

Legal Aspects of Utilization and Management of Thermal Springs in Iran

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ABSTRACT

A host of hot springs is distributed in Iran. They are widespread in most of the 31 provinces regarding the geological situation of Iran that is actually a mountainous country with an active tectonic system. Despite the great role of thermal springs in tradition and their paleontological utilization that even effect the economy of some provinces like Ardebil in North Western Parts of the country, there are no clear regulations to operate these water and energy resources. "The law of fair distribution of water" is the main law in the water sector in Iran that was approved in 1982. Although this law authorizes The Ministry of Energy (Water resources management company of Iran) to manage, there are still some ambiguities in terms of ownership, management and legal operation of these resources.

1. INTRODUCTION

According to national statistics of water resources throughout the country in 2011, more than 173,000 springs with 12.6 billion cubic meters of discharge per year in Iran (Ministry of Energy, Journal No 228) are distinguished. Many of them have temperature more than 25°C known as thermal (hot) springs shown in Figure 1. They are widespread in most of the 31 provinces of Iran, regarding geological situation of Iran that is actually a mountainous country with an active tectonic system. Geothermal energy is divided as direct and indirect uses worldwide. Renewable energies in Iran constitute a small portion of the annual electricity generation resulting from national enrichment in hydrocarbon resources. Iran's effort to generate electricity from high potential resources with high thermal gradients around the Iranian Quaternary volcanoes, especially Mount Sabalan, which began in 1974 (Eshaghpour et al, 2010), has not been significantly successful. But direct uses of geothermal energy, especially paleontological uses of hot and mineral springs dating back to ancient times in Iran. These thermal springs play an important role in its culture, traditions and tourism. However, a look at the existing laws indicates that there is disqualification in this way for the protection, operation and development of hot springs in Iran. Most of the relevant laws in this sector are found in the existing set of laws in the Iranian water sector class and in the groundwater sector subclasses. Groundwater in Iran is divided into three main forms: wells, springs and qanats. Qanat or Kaiz is a groundwater resource that had been utilized from ancient times in arid area of central Iranian plateau that is surrounded by rough mountains as a source of the water. There are no specific laws covering hot and cold springs in Iran because Iran is mainly an arid country with annual precipitation of 238 mm/yr (<http://wrs.wrm.ir>). The laws on the conservation and utilization of alluvial aquifers have been specified in groundwater resources of wells and qanats, and to date, the legislature has not provided separate entries on springs issues and, more interestingly, even once in specific laws, the name of thermal springs is not mentioned but there are other guideline and regulations that will discuss in this paper.

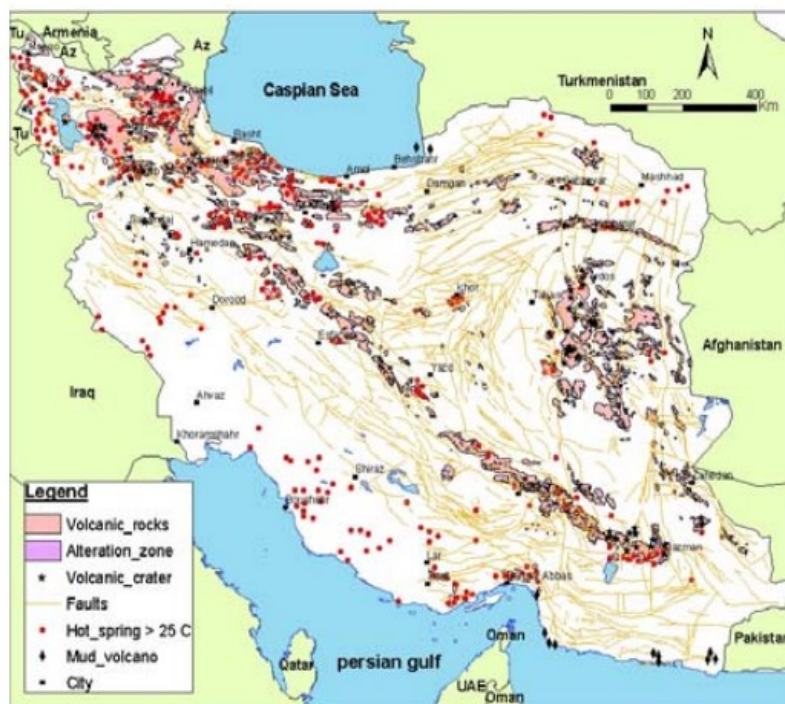


Figure 1: Distribution of thermal springs in Iran (Yousefi et al, 2007)

2. CHRONOLOGY OF WATER LAWS AND REGULATIONS INCLUDING GROUNDWATERS

Chronological list of law and regulations related to preservation, utilization and management of groundwater resources in Iran are listed here:

- Civil Law adopted on 03 March 1928.
- Law on qanats adopted on 29 August 1930.
- Law on water and trends of its nationalization, approved by the National Assembly on 18 July 1968.
- Appeared Land and Coastal Land Law, approved by the National Assembly on 20 July 1975.
- Constitution of the Islamic Republic of Iran approved on 15 November 1979.
- Law on fair distribution of water approved 7 - 3 - 1983.
- Implementing Regulations of Chapter Two of Law on fair distribution of water Act No. 49724 dated 10 - 11 - 1984.
- Perspective Document of the Islamic Republic of Iran in the Horizon 2025 approved on 4 - 11 - 2003.
- General Policies of Second Development Plan approved on 9 - 11 - 1993.
- General Policies of Third Development Plan approved on 22 - 5 - 1999.
- General Policies of the Fourth Development Plan approved on 11 - 12 - 2003.
- General Policies of the Five Development Plan approved on 10 - 1 - 2009.
- Law on the Determination of Non-Licensed Wells: approved on 4 - 7 - 2010.

The Rule of Private Rights from 1906 to 1968, The Rule of Public Law from 1968 to 1978, The Rule of the Issues of Islamic Law from 1978 to 1982, The State Rule of Water from 1991 to Now, and the Age of Change Water has been around since 2010. The debate began with Civil Law in 1925 and continued until the law defining the assignment of wells without a license was outlined by the legislator's shift from private law to public law since 1968 (Madanin, 2019).

For example, Implementing Regulations of Chapter Two of Law on fair distribution of water Act. In 16 articles it deals only with the utilization and development of underground water resources in case of water wells and qanats. It does not mention the use of springs except in the first article which merely deals with the development of springs as one of the ways of utilization of groundwater resources in Iran.

Groundwater resources, as one of the main and most important water resources in an arid area like Iran, has been the source of drinking water, agriculture, industry and so on, perhaps because of the second and third chapters of the Water Fair Distribution Act in relation to water law and the way it has been nationalized has changed, as set out in the previous law of Chapter Two to surface waters and in the latter law, Chapter II to groundwater and Chapter III to surface waters. (Badisar and Modabbarnejad).

Civil Law adopted on 3 - 5 - 1928

The first volume of Iranian civil law is described as a masterpiece of law-making. This law is one of the most important laws in the day-to-day policymaking of Iranian society, after 5 years of its enactment (May 6), today with two articles, three notes and three volumes. Each of the three volumes actually refers to a stage in the passage of this law. The first volume on property was approved in year 2, the second volume on the subject of persons in year 2 and 2, and the third on the proof of the claims in year 2 to 5. In general, in any society, civil law expresses the relationships between individuals in that society and is therefore very important.

The first issue of Iran's Civil Code was initially reviewed only by representatives and was not approved. Rather, the law was enacted on May 1, 2009. The permit was issued under the "Law on the Implementation of the Civil Bill until the Declaration of the Parliamentary Justice Commission Decides". The law abolished capitulation from that date and allowed the government to enforce the proposed civil law.

There is a strong belief that in the formulation of Iranian civil law, it was inspired by the laws of the French, Egyptian, and Ottoman countries. Seyyed Mohammad Fatemi also mentioned this issue in his diary in addition to his role in drafting the provisions of this law. The influence of famous jurisprudential books such as "Sharaye", "Javaherol-Kalam", "Sharhe-Lome", "Makaseb" and "Almajalleh" which are related to Ottoman law in civil affairs, are also mentioned. In addition to French civil law, the laws of Belgium and Switzerland were also unaffected by the adoption of the second and third volumes.

Amendments to the Civil law

Prior to the victory of the Islamic Revolution, this law was changed only twice during the years 1 and 2. But after the victory of the revolution in year 2, the first amendment to the law was passed in January of that year, for a period of two years, which was finally approved in year 2 as "amending the civil law with changes in the meaning of the terms."

The last amendment to the law was also passed by the House of Representatives in August 2008, which approved the Expediency Council on January 8 of that year:

Article 25: No one may own publicly owned property such as bridges, inns, public warehouses, old schools, and public squares. And so are the wells and the wells used by the public.

• Article 27: Property which is not the property of persons and which people may own or use in accordance with the provisions of this Act and the laws relating to each of their various types is called dispossession, such as lands that are idle. And there should be no cultivation.

• Article 5: Persons may have the following interests in property:

Ownership (whether objective or beneficial))

The right to profit

The right to apportion non-property.

- Article 4: The right to a profit is a right whereby a person may use the financial property of which he or she owns or has no other property.

Topic 1: In Life, Competition, and Living

- Article 1: Interaction is a right of one person to another property.
- Article 96: The fountain of the event in the land is condemned by the owner of the land unless the other person has a legitimate interest in it.
- Article 1: The right to co-opt shall also include the means of asserting that right, such as if a person has no right to drink from a fountain or dock or non-reservoir, the right to cross that fountain or dock or reservoir also for removal of water.
- Article 134: No person who participates in a single crossing can be a partner in any water barrier.
- Article 2: The fountains and qanats on each side shall be in the Gazebo (1) Gaz and in the Hard Land (1) Gaz but if the amounts referred to in this Article and the preceding Article are not sufficient to prevent such damage as to be sufficient for the purpose. adds
- Article 139: Proprietorship is the property of the proprietor and the acquisition and disposition of it which is contrary to what is intended is prohibited without the permission of the proprietor and thus no one may make a well in other sources or occupations but which may cause harm.
- Article 160: Anyone in the land of self-immolation shall be liable for the possession of the aqueduct or the supply of water to another or its current source of water shall be deemed a boon until such time as the water has been reached.

3. LAW ON WATER AND TRENDS OF ITS NATIONALIZATION, APPROVED BY THE NATIONAL ASSEMBLY ON 18 - 7 - 1968

- Article 1: All current waters in rivers and natural wells, valleys and streams, and any other natural route, including surface and underground, as well as floods and drainage and drainage and lakes and marshes and ponds, springs and mineral waters and groundwater resources and groundwater resources. The public is responsible for maintaining and exploiting this national wealth and for the construction and management of water resources development facilities.
- ARTICLE 10: USE OF WATER RESOURCES UNDER ARTICLE (1) OF THIS LAW SHALL BE SUBJECT TO THE PURCHASE OF A USE PERMIT.
- Article 62: Nationalization of water and its related materials and regulations shall be advertised and implemented gradually in the catchments of rivers and groundwater resources of the region, region by region, with due regard to financial and technical facilities and development plans. It is the responsibility of the Ministry of Water and Electricity to determine these specific regulations and the date of their implementation.

4. LAW ON FAIR DISTRIBUTION OF WATER

- Article 1: According to Article 45 of the Constitution of the Islamic Republic of Iran, seawater and running water in natural rivers and streams and valleys and any other natural route including surface and groundwater and floods and drains and drains and lakes and marshes and natural ponds and springs. And mineral water and groundwater resources are common and are owned by the Islamic State and are exploited in the public interest. The responsibility for maintaining, permitting and supervising their removal is vested in the government.
- Article 3: Use of Groundwater Resources Except as provided in Article 5 of this Law, by drilling any wells and qanats and developing springs in any area of the country, with the permission and consent of the Ministry of Energy, and the said Ministry taking into account the hydrogeological characteristics of the area. (Identification of Ground and Groundwater Classes) and Provisions provided by this Act Issues drilling and operating licenses.
- Article 4: In areas where the Ministry of Energy has determined that the use of groundwater resources is excessive or where government plans require, the Ministry of Energy shall be permitted to dig deep or semi-deep wells or qanats or any other geographical area. Prohibit any increase in the use of the area's water resources for a specified period. Extending or removing the ban is with the Ministry of Energy.
- Article 5: Drilling of wells in forbidden areas and use of water for home, drinking, sanitation and gardens up to 25 cubic meters per day is permitted. . The Ministry of Energy can use these types of wells to check the waters of the area and inspect the collection and use of statistics

- Note 1: In the forbidden areas, the wells covered by this Article shall be authorized with the written consent of the Ministry of Energy and shall not require any drilling or operating licenses.
- Note 2: If the drilling of the wells covered by this article reduces or dries out the water of the wells or the aqueduct or adjacent springs, the Ministry of Energy shall try and reach an agreement between the parties and, if no agreement is reached, the petitioner may appeal to the competent court.
- Article 6: Owners and users of wells or qanats shall be responsible for the prevention of their water pollution and shall be bound by health regulations. If it is prevented from contaminating water out of their power, they are required to notify the Environmental Protection Agency or the Ministry of Health.
- Article 7: In the case of wells with a permissible amount exceeding the reasonable consumption of wells and having a surplus of wells by providing evidence and evidence for agricultural, industrial and urban affairs, the Ministry of Energy may, as long as the social necessity so requires, pay attention to the rules and regulations of the public interest for all permit users consumption will be issued and the fair price of water will be paid to the owner of the well.
- Article 8: The Ministry of Energy shall, at the request of the applicant, dig a well or aqueduct and, for technical and scientific guidance, examine the digging of a well or aqueduct technically and economically and dispatch its experts to the place where necessary. The applicant will be guided and the cost of the exam will be borne by the Ministry of Energy tariff.
- Note: Rural cooperatives and Rural and Tribal Service Centers and public institutions will only pay 50% of the bachelor's degree.
- Article 9: In cases where saline or contaminated water is mixed with fresh water, if the Ministry of Energy considers it necessary, it may block the saline or contaminated conduit after informing the owners and users. And if it is not technically possible to close or demolish the well or conduit without paying any damages. If the well owner complies with the conditions and specifications contained in the drilling and exploitation permit, the Ministry of Energy will compensate the well owner for the damage.
- Article 10: Owners of artesian wells or qanats whose resources are under pressure are obliged to install valves and to prevent groundwater loss, especially in a season that does not require groundwater exploitation. Prevent permanent discharge of groundwater Valves.
- Article 11: In artesian and semi-artesian wells, the owner of the well shall be obliged to prevent the penetration of pressurized water into other layers if the Ministry of Energy makes use of wall coverings or other appropriate means to detect the Ministry of Energy .
- Article 12: Any well, with the exception of the wells referred to in Article 5 of this Law, shall, where necessary, be identified by the Ministry of Energy and shall be provided with means of measuring water levels and discharge rates according to the Ministry of Energy. If it is necessary to measure the extracted water from the well and the existence of a meter, the Ministry of Energy shall prepare and install the meter at the proprietor's expense. Per License holders are now required to report on the amount of water consumed upon request and instructions from the Department of Energy.
- Note: The Ministry of Energy may, at its own expense, provide the necessary equipment for measuring water. Maintenance of the aqueduct and measuring the water supply of the aqueduct will be with the aqueduct administrators.
- Article 13: Natural and legal persons whose profession is drilling and drilling wells or aqueducts must obtain a Drilling License from the Ministry of Energy and shall not be permitted to drill without a Driving License.
- The aforementioned persons are obliged to comply with all the conditions set forth in the Drilling License and Drilling License and if their license is infringed, and if they do so without a license, in the case of the natural persons of the owner of the machine and in the case of legal persons. Operating companies or organizations and institutions of drilling shall be punished by the punishment provided for in Article 45 of this Law and, if repeated, the Ministry of Energy may, with the consent of the Prosecutor's Office, seize the drilling facility. The court will determine the task of drilling
- Article 14: Whenever a new well or aqueduct is excavated or exploited in non-irrigated areas of adjacent water resources or dries up, it shall operate in one of the following ways.
 - A) If the reduction or drying of adjacent sources is compensated by the excavation or digging of another well, by agreement of the owners of the new wells, they shall pay the cost of the well or the excavation to the adjacent resource owners.
 - B) In the event that the reduction or drying of adjacent springs by drilling or paving is not compensated, then the agreement of the parties to reduce the amount of adjacent springs to participate in operating costs shall be provided by the Ministry of Energy for the detection of new wells or aqueducts. In the event of any disagreement between the parties in accordance with paragraph C of this Article.
 - C) If the problem of adverse effects on adjacent resources is eliminated by reducing the use of new wells or aqueducts, then the extent of exploitation of new wells or aqueducts shall be reduced to the extent that the adverse effects on adjacent resources are eliminated.
 - D) In cases where new wells or aqueducts have been excavated and constructed in the suburbs and do not absorb the water of the opposing sources, the above provisions shall not apply.

- Note 1: In all the above cases, the Ministry of Energy shall initially address the matter. The protester can sue the competent court.
- Note 2: Adjacent water resources shall be determined by the Ministry of Energy and Agriculture according to the statistics and evidence and climatic conditions.
- Note 3: Whenever a panel of three members of Articles 19 and 20 of this Act determine that the damage to this article has been caused by a mistake by the experts of the Ministry of Energy, the damage caused by Article 44 of this Law shall be compensated by the Ministry of Energy.
- Article 15: The Ministry of Energy and its subsidiaries and affiliated companies may purchase mulches and mills that cause water shortages or disruptions in the division of water in cases of social urgency and harassment in accordance with Article 43 of this Law.
- Article 16: The Ministry of Energy may supply aqueduct or well which, according to the experts of the Ministry, is idle or desolate, or, due to gross water shortage, is entitled to restore it if it is socially necessary to the owner or owners if the owner or owner fails to act. Up to one year after the announcement, the Ministry of Energy may resume their duties and collects the expense if the landlord or the landlord fails to pay through the sale of water. It may also permit the digging of wells or aqueducts in the wells or aqueducts mentioned above.
- Article 17: If a person owns a well or aqueduct or a duct in the property other than occupation of a well or aqueduct or conduit only for the purposes of ownership of the aqueduct or canal and for the purposes of the aqueduct and wells and the owner of the property may The aqueduct and conduit or lands between the two wells up to the confluence of the well and conduit whatever it wishes to do provided that its occupation does not harm the owner of the aqueduct and the conduit and conduit.
- Commentary: Determination of the wells and canals and ducts with experts of the Ministry of Energy and in cases of disputes, the competent courts will consider the matter after consulting the experts.

5. FIFTH DEVELOPMENT PLAN ACT

Paragraphs A and B of Article 140 of the Fifth Development Plan Act classifies Groundwater Resources to two categories of alluvial and karstic aquifers also it divide them to Static (Storage) and Dynamic (Renewable) resources.

6. DISCUSSION

Maryam Hasani Saadi, a water law expert at Iran's Water Management Institute at a special session on 'Governance, Diplomacy and Water Rights' in her remarks on the 'gradual deterioration of groundwater legislation', referred to the legislative era and said she continued: Take a look The history of legislation in Iran shows that legislation in the groundwater basin has for the past several decades, rather than conservation and sustainable development, always sought to discredit, infringe upon the rights of the early beneficiaries and the cleansing of transgressors.

The issue of water rights and its ownership, especially in groundwater, due to the nature of these resources, has always been a major challenge for water management in recent decades. The enactment of numerous laws in this field from the past to the present day has not prevented the drilling of unauthorized wells and the issuance of licenses beyond the water capacity of the groundwater resources in each plain. To date, government intervention and surveillance have increased to the extent that groundwater resources are harvested, but these measures, in the context of social, economic, and legislative weaknesses, have led to the deterioration of ownership of water resources and the potential for groundwater degradation. . A look at the history of legislation in Iran shows that legislation in the field of groundwater over the past few decades has always been moving towards defamation, infringement on the rights of the early beneficiaries and the cleansing of transgressors rather than conservation and sustainable development.

Maryam Hasani Saadi, a water expert at Iran's Water Management Institute at a special session on "Governance, Diplomacy and Water Rights in Iran" held on Wednesday, November 23 at the University of Tehran, spoke of "the gradual decline of groundwater legislation". The meeting referred to the pre-modern era of legislation in Iran and stated: Prior to modern legislation in Iran, groundwater resources management in these areas was carried out according to customary laws due to the thousands of years of qanats in the central Iranian plateau. With the arrival of Islam in Iran, the common Iranian custom, which was more advanced than that of the Hejaz, was upheld, and the property laws were explained on the basis of jurisprudential principles of law and order, the rule of domination and respect in the form of the necessity of disputes and the right to privacy. During this period, despite the convergence of jurisprudential rulings, some differences emerged that led to the issuance of different jurisprudential rulings. There were also changes in the rulings of property and privacy with the change of governments, the most notable of which was the change of the feudal system of property to the thievery and the transfer of possession during the Mongol era .

He pointed to the beginning of the legalization of water by the passage of civil law based on private ownership of underground water: the adoption of the civil law was the end of the contradiction and conflict of jurisprudence. Because instead of the various jurisprudential fatwas being based on the judgments of the offices of the religious scholars, the coherent rules of procedure and the text of civil law were the basis for issuing judicial rulings. Because the *modus operandi* at that time did not change, the same legal and customary rulings became coherent with legal provisions, and legal rules were formulated based on the consolidation of private ownership of the waters. In the law, due to the legislature's tolerance, there was no ambiguity in the materials concerning the distinction between structural privacy in the handheld and the blue and structural privacy in the Kariz and Handheld. Since there was only a structural well in the handheld, customary and jurisprudential rules allowed the property owners to dig wells in their land, even if they were in the blue .

The expert in water management thought that the development of deep well technology and the emergence of deep wells in the 1930s indicated that: the mistake of using a common word (well) for two completely different hydrogeological realities generalized the laws and fatwas for handheld wells. Deep down. This, coupled with the passage of the Land Reform Act and the fragmentation of large lands into small ones, resulted in many digging deep wells in their own land by jurisprudential order and violating the law on water. Several thousand years old dried up during this period. The law of nationalization of forests and rangelands, which nationalized the uninhabited and redeveloped lands, reduced the drilling of deep wells in these lands, as revitalization and livelihoods in these lands required government authorization.

Hasani Saadi on the revision of the rules of the millennia through the passage of the water law and how it was nationalized: The law of water and how to nationalize it by looking at improving the efficiency and protection of water resources for all consumers by granting government control and licensing in the use of water resources was approved. This law made all waters public and public wealth. Law enforcement was defined in two stages. In the first phase, the government's regulatory role in water harvesting was emphasized, and private ownership and respect for water was maintained at this stage. Secondly, which emphasized the sovereignty of the state in harvesting water, private ownership of the waters was abolished by the compensation of the rights of individuals, even those of interests. The reason for the two-step process was to gather basic information about the beneficiaries and the amount of their land and the balance of the plains, as well as the financial resources to buy property rights. At this stage, private property rights were respected, and many people's property rights were affirmed, such as the right to sell water and so on. At this stage a license was issued for all users. It is interesting to note that the legislature, at this stage, forbids protecting the rights of the early tenants, banning the plains facing waterlogging so that the new exploitation would not infringe on the rights of others and the earlier, some plains of the country were banned. Secondly, by providing the necessary supplies and purchasing rights defined under Article 51 of the Water Law and the nationalization procedure, the right to water ownership will be changed to the right to exploit water resources and pay for water pipes and the consumption license will become a useful consumption license. At this point, government involvement in water affairs will increase. He said that despite some objections to the law, but the most important objection to it was not to participate. (Maryam Hosseini Saadi, 2018)

The Civil Law provides for materials governing the disposal of canals and aqueducts and their springs and privacy, and has been accepted in the regulation of these articles of property ownership and individual ownership or participation in personal property. Particularly important is the rule of precision in the formulation of materials of particular interest) in the setting of these principles of proprietary ownership and the benefit of individual or participatory personal ownership. In particular, it is a necessary rule in the formulation of materials of special interest. ((Www.Moe.or2 / 12/2011) Following the Minority Act, the Minority Law was passed in 1309. This law also applies to the same principles as the Minority Law. Private and Damage (Emphasized in Article 1: "If anyone owns a well, aqueduct or water duct on non-owned or disputed land, the occupation of the well or the owner of the present and the executor of the well is only my possession of the aqueduct and the executor for operations. It will relate to the aqueduct and the enforcer, and the property owner may be required to carry around the well or real estate for two years to the extent of the well and the executor of any occupation. In the event of a dispute surrounding the well or between two wells, the owner of the property may also be bound by the confidentiality provided by the applicable law and other rules governing the confiscation of lands. Do not harm the owner of the aqueduct or the executor. (Khaleghi and Rashnavadi, 2013).

7. CONCLUSIONS

On the period of government rule over water since 1982 has stated: In this era of participation of water contrary to the constitution, instead of Anfal, to allocate water resources to the Islamic government and to misrepresent this concept and use of interest. The vector is taken for granted and lacks in definition. Civilization, the responsibility of preserving, permitting and monitoring their exploitation by the state and the absolute state-building of water affairs, limiting the authority of water rights, a system of rates for water use, the existence of capacity to control areas by specific regulations, the existence of numerous penal laws. The establishment of a system of allocation of costs and the necessity to issue a license for the use of reasonable water and the establishment of a system of offenses, offenses and other regulations to compensate for damage were among the other issues raised during this period. He said about the major legal problems and challenges in the water sector at the time: the lack of a coherent plan for the realization of interconnected governance of water resources from a legal perspective, the lack of beneficiaries of the program, and the lack of appropriate mechanisms to implement it. He also stated: "Many of the exploiters do not consider themselves to be subject to interconnected governance policies for water resources because of their past operating history. "This Master of Laws on the Necessity of Resolving the Problem of Water Resources Ownership, Problem Solving, Establishing Prudential Rules for Consumption, Exactly Implementing the Ruling Rules of Water Conservation, Establishing Specific Rulings, Implementing the Prudential Rules. The contamination and necessity of a single appliance to prevent contamination of water resources was emphasized (Madanian, 2019).

As a result, there is a great gap to governing, making policy, preserve and utilize the thermal springs in Iran. The only law that can be used at the moment is under groundwater sector and it seems that an integrated law with consideration of all purposes of different organizations such as Ministry of Energy (Both energy and water sectors), Ministry of health and Ministry of tourism and culture should be establish in future.

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