have caused conflicts in decisions related to SRT (Ghofrani 1997, 1998, 1999, 2003; Goals of Ministry of Culture and Higher Education 1997; Sajjadi and Tasnimi 1997). Therefore, one of the essential ways to solve problems was introduced as changing the structure of ministry as well as management and planning in the fields of SRT. Somehow, it can be stated that, scientific and academic community as well as officials have reached such an understanding during many years of experience that they need to make universities and the higher education system more dynamic in order to meet academic and development needs of the country. Due to the expectations of the value-oriented society of universities, playing a comprehensive role in the development of the country (according to the statements of the Supreme Leader of Iran) and promotion of university status as the origin of changes, it is necessary to take measures in the field of flexibility of such institutions. With such an approach, policy change was put on the agenda of the Government (Ghofrani 1998; Mozaffar 2002).

Undeniably, this does not mean that such a change in policy has been able to deal with all existing problems, but these issues are a basis and a motivation for policy-makers to make changes in this area. In addition to these issues, previous policies of SRT were among other factors necessitating a change in this policy. The Act of the Ministry of Science and Higher Education (1967 and amendments in 1974) had also developed a series of tasks and missions for the ministry. In response to the needs of the society and the world, it is of utmost importance to define new missions, tasks, and structural changes.

Given the necessity after the Islamic Revolution and the increasing demands for higher education, the approach to higher education was a cultural and educational one, while the debate on research and technology was seen as the basis for the development of the country along with the global developments and social changes. The old structure was education-oriented and all three sectors of education, research, and technology needed to be taken into account in the new one. Nevertheless, policies related to education were not tailored to the needs of society and they were not in relation to the country's development in various socioeconomic spheres. In addition, many of the major components in this area were separated, e.g. health education, technology, research, etc. and there was a need to turn these diffraction and dispersion

into integration and integrity. Furthermore, experiences of the world's leading universities on administration of the board of trustees were certainly effective because the university management approach, in general, has been to a direction that has largely considered universities independent of political issues.

These elements were a set of factors at the issue-setting phase that affected the process of policy change. The issues gradually became more highlighted through meetings, conferences, and individual and group interactions by policy-makers and led to the formation of a consensus within the MSRT on the need for change and the idea of change rose at the right time (namely, policy opportunity).

### **Policy Formation**

After the adoption of the Third Five-Year Economic, Social, Cultural, and Political Development Plan, in which the Ministry of Culture and Higher Education was renamed as the MSRT, this ministry (based on Article 99) was commissioned to take charge of planning, supporting, assessing, monitoring, analyzing, and formulating policies and strategic priorities in the fields of research and technology. The main purposes were towards matching administrative and policy-making affairs of the scientific system of the country and taking measures to make necessary amendments in the goals, functions, and structure of the ministry. The MSRT was the main actor in terms of presenting solutions on how to change the policy; therefore, it submitted its own proposal about the goals, functions, and structure with an approach predicted in the provisions of this Article. The ideas raised were then developed based on the expert opinions in the fields of SRT. The policy experts were mainly from the academic community. In seeking for the opinions of a wide range of policy experts at the scientific community, the restructuring committee tried to obtain their ideas in this regard via creating think tanks (Ghofrani 2003). As said of one of participants:

“These experts included officials from the ministry or other policy-making bodies in the fields of SRT that had valuable experiences. Accordingly, the proposed solutions were developed in terms of a new bill, and ultimately the main policy (that is, the main idea) was addressed”.

To provide a proper solution, several research studies were additionally fulfilled to examine policy-makers' experiences and views as well as international practices. However, the findings of this phase and its resulting policy contained the intellectual paradigm and approach of the key actors of policy change. At this phase, resources and limitations of SRT were other factors that were somehow effective in the nature and process of policy change. It should be noted that higher education system, like any other systems, is characterized by a number of features that are undoubtedly considered by policy-makers on how to design issues and develop policies, which plays a role as an effective factor in the policy-making process (Ghofrani 1997, 2003).

### **Policy Legalization**

This phase includes activities of interest groups, relations between policy-making institutions, as well as all actions that advocates of policy change perform for making

necessity to change acceptable and proposed policies to win the support of institutions in the process of policy approval.

**A Interest groups:** They were individuals, groups, and institutions within the policy system and outside of it, affecting policy change outputs. Some of these groups and institutions were within the academic community and the MSRT and some were active in other institutions (i.e., the Executive Branch and the Cabinet of Iran, ERC of the Islamic Parliament of Iran or the Supreme Council of Cultural Revolution). These groups attempted to affect the design of issues, the type of policy formulation, as well as the approval of this policy and ultimately influence it. Their affectivity on the policy change stemmed from a few factors. Undoubtedly, the Act of Goals, Functions, and Structure of the MSRT was considered as a radical change in the field of higher education. Due to the scope and the extent of the policy, changes were created in effective functions of institutions in this area. On this basis, some groups opposed this change or some of its provisions upon losing some (institutional) interests (The Secretariat of Structure Reform Minutes 2000–2001; The Detailed Discussion of Parliament 2001). The following paragraph is a quote from one of the interviewees:

“These groups were both within the ministry and outside of it, in the Executive Branch or other institutions. Within the ministry, there was also a tendency arguing that the authorities of the Research Council as an institution outside of the ministry, affecting the higher education policies, particularly in the field of research and budget, had merely concentrated in this ministry...”

In other hands, in the scientific community, some groups including university chancellors and some faculty members, who believed in transformation of university administration and greater autonomy for universities, tried to put their ideas into practice through interacting with officials and policy-makers in the form of meetings, seminars, and personal communications. However, some groups within the universities, and even in the MSRT, opposed the independence of universities and aimed somehow to affect the policy content and influence their ideas (the Cabinet Minutes, July 11, 2001).

In spite of this, the important factor that was effective in activation of interest groups in terms of changing this policy resulted from the provisions of the bill content and the ideas addressed in the proposed bill. It was considered as a kind of radical change in the role and the extent of the interference of institutions affecting policy-making and implementation of policies and plans in the fields of SRT. Additionally, the issues related to technology, research, and funding for research and cultural concerns were items of interest. Given that the functions of the Education Extension Council in the Higher Council of Education, Science, Research, and Technology had been predicted within the ministry, it was followed by the opposition of this institution the Minutes of 5-Member Committee for Investigating (GCC Objections, May 13 and 21, 2003). At the Executive Branch, there were other effective groups including the Ministry of Information and Communications Technology, the Ministry of Health and Medical

Education, the Ministry of Agricultural Jihad, the Ministry of Industries and Mines, the Ministry of Energy. Moreover, the Office for the Cooperation of the People with the President and the Management and Planning Organization of Iran were among such groups (the Cabinet Minutes, July 11, 2001).

Oppositions of these institutions can be considered from several aspects:

- According to Article (3) of the bill of Goals, Functions, and Structure of the MSRT, the formation of the Higher Council for Science, Research, and Technology as the policy-making institution in this area and the establishment of the Secretariat of the Council in the ministry were predicted (Article 4)
- With reference to this bill (A and B of Article 1), all issues related to research in funding and prioritizing research and policy-making in this field as well as policy-making in the field of technology focused on this institution. Since the Secretariat of the Council was located at the MSRT, such changes made those institutions in charge and the ones with interests in this field more active (the bill of Goals, Functions, and Structure of the MSRT, 2001). Spatially, the Management and Planning Organization, was considered more beneficiary than other institutions.
- This idea was raised that the allocation of research budgets and decision-making about it would only focus on the Supreme Council for Science, Research, and Technology through this bill. In spite of the fact that these institutions were a member of the Council, the establishment of the Secretariat of the Council in this ministry led to the belief that this change was merely to increase the power of the MSRT than being as incentives such as cohesion in research policy, and so on.
- Technology was another issue causing activation of these institutions. By changing this policy, the MSRT became responsible for the development of technology. Therefore, institutions in charge of technology opposed this change. Of course, part of this opposition stemmed from different interpretations of the technology. What was considered in this proposal (Article 1) by the MSRT was developing the knowledge related to an idea or invention rather than its commercialization. Most institutions also took technology the wrong way with their industry. On the same basis, they were trying to change the provisions of the bill and affect the process of change to impose their demands (the Cabinet Minutes, July 11, 2001).

In addition, part of the objections was due to the transfer of a part of the functions of the Government to the ministry and the autonomy of universities (Articles 11 and 12). For example, with the approval of this policy and by increasing the power of the Board of Trustees, academic structures that had been previously considered as the responsibility of the Management and Planning Organization were set and approved at universities. Certainly, provisions on the management of universities in the administrative, financial, employment, organizational, and structural fields in the bill were among significant changes in university management (the Cabinet Minutes, July 11, 2001). On another level was the ERC of the Islamic Parliament of Iran, which was a beneficiary of the policy change. Based on this change, universities could have independent management. According this Law, as well as Article 49 of the Fourth Five-Year Economic, Political, Social, Cultural, and Political Development Plan, the Board of Trustees gained extensive powers. In this respect, the ERC was considered a big

contender. Along with oppositions in the ERC, majority of parliamentarians supported the bill and the provisions contained therein (the Detailed Discussion of Parliament, November 2, 2001). In addition to these institutions, the Supreme Council of Cultural Revolution, in charge of macro policy-making in cultural affairs, was an effective institution for such a change. Among the main motivations behind the change in this policy, one can refer to the multiplicity of decision-makers and policy-makers. In drafting the bill, as well as in attempts to legalize it, there were efforts to concentrate on policy-making in the management of SRT in the form of a council (the Supreme Council of Science, Research, and Technology), whose secretariat was in the MSRT. Therefore, a part of the functions that had been considered for this council was believed to be in conflict and parallel with the functions of the Supreme Council of the Cultural Revolution. Accordingly, the functions of the Supreme Council for Science, Research, and Technology were seen as an interference with the functions of the Supreme Council of the Cultural Revolution. On this basis, this institution was also trying to affect this policy by shaping the process of change (the Minutes of 5-Member Committee for Investigating GCC Objections, May 13 and 21, 2003; June 18 and 25, 2003).

- B. Relations between policy-making institutions:** Another factor affecting the process of the policy change was the relations between policy-making institutions, which were effective in the restructuring context of the MSRT. The relations of policy-making institutions here refers to the type of relationships and differences or similarities of views and attitudes of individuals within institutions interacting with each other in the fields of SRT policy-making and shaping the process of policy change. The type of relations between these institutions and groups can be studied in several aspects. At one level, the relationship between ministry officials and academic community can be discussed, the fact that the members of the academic community could transfer their comments and views to authorities and policy-makers through meetings, seminars, and personal communications in the field of such issues deal with them. As well, policy community and experts were interacting with each other. On the other hand, (more specifically in the sphere of higher education), most policy-makers in this field were individuals involved in academic and administrative areas due to several years of experience about the problems of these sectors. As said of one of participants:

“After the Islamic Revolution, a wide range of specialists in all institutions (including the Executive Branch, the Islamic Parliament of Iran, and university chancellors) had formed a discourse due to several decades of interactions resulting in the proposal of problems and issues and the need for change in management and policy-making in this field”.

At another level, there was the relationship between the Executive Branch and the Islamic Parliament of Iran or these two institutions with the Supreme Council of Cultural Revolution. Accordingly, a combination of members of these two institutions and the composition of the seats in the Islamic Parliament of Iran could also affect

change acceptance, ideas outlined in policy, pace of proposal, policy approval, and ultimately policy process outputs.

- C. **Persuasive strategies:** These strategies represented a set of actions that policy-makers and key actors had made to analyze and explain issues in order to provide a positive interpretation of changes in this sphere and in the nature of the proposed solution. Such strategies had been employed to explain the policy and to persuade the support of individuals, groups, and institutions. The policy-makers (particularly advocates of the policy change) tried to create a positive image of the proposed solutions to draw the attention of the target society to them. Such actions aimed to win the opinions of groups and individuals to support the policy change. However, the main actors in policy change were trying to make use of negotiations, political lobbies, or other strategies to attract the support of effective institutions including ministries, the Management and Planning Organization, the ERC of the Islamic Parliament of Iran, and the Supreme Council of Cultural Revolution in this field towards the provisions of the proposed bill. Such actors were also attempting to gain the required support by the change through creating a positive interpretation of the need for change and its positive outcomes on solving problems in this field (the Detailed Discussion of Parliament, October 29 and 30, 2002; the Minutes of 5-Member Committee for Investigating GCC Objections, May 13 and 21, 2003; June 18 and 25, 2003).

At this phase, the role of two individuals (the minister and his educational deputy appointed as the minister after resignation) was of utmost importance. These actors, using a scientific approach and expertise, sought to keep the content of the policy formulation away from the effect of political issues. Such an effort had been effective in gaining the trust and attracting the attention of parliamentarians, particularly members of the Islamic Parliament of Iran. In addition, there have been some disagreements within the MSRT and some universities, especially regarding the independence of universities. With the definition of the Supreme Council of Science, Research, and Technology, the tasks of the Development Council were assigned to it, which gave rise to some opposition. The role of policy entrepreneurs, particularly in holding consultation sessions and meetings of universities and the ministry officials was also of importance to reduce dissents. The efforts made by the minister and his deputies to justify the goals for changing the policy were considered as effective strategies in attracting and persuading others, particularly opposition groups, especially when this proposed policy entered into the legalization phase. Owing to the integration of activities related to policy and planning in the field of research and technology in the Higher Council for Science, Research, and Technology, numerous ministries in charge of research and technology declared their disagreement. Nevertheless, expert debates on the reasons and the advantages of forming the council and the role of other institutions along with the MSRT on this council and their activities convinced most of the opponents to support the bill. As one of interviewees has said:

“... The role of the minister and his deputies to justify the goals of the policy change and convince the opponents was very important...”



Another important role of entrepreneurs was to remove challenges emerged in terms of the overlap of functions of the Supreme Council for Science, Research, and Technology with the Supreme Council of the Cultural Revolution that finally made the minister to resign. Upon changing the management of the ministry in 2003, the role of the new minister in attracting the opinions of the Supreme Council of the Cultural Revolution and achieving agreements was very important (the Detailed Discussion of Parliament, October 29 and 30, 2002; the Minutes of 5-Member Committee for Investigating GCC Objections, May 13 and 21, 2003; June 18 and 25, 2003).

D. **Mass media:** In this case, the role of the media (seminars and conferences, journals, meetings, the Internet, etc.) as important components in the field of this policy change can be delineated in two aspects:

- Clarification and focus on the issues of the area: In this respect, there were attempts to raise the issues and problems and to discuss them in this field through the media to affect the public (here, the academic community and stakeholders of SRT) and policy-makers, which was very effective.
- Role of notification: Accordingly, the role of the media included notification of events happening in the policy change process, particularly those associated with the entry of the proposed bill to the Islamic Parliament of Iran. Challenges facing the bill in the field of interference of functions set for the Supreme Council of Science, Research, and Technology and the Supreme Council of the Cultural Revolution and their consequences could be additionally notified along with events that subsequently occurred in the context of addressing these challenges and somehow about this change. The following paragraph is quote of one of participants

“About this bill, the mass media played the important role. In one hand, the media helped to explain the issues of the SRT area. On the other hand, it could present the comprehensive image of the challenges of the policy advocates....”

Generally, in this case, the role of the media after the start of policy process was considerable.

## Discussion and Conclusion

In this paper, there were attempts to answer some questions: “Why such a change was put on the agenda?”, “What events led to this policy change?”, and “How was the process of policy change?”

The findings showed that such policy changes could be affected by multiple factors in three phases.

During the issue-setting phase, the problem was defined as the management and planning approach in the fields of SRT. Universities also needed to be changed. Moreover, continuation of the previous approach was not tailored to the expectations of scientific development approach, causing problems in this field. These issues

affected in part by previous policies as well as developments and global changes could draw the attention of the academic community and the officials of the Ministry of Culture and Higher Education and in general the policy-makers in the fields of SRT. As a rule, these problems were transmitted to the authorities through the academic community and university chancellors. Majority of policy-makers in this field, as individuals in the administrative areas of universities with high levels of experience in universities, had recognized the problems of this part. According to the related literature, problem definition is an important field for both practitioners and researchers, referring to serious discussions in terms of its role in determining issues that arise on the agenda and the actions taken for this purpose (Ackoff 1974; Bacchi 2009; Dery 1984; Horn and Weber 2007; Jeon and Haider-Markel 2001; Peters 2005; Rochefort and Cobb 1994; Simon 1973). However, its connection with policy change has been studied by known scholars; for example, the problem stream is one of the three streams used by John Kingdon (2003) in the MAF to explain policy change.

On the contrary, social developments and changes in the management and movement of key individuals and policy-makers in this area and other parts provided an opportunity for entrepreneurs to try to change this policy and influence their ideas. However, since the early 1990s, Iran has observed a series of social and paradigm changes in the management. From the middle of that decade, a certain approach has brought up on how to manage (affected by New Public Management). Such an approach in some ways is affected by the SRT policy. Policy entrepreneurs and academic community have further tried to use this opportunity to raise the ideas of restructuring as a means to change policy-making and planning in the fields of SRT. These issues have been analyzed in a large scale and the outcomes have been a type of consensus about need for change in this area. Policy issues and management of SRT have been also put on the agenda. Finally, the Act was approved as an important radical change in this area. Accordingly, it could be suggested that issues of a field or a subsystem are considered as effective factors in policy change. If these issues attract policy-makers' attention and the policy community and public opinion reach a consensus on the need to resolve these issues, it is possible that a new policy be adopted in that area. The proposal of change in policy leading to the Act is also raised due to the need to resolve some basic issues discussed in the previous section. In addition, strategies employed by policy-makers to explain the issues and to present the policy proposal are important in the process of policy change. On this basis, if decision-makers relying on these strategies are able to convince the policy community, it is likely that the policy change is in accordance with the desired results. Regarding the Act of Goals, Functions, and Structure of the MSRT, the strategy of policy-makers was very important in highlighting SRT issues and the need to resolve them as well as gaining the support of individuals and the opposing institutions as well as supporting the bill to be put it on the Government agenda. In their model of the policy game, Boin et al. (2009) had correspondingly suggested that framing strategies chosen by advocates of the status quo and change could determine the occurrence and the degree of policy change after an external shock. The history of thinking and ideology of some ministry officials (such as the MSRT) in the process of policy change and its approval, especially some provisions of the proposed bill, have created challenges

and have consequently affected the outcomes of the policy change process. However, the role of policy actors and their proposed policy in support of such a change cannot be ignored. As mentioned, the role of two individuals was very important, seen as policy entrepreneurs by Kingdon (2003). Thus, it can be suggested that policy entrepreneurs can change the policy outcomes in accordance with their viewpoints if they are part of the policy community and are closer to policy-making institutions. Accordingly, the success possibility of changes considered by entrepreneurs will be high. The concept of policy entrepreneurs and the role of these actors in policy change are rooted in the ideas of some scholars (e.g. Kingdon 1984, 1994; Mintrom and Vergari 1996; Mintrom 1997; Roberts 1998). They are characterized as political actors who can identify problems, promote policy ideas, and articulate policy innovations onto the Government agenda. They can be also an important source of policy innovations, societal transitions, and radical changes (Cohen 1988; Currie et al. 2008; Loorbach 2010; King and Roberts 1992; Roberts 1998; Timmermans et al. 2014).

It was also observed that managerial and political changes as well as the approach and viewpoints of the ruling management (namely, the ruling coalition) could increase the likelihood of major changes in the policy. If the approach adopted by policy-makers was in line with that of the policy community, then a proper opportunity could arise to make changes and the possibility of supporting the policy in the change process will multiply. In the policy literature, the executive or legislative turnover and political change or parties could change and alter the ruling coalition, as discussed explicitly or implicitly in some policy change theories (i.e. the ACF by Sabatier, 1998; John Kingdon's MSF, 1993; and Baumgartner and Jones' PET, 1993). Another important point for this case was that the orientation process was towards flexibility policy in the management process and changes, but attention to research and technology since the early 1990s and especially after the war with managerial experience had begun two decades after the Islamic Revolution. The key aspects of the change in policy and the main ideas of change in this policy had been also highlighted following management change in the 1990s. The Government and particularly the MSRT of the academic community had sought to use this opportunity to bring up the restructuring ideas as a means to change policy-making and planning in the fields of SRT. Although such changes were not obviously disclosed in the programs of the President in 1997, they were raised as the priorities of the minister (Priorities of the Minister of Science 1997). Besides, these ideas had been addressed in the former government by the ministry, but in the new government, there had been attempts to utilize these new management perspectives and combine the Cabinet of Iran to make such an idea practical. On the other hand, the consensus within the higher education system, particularly in the academic community in the field of university administration as well as planning in the fields of SRT was another factor that helped the proposed change and its approval. The identity and the status of policy entrepreneurs (i.e. their approach) were also effective in the process of policy change and its results. The main policy entrepreneurs were about the Act of Goals, Functions, and Structure of the minister and the educational deputy of the ministry. They were the main thinkers of the proposal to amend the Act. The position of these entrepreneurs within the scientific community as well as their management experience in universities and other policy-

making processes enabled them to talk with other professionals, policy-makers, and powerful people to gain support for their ideas. These individuals were top officials in the Executive Branch, the ERC of the Islamic Parliament of Iran, and the Supreme Council of the Cultural Revolution. Also, the role of some individuals was important in gaining confidence and reducing tensions and challenges encountered in the policy approval process (the Detailed Discussion of Parliament, October 29 and 30, 2002; the Minutes of 5-Member Committee for Investigating GCC Objections, May 13 and 21, 2003; June 18 and 25, 2003).

The trace of other factors was also observed. In this respect, interest groups had an effect on the process of policy change and its outcomes. The interest group in this study referred to any organized groups seeking to influence public policy. They try to use power venues and other tools to change the results of the policy process in accordance with its approach. Considering changes in the Act, some interest groups attempted to support the proposed policy to approve the outcomes in accordance with their approach (including some in the university community, the MSRT, and the ERC of the Islamic Parliament of Iran). On the other hand, some groups and institutions opposed the issues addressed in the proposed bill of the government and they were trying to affect the process of policy change and its outcomes. In the Executive Branch, some ministries and agencies had different views unlike those by the MSRT. Another source of opposition was from some members of the Islamic Parliament of Iran at the Legislative Branch, creating challenges in the approval process of this change. However, the most important interest institution in the approval of the provisions of the proposed bill was the Supreme Council of the Cultural Revolution. Therefore, it was suggested that the power of interest groups and institutions as well as their institutional position in the society (the nature of group members, political power, and even intellectual foundation and its approach) could increase the success of these institutions to influence policy change and effectively the policy outcomes. They also search for appropriate ways to interact with decision-makers and institutions.

The media was the final concept identified in this respect. The research regarding the effect of media is typically rooted in the literature on agenda-setting theory (Liu et al. 2019; Luo and Harrison 2019). However, the role of media had been studied from different directions including the crucial role of media on agenda-setting (Downs 1972; Mc Combs and Shaw 1972), the effect of media on public opinion (Yanovitzky 2002; Zaller 1991), and the impact of public opinion on policy-makers and decision-makers (Soroka and Wlezien 2002). As well, the effect of media on priorities of policy-makers (Mc Combs and Shaw, 1972), the direct influence of media on policy-makers and finally the role of media in policy process (Lambeth 1978; Baumgartner and Jones 2009; Kingdon 2003) were among other examples.

Despite the fact that the media has an indisputable role in issue statement, policy agenda, and changing public opinions, the findings revealed that the media generally reports events or factors that the government is doing or the ideas that policy-makers have provided in their proposed idea. According to Kingdon (2003), the media has had the most significant effect after the start of the policy process. About this case, it was concluded that the media had more promotional impact rather than being considered as an independent factor affecting the agenda. However, the media can have a large influence on policy change and its outcomes if it supports a specific policy during policy change. Therefore, it was suggested that the media had an effect on policy

change. However, the media has merely the role of disseminating information about the scheme of issues and the change of trends. In other words, the media begins to cover when usually the agenda and policy ideas are developed. Furthermore, the media will be very effective if it supports the issue, the decision, or the policy idea in the process of change and the progress of the policy change.

**Funding** This study was funded by the Tarbiat Modares University.

## Compliance with Ethical Standards

**Conflict of Interest** The authors report no conflicts of interest. Both of authors participate in the all activities about creation this manuscript; formulated its design, coordinated the conduct of the study including data collection and analysis, interpreted the data, and drafted the manuscript; All authors read and agree with.

**Ethical Approval** This study was approved by the Tarbiat Modares University ethics committee and all procedures performed in studies involving human participants were in accordance with the ethical standards of the university.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

## References

- Ackoff, R. L. (1974). *Redesigning the future*. New York: Wiley.
- Approvals of the committee meetings to investigate the objections of GC dated (May 13 and 20, and June 7, 11, 18, and June 25, 2003), The Secretariat of Guard Council.
- Azizi, N. (2006). *Development of higher education in Iran*. Tehran: Institute of Social and Cultural Studies Publications.
- Bacchi, C. (2009). *Analyzing policy: What's the problem represented to be?* Sydney: Pearson Education.
- Baumgartner, F. R., & Jones, B. D. (1993). *Agendas and instability in American politics*. Chicago: University of Chicago Press.
- Baumgartner, F. R., & Jones, B. D. (2009). *Agendas and instability in American politics*. Chicago and London: The University of Chicago Press.
- Baumgartner, F. R., Jones, B. D., & Mortensen, P. B. (2014). Punctuated equilibrium theory: Explaining stability and change in public policymaking. In P. A. Sabatier & C. M. Weible (Eds.), *Theories of the policy process* (3rd ed., pp. 59–103). Boulder: Westview Press.
- Bazargan, A. (1997). Self-assessment to academic validation in Iran. The regional seminar on higher education in the next century, Feb. 27-29, Tehran.
- Blomquist, W. (2007). The policy process and large N comparative studies. In P. Sabatier (Ed.), *The theories of the policy process* (2 end ed.). Boulder: Westview Press.
- Boin, A. H., Paul, T., & McConnell, A. (2009). Crisis exploitation: political and policy impacts of framing contests. *Journal of European Public Policy*, 16(1), 81–106.
- Bureau of Investigation and Presidential Industrial-Scientific Studies (1998) Biotechnology. *Bulletin*, 3(19).
- Cohen, S. (1988). *The effective public manager: Achieving success in government*. San Francisco: Jossey-Bass Publishers.
- Currie, G., Humphreys, M., Ucbasaran, D., & McManus, S. (2008). Entrepreneurial leadership in the English public sector: paradox or possibility? *Public Administration*, 86(4), 987–1008.
- Davari Ardakani, A. (2003). A survey on the approach of the parliament to the higher education section in terms of legislative plans. *Parliament and Research*, 10(41), 245–267.
- Dery, D. (1984). *Problem definition in policy analysis*. Lawrence: University Press of Kansas.
- Donnelly, P., & Hogan, J. (2012). Understanding policy change using a critical junctures theory in comparative context: the cases of Ireland and Sweden. *Policy Studies Journal*, 40(2), 324–350.
- Downs, A. (1972). Up and down with ecology- the 'issue attention cycle'. *The Public Interest*, 28, 38–50.

- Fayyazi Mahabadi, A. (1998). Coherence in the Decision-Making System of The Multidimensional Problem of Higher Education, Keyhan.
- Frasatkah, M. (2002). Pathology of planning for higher education in Iran. Institute for Research and Planning for Higher Education.
- Gerring, J. (2007). *Case study research: Principles and practice*. New York: Cambridge University Press.
- Ghofrani, M.B. (1997). Higher education missions in the new world and in Islamic Iran, Regional Seminar on Higher Education in the next century, Feb. 27–29, Tehran.
- Ghofrani, M. B. (1998). *Higher education, research & technology, missions and challenges*. Sharif University of Technology.
- Ghofrani, M.B. (1999). Structural issues of the country's higher education system, executive strategies and policies, committee for the study of higher educational structural issues.
- Ghofrani, M.B. (2003). Structural problems of Iran's higher education system and its outcomes in the fourth plenary, Parliament and Research, No. 41.
- Heikkila, T., Pierce, J. J., Gallaher, S., Kagan, J., Crow, D. A., & Weible, C. M. (2014). Understanding a period of policy change: the case of hydraulic fracturing disclosure policy in Colorado. *Review of Policy Research*, 31(2), 65–87.
- Horn, R. E., & Weber, R. P. (2007). *New tools for resolving wicked problems: Mess mapping and resolution mapping processes*. Macro and Strategy Kinetics.
- Javadani, H., & Pardakhtchi, M. H. (2007). A study on the status of organizational development in Iran's higher education system. *Quarterly Journal of Research and Planning in Higher Education*, 46(4), 21–44.
- Javdani, H., Tofighi, J., Mohammad, G. T., & Pardakhchi, M. H. (2008). Study of the state of management of Iran's higher education system from the perspective of top managers: past. *Present and Future, Research and Planning in Higher Education*, 48, 139–161.
- Jeon, Y., & Haider-Markel, D. (2001). Tracing issue definition and policy change: an analysis of disability issue images and policy response. *Policy Studies Journal*, 29(2), 215–231.
- Khaniki, H. (1997). Vulnerabilities in higher education in the process of communicating with society, regional seminar on higher education in the next century, Feb. 27–29, Tehran.
- King, P. J., & Roberts, N. C. (1992). An investigation into the personality profile of policy entrepreneurs. *Public Productivity & Management Review*, 16(2), 173–190.
- Kingdon, J. (1984). *Agendas, alternatives, and public policies*. Boston: Little, Brown.
- Kingdon, J. W. (1994). *Agendas, alternatives, and public policies* (2nd ed.). New York: Harper Collins.
- Kingdon, J. W. (2003). *Agendas, alternatives and public policies* (2nd ed.). New York: Longman.
- Knaggard, A. (2015). The multiple streams framework and the problem broker. *European Journal of Policy Research*, 54(3), 450–465.
- Lambeth, E. B. (1978). Perceived influence of the press on energy policy making. *Journalism Quarterly*, 55(1), 11–18.
- Liu, S., Cai, L., & Zhao, X. (2019). The role of mass media in education policies: a Chinese case study. *Journal of Higher Education Policy and Management*, 2(41), 186–203.
- Loorbach, D. (2010). Transition management for sustainable development: a prescriptive, complexity-based governance framework. *Governance*, 23(1), 161–183.
- Luo, Y., & Harrison, T. M. (2019). How citizen journalists impact the agendas of traditional media and the government policymaking process in China. *Global Media and China*, 4(1), 72–93.
- Mahdavi, M.N., & Ghofrani, M.B. (1999). Science and technology leadership experiences in 19 countries. *Approach*, No. 26.
- Malekiyar, A., & Tabatabaiyan, S.K. (2000). Draft of the bill of the objectives, duties and Organization of the Ministry of science, Research and Technology, Institute for Research and Planning for Higher Education.
- Mansoori, R. (1997). Community needs and the role of higher education in this field, regional seminar on higher education in the next century, Feb. 27–29, Tehran.
- Mashayekhi, A. (2000). A look at the new structure of the ministry of science, Research and Technology and its Impact on Management; Consistency between Structure and Mission, *Tadbir*, No. 102, June.
- Mc Combs, M. E., & Shaw, D. L. (1972). The agenda setting function of the mass media. *Public Opinion Quarterly*, 36, 176–187.
- McBeth, M. K., Shanahan, E. A., Arnell, R. J., & Hathaway, P. L. (2007). The intersection of narrative policy analysis and policy change theory. *Policy Studies Journal*, 35(1), 87–108.
- Mintrom, M. (1997). Policy entrepreneurs and the diffusion of innovation. *American Journal of Political Science*, 41(3), 738–770.
- Mintrom, M., & Norman, P. (2009). Policy entrepreneurship and policy change. *The Policy Studies Journal*, 37(4), 649–667.



- Mintrom, Michael. And Vergari, Sandra. (1996). Advocacy coalitions, policy entrepreneurs, and policy change. *Policy Studies Journal*, 24(3): 420–434.
- Mozaffar, A. (2002). Proposed program for the Administration of Universities and Institutions Higher Education, no. 1, Sharif University of Technology, July.
- Noorozzadeh, R., Fathi Vajargah, K., & Kizori, A. H. (2009). Content analysis of subordinate documents for inference of the programs of the fifth development plans of higher education. *Research and Technology, Quarterly Journal of Research and Planning in Higher Education*, 53, 29–50.
- Peters, B. G. (2005). The problem of policy problems. *Journal of Comparative Policy Analysis*, 7(4), 349–370.
- Pralle, S. B. (2003). Venue shopping, political strategy and policy change: the internationalization of Canadian forest advocacy. *Journal of Public Policy*, 23(3), 233–260.
- Priorities of the Minister of Science. (1997). Ministry of Culture and Higher Education.
- Rahmani Miyandehi, G.R. (1997). University self-government in the future, regional seminar on higher education in the next century, Feb. 27-29, Tehran.
- Ramezani, R. (2002). Current issues of universities and the system of scientific development of the country. *Quarterly Journal of Research and Planning in Higher Education*, 25, 37–62.
- Report ERC to the Parliament (2002). The Parliament Researches Center.
- Roberts, N.C. (1998). Radical change by entrepreneurial design. Acquisition review quarterly (Spring 1998).
- Rocheftort, David A. And Cobb, Roger W. (1994). The politics of problem definition: Shaping the policy agenda, University Press of Kansas.
- Roundtable on the Need to Organize Science and Technology Management (1997). Tadbir, No. 77.
- Sabatier, P. A. (1988). An advocacy coalition framework of policy change and the role of policy-oriented learning therein. *Policy Sciences*, 21(2–3), 129–168.
- Sabatier, P. A., & Jenkins-Smith, H. (1993). The advocacy coalition framework: Assessments, revisions, and implications for scholars and practitioners. In P. A. Sabatier & H. Jenkins-Smith (Eds.), *Policy change and learning: An advocacy coalition approach*. Boulder: Westview Press.
- Sajjadi, M., & Tasnimi, A. A. (1997). Methods for promoting the status of higher education in the government. *Parliament and Research*, 23, 293–284.
- Salehi, A., & Tajgarlo, R. (1996). Board of Trustees at universities in Iran and the world. Proceedings of The First Seminar of the Board of Trustees of Universities. Institutions of higher education and research centers. Tehran. Ministry of Culture and Higher Education.
- Schlager, E., & Blomquist, W. (1996). Comparison of three emerging theories of the policy process. *Political Research Quarterly*, 49(3), 651–672.
- Simon, H. A. (1973). The structure of ill structured problems. *Artificial Intelligence*, 4(3–4), 181–201.
- Soroka, S.N., & Wlezien, C. (2002). Opinion-policy dynamics: Public preferences and public expenditure in the United Kingdom, Paper Presented At The Elections, Public Opinion and Parties Annual Conference, <http://www.Nuff.Ox.Ac.Uk/Users/Soroka/Degree.Html#>.
- Tayi, H., Vahidi, P., & Ghofrani, M.B. (2002). Specialist Human Resource Requirement Plan. Integration report, No. 7. June.
- The Act of Combination of the Board of Trustees of Universities and Institutions of Higher Education and Research. (1997). Supreme Council for Cultural Revolution, Tehran.
- The Act of the Objectives, Duties and Organization of the Ministry of Science, Research and Technology. (2003). Approved by Parliament.
- The Cabinet Minutes. (2001). The Cabinet Secretariat.
- The Detailed Discussion of Parliament. (2001). The Parliament Researches Center.
- The Detailed Discussion of Parliament. (2002). The Parliament Researches Center.
- The Fourth Economic, Social, Cultural and Political Development Plan (2005–2009). The Parliament Researches Center.
- The Goals of the Minister of Culture and Higher Education (Mostafa Moin). (1997). Planning high council, Ministry of Culture and higher Education, Summer.
- The Minutes of 5-Member Committee for investigating Guard Council' Objections (2003). The Secretariat of Guard Council.
- The Secretariat of Structure Reform Minutes (2000–2001). The Planning and Research Institution.
- The Third Economic, Social, Cultural and Political Development Plan (2000–2004). The Parliament Researches Center.
- Timmermans, J., Van Der Heiden, S., & Born, M. P. (2014). Policy entrepreneurs in sustainability transitions: Their personality and leadership. *Environmental Innovation and Societal Transitions*, 13, 96–108.
- Tofigi, J. (2000). Review the new structure of the Ministry of Science, research and technology and its impact on management; the consistency of structure and Mission. Tadbir, no. 102. June.

- Yanovitzky, I. (2002). Effects of news coverage on policy attention and action: a closer look into the media-policy connection. *Communication Research*, 29(4), 422–451.
- Zaller, J. (1991). Information, values, and opinion. *American Political Science Review*, 85(4), 1215–1237.
- Zohoori, H., & Sohrabpour, S. (1996). Supervisory role and role of the Ministry in the University Administration by the Board of Trustees, proceedings of the first seminar of the Board of Trustees of universities, Institutes of Higher Education and Research Centers, Ministry of Culture and Higher Education.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

**Hassan Danaeefard** is a professor of public administration at Tarbiat Modares University in Iran. He has published articles in *Public Administration Review*, *International Journal of Public Administration*, *Public Organization Review*, *Organization*, *International Journal of Project Organisation and Management*.

**Tayebeh Abbasi** is an Assistant Professor of the Department of Public Administration, University of Tehran. She has done researches in the fields of public administration and public policy (in Higher education area). She has worked in Tehran Planning and management organization for 10 years.