



# Water and Irrigation System in Qajar Period

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**Abstract:** Qajar dynasty, which came to power in Iran in early years of the 19<sup>th</sup> century (end of the 12<sup>th</sup> century AH) inherited a country that, over the previous century, its economic power had been severely degraded due to many domestic problems and chaos as well as foreign wars and aggressions. Agha Mohammad Khan Qajar, through about twenty years of persistent efforts, could restore political cohesion and integrity to the country. As economy of Iran is considered an agricultural economy, this means that in this system, land ownership and irrigation system are among the important affairs. It can be said that from the 1800s to the last years of Qajar period, agriculture has used the same traditional system of ownership and rural relations have remained unchanged. The only difference seen in this regard is formation of cities and presence of villagers living in the city. In Qajar period, especially in the nineteenth century, the country had not yet entered into capitalist relations, and its monetary economy had not grown much, and the prevailing economy, which mainly provided internal needs of the country, was traditional agriculture. It is very difficult to draw an approximate picture of Iran's agriculture in the nineteenth century or to show general evolutions of the country that have led to its development, because on one hand, the government has left nothing but some minor investigations of conditions of villages and, in practice, there is nothing about statistics but tax papers. On the other hand, foreign investigators and travel writers have also not shown an interest to changes in villages or have not understood it at all.

**Keywords:** Water System, Irrigation, Qajar Dynasty.

## INTRODUCTION

The rule of the first two Qajar kingdoms (Agha Mohammad Khan and Fathali Shah) (1796-1834) was one of the fast improvement periods for improving the wreckage of the previous century. Iran, except in two short but humiliating periods of war with Russia in 1813 and 1826, enjoyed relatively high internal peace and security, but this peace did not have a desirable result for villagers, and sectional and limited measures of Abbas Mirza also failed to have a comprehensive and permanent outcome. Mobilizing a large part of human resources for combats, in addition to depriving agricultural economy from a large part of productive labor force, spent a large portion of the country's revenues on maintenance costs of forces.

One of the other sources of Fathali Shah's period likens allover Iran, except some cities such as Shiraz, to ruins, plains and lands of which have become barren and its population has been reduced much, and due to the large number of domestic and foreign problems, this small population still have not been able to manage and control agricultural situation.

The stabilization phase of Qajar dynasty in Iran lasted until the early Naseri period. The efforts made by Amir Kabir, the modernist chancellor, to establish industrial factories failed but some of his administrative and educational reforms were permanent.

During the period of the last kings of Qajar (Mozaffar al-Din Shah, Mohammad Ali Shah and Ahmad Shah), Iran's connection means with the outside world were improved due to opening of Suez Canal in 1869 (which led to proximity of Iran's waterway to Europe), as well as launch of steam ships in Persian Gulf and Caspian Sea, as well as Karun River in 1888, and also creation of a road and port by Russia in the north (for purchase of Iranian agricultural products such as opium and silk), as well as some British road building works in the south (in line with exploitation of Iranian oil). During the years 1890-1914, improvements in Iran's transportation occurred which seemed very fragile due to much insecurity and banditry.

The available evidences show that production techniques in Iranian agriculture not only have been very primitive and backward during this period, but also during the nineteenth century also no significant change has been mentioned. In addition, irrigation facilities also have been damaged during this period due to the negligence of leaders of tribes, and some of them have suffered further breakdown. Consequently, to the extent that is related to this aspect of Iranian agriculture, the current study's conclusion is that required prerequisites for development and growth have not existed in this sector. The purpose of this research is to study water and irrigation system in Qajar dynasty.

## **Theoretical Foundations of Research**

### **Asiatic mode of production**

"Production" is a social and historical process that has emerged at a special period of human life on earth. In terms of capitalist mode of production, Iran has entered this historical step about 100 years after Europe, but now it lives within the framework of this system with some special properties (Rahmanzadeh, 2017).

On the other hand, the main phenomenon of the history of East that could attract the attention of westerns was tyranny and its relationship with agricultural production (Pirooz, 1991). Montesquieu says: In Eastern tyranny, everyone is equal and their equality is in their fear and powerlessness against government power. In autocratic system, there is no power against the government; only religion is a temporary power which sometimes stays against the government (Montesquieu, 1970).

Some European intellectuals over the past few decades, by pushing through the discourse of mode of production and some of Marx's scattered manuscripts, have proposed the two associated theses of "Asiatic mode of production" and "Eastern autocracy". The thesis or idea of Eastern autocracy has close links to the thesis of Asiatic mode of production. The main theme of this thesis is that maybe "autocracy" is an institutional phenomenon in the East, just as democracy is an institutional phenomenon in the West. Although we consider autocracy as the property of all rulers of Iran and the East in about the last 2500 years, but we do not consider the idea of Eastern autocracy nothing but a legend, not because we want to hide autocracy in the East, but because all over the history of the West also nothing but autocracy can be seen.

Many scholars who study Eastern civilizations have found that these civilizations have a fundamental difference with feudal societies ... Autocracy based on land management is necessary for a water-based society, and as far as we know, it is also specific to that society. Feudal system with limited and conditional services, stewardship and fiefdoms was necessary for medieval societies of Europe and Japan. This system rarely happens elsewhere, which can be regarded as specific to these societies. (Wittfogel, 2012).

In the Achaemenid rule, the king commanded that the water valves be opened for the village that had the greatest need for water and allowed the soil to be irrigated as much as was enough for it. After that, the valves were closed on this side, and the other valves were opened to the next village that had the most need for water (Wittfogel, *ibid*: 93). Iran, at that time, has enjoyed advanced agriculture and a very vast land in which management of water resources had been necessary.

Therefore, rural communities, due to geographical and climatic conditions, were dependent on an irrigation system which itself included a central executive body for coordination and development of irrigation affairs in a large scale.

Although Marx, in *A Contribution to the Critique of Political Economy* (1859) names Asiatic mode of production as one of the eras in evolutionary path of society, but Engels does not mention it in *The Origin of the Family, Private Property and the State* (1884). Importance of this concept in Marxist discussions dates back to the era of revolutionary struggles in Russia in which there were different political strategies with concepts different from the nature of Russian society. But Marx and Engels, firstly in 1853 used Plateau's "pseudo-Asiatic" title for tsarist Russia, and Engels in *Anti-Dühring* (1877) introduced the concept of isolation of Russian Commune as the foundation of Eastern autocracy.

### **The concept of Asiatic mode of production and Iran before capitalism**

In Asian societies, there is no inherent relationship between political and economic structures. The economic structure consists of self-sufficient, separate, and small peasant communities that reproduce themselves independent from political structure. The government controls the economy from above, and sudden changes in the structure of political relations do not relate to the performance of economic structure. However, in terms of exploitation method, the government plays an active and important role. The government exploits peasant communities through receiving tax on products, which often exceeds all economic surpluses in addition to minimum subsistence; and it does not leave an incentive for peasants to produce more and engage in exchange relations. Thus, the government's use of peasants' labor and lack of an economic limit for exploitation \_arbitrary rate of tax on products depending on financial needs of the government\_ restricts the possibility of creation of a market in this mode of production (Capital, Vol. 3, 1971).

The concept of Iranian autocracy refers to a centralized state characterized by a massive bureaucracy and autocratic application of power. Low-water and dispersed community is also the description for an agricultural economy structure that consists of self-sufficient and isolated economic communities. This political coercion is also the origin of extra business relations, but these political relations have no basis in economic structure.

The agriculture and the villagers of Iran were dependent on the government for supply of water and its adjustment with other things. It was the government that collected surplus agricultural products directly or indirectly through owners and fеоffees and was dependent on scattered and isolated village units. This is probably the source of autocratic government that, by relying on urban centers and military bases that were linked through national transportation network, dominated scattered villages producing agricultural products (ibid: 349).

### **Existing theories about rule of tyranny and autocracy**

#### **1. Marxist theory**

Marxist view considers feudalism as one of the historical periods that has been formed and gone through in almost all countries in various ways. From the viewpoint of this theory, history of any country or nation has certain and distinct stages including: "primitive communal society, slavery, feudalism, and bourgeoisie". Each of these stages occurs following the other with an unbreakable order. Therefore, many former Soviet Iranologists who were influenced by this process, have analyzed Iran's society on the same basis and have analyzed and evaluated ancient Iranian history periods from Sassanid dynasty, invasion of Arabs, and rule of Umayyad and Bani Abbas dynasty to the establishment of Constitutional Revolution, based on the logic of Feudalism (Grantowski, 1980: 179). Some domestic researchers have also analyzed Iranian feudalism on the same basis influenced by Russian Marxism (Foshahi, 1975: 19).

#### **2. Marx and Engels's theory**

In their historical analysis, Marx and Engels consider feudalism as belonging to a part of the world that relates to the history of Western Europe. In fact, Marx's departure point in explaining the concept of Asiatic

mode of production is here. Engels believed in spread of bureaucracy and its focus on one person who had the above duties, and in contrast, Marx emphasized more on the hypothesis of dispersed society.

Through their researches on Eastern countries, including Iran, India, Ottoman, and China, they found that these countries have had their own special history and, after the primitive communal period, they have directly entered into the period known as Asiatic mode of production or Eastern autocracy. The Eastern world stopped historically in this period, and this was the reason that Marx considered the East to have no history (Anderson, 2011: 671).

### **3. Hertzfeld's theory**

Hertzfeld believes that the history of Iran is in fact nothing but the story of sequence of rules and kingdoms. According to Dikonov, contemporary Soviet historian, although in Europe we can see the evolution of history from feudalism to capitalism, Asia remained forever in feudalism era, and it is as if Asian tribes are not able to advance to a higher status (Anderson, 2011: 577).

### **Collapse of feudalism and formation of Eastern autocracy in Iran**

Christensen considers fall of Sassanid dynasty as the beginning of medieval history of Iran. Perhaps one of the most important reasons of such a view is related to the collapse of feudalism and beginning of Eastern autocracy period in Iran. Collapse of feudalism in Islamic Iran can also be due to the following factors:

1. Foreign invaders fundamentally opposed to feudalism and its indicators, and tribal life has nothing to do with feudalism.
2. Attack of foreign tribes to Iran and weakening of ancient tribes opened the way for entrance of new tribes (such as Turks) and provided the ground for the entrance of Turks and other tribes into Iran (Ghazi Moradi, 2001: 170).
3. Lambton considers the inheritance factor to be important in collapse of feudal system in Iran because, after several generations, feudal lands are decomposed into small pieces which leads to weakening of feudalism (Lambton, 1993: 459). Morgan also writes: "But during the Islamic era, a really inherited land owner security effect was not formed. Political instability and nature of law of inheritance did not prevent development of such an evolution".

### **Importance of irrigation in Iran**

Despite advocates of the concept of "Asiatic mode of production", irrigation in Eastern territories almost everywhere requires a central power to create and maintain large irrigation institutions. There is no doubt that agriculture in Iran in most cases needs irrigation. The rate of rainfalls in Iran's plateau, which is generally located between 20° and 40° north of the orbit, has the characteristics of semi-tropical lands.

Archaeologists have proven that agriculture was started in Iran's plateau before being developed in low irrigated lands (Lambton, 2015: 242). Historical texts have always mentioned the existence of rainfed and irrigated lands and have called many lands as rainfed.

The issue of "Asiatic mode of production" is not just about agriculture's dependence upon irrigation. In fact, it should be seen how large the irrigation institutes have been and how much they have acted in large scale. In addition, dependence of these institutions to bureaucracy for building, maintaining, repairing and distributing their water must be specified.

In cases where water from dams, streams and important rivers has been used for irrigation, the government has monitored distribution of water and these institutions have been owned by the government. In these cases, many benefits have also been obtained by the treasury (Chardin's travels, Vol. 4, 1959: 305; *ibid*, Vol. 8: 1281; Kaempfer, 1984: 17 and 187-188; Tazkerat al-Moluk, 1989: 50).

Irrigation institutions have usually been built by villagers, and the villagers have also been responsible for their dredging, enema, and repairing. Of course, there was some specialty in this field, but massive group of creators of these institutions were villagers who had been forced to work compulsorily (Lambton, 2015: 575-580). For example, we know that Rashid al-Din Fazlollah used forced labor of two thousand villages receiving

daily wages in order to dig a large creek in Iraq to irrigate his private properties. In Sheikh Ahrar's properties also forced labor of three thousand villages have been used for enema of canals and creeks (Petrozhevsky, 1978: 208, 216-217).

### **Asiatic production and Qajar period**

The Qajar government had gathered in itself the disadvantages of strong central systems and feudal (Mauluk al-Tawaiifi) systems in terms of creation of the conditions needed for growth of independent capitalism; and, by creating various insecurities, prevented growth and development of industrial capitalism that requires stability and security; and only opened some outlets for growth of commercial capitalism. One of the most important obstacles to growth of national capitalism during this period was severe insecurity of people in general and insecurity of merchants and businessmen and craftsmen in particular ... Dominance of the autocratic government and the corrupt rulers on marketers caused various pressures on their properties and commercial rights (Ashraf, 1980: 38-39).

In terms of economy, integration of semi-colony regions into global market was the beginning of disintegration of small and inflexible local markets, growth of foreign trade, specialization in production and export of raw materials, decline of handicrafts, addiction to use of Western artifacts and, in general, economic dependence on colonial powers. Among the specifications of the new situation were imbalance of payments, increase of foreign loans, domination of colonial powers on economic institutions such as banks, customs and local markets, as well as their domination on tradesmen and guilds (Ashraf, 1980: 46).

With the domination of powerful central governments, the power of Mauluk al-Tawaiif was somewhat limited; and with creation of security in the country, agricultural products flourished, trading routes were secure, trade exchanges developed, industries and commerce grew, markets flourished and cities expanded. However, due to domination of bureaucratic institutes on tradesmen and guilds and their various interventions in the market, barriers emerged to emergence of an independent and self-commanding class of marketers. On the other hand, when Mauluk al-Tawaiif and local powers stood against central power, the basis of agricultural and industrial productions and trade exchanges would be endangered and this would lead to financial weakness of marketers. In Qajar period, disadvantages of both these situations had realized more or less without having the benefits of the first. This, in turn, was considered one of the main obstacles to growth and development of modern capitalism and emergence of a powerful and influential class of businessmen who can be the ruler of domestic markets and monetary market of the country as well as brokers of new industries (Ashraf, 1980: 128).

### **Water system in Qajar period**

The working method of irrigation organization has become an important motive for emergence of specific social and legal relations, such as specific production and categorization relations and working method in farming units such as Boneh<sup>1</sup> and the method for changing land and fallowing each year, and cooperation in farming and non-farming affairs of villages. The roots of these phenomena should firstly be sought in low water amount and difficulties of irrigation because in rainy areas and in mountainous and water-rich villages, not only the irrigation organization is not powerful, but also their social life is different from low water villages.

In Iran [Qajar period] also water scarcity, as in other parts of the Middle East, led to a lot of damages. The most significant Iranian issue about water is disadvantageous and seasonal deficiencies which are combined with sediment-degradation, and in the middle of one part of the country around which there is enough moisture, there is located a barren and unfruitful region (Isavi, 1983: 364).

The government and society in general [during Qajar period and before that] were dependent on agriculture, and agriculture in its turn depended on irrigation system that was inherently vulnerable. Therefore, mindset of those whose livelihood depended upon agriculture was being cautious both about agricultural structure and

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<sup>1</sup> [Some kind of rural cooperation]

land owning conditions; and in general, they were cautious in interpretations about political and economic affairs (Isavi, *ibid*: 37).

### **Qajar ruling method and its impact on irrigation system**

Death of Karim Khan (1193/1779) led to another period of chaos and eventually emergence of Agha Mohammad Khan Qajar, the founder of Qajar dynasty, the dynasty reigning until 1925 [1304 SH]. The first important work of Agha Mohammad Khan was restoring order and discipline to the country and to some extent creating security; and he somewhat succeeded in doing so, and as security grew, a slight improvement was created in situation of peasants.

Early battles of the early period of Qajar dynasty did not provide an opportunity for Qajar king to improve agriculture and irrigation systems, although reclamation and attention to agriculture and irrigation was not so consistent with the tribal and fighter spirit of Agha Mohammad Khan.

During the reign of Mohammad Shah, with prime ministry of Haji Mirza Aghasi, conditions were different. He considered the main problem of the country to be bad situation of farmers and lack of development and reclamation, and therefore, by creating villages, rebuilding farms, and especially, digging aqueducts and changing the direction of Karaj River to Tehran, performed some acts in this regard.

Haji Mirza Aghasi seriously had an strange love and interest in the issue of agricultural extension and spent most of his prime ministry period in digging of numerous wells and aqueducts such that now there has remained several working and arid aqueducts built by him around the country and especially in Tehran. Haji tried as much as possible, given the time period and available equipment, to build and empower agriculture and he did what he was able given the conditions of the time (Hedayat, 1965).

During Naser al-Din Shah's period, as in previous periods, the most important sources of the country's wealth were farming lands and their products, as land ownership was considered the major source of influence and power of people. Despite this, or maybe due to the same, tax calendar as well as power of tax collector institute was different in different parts of the country.

### **Conclusion**

The issue of existence or absence of feudalism in Iran is one of the most important political and social issues since this issue is an important factor in explaining development and backwardness of the country and had played a very important role in historical evolution of countries and had been the basis for development of capitalism; just as its opposite, namely, Eastern tyranny and autocracy is the main factor in historical backwardness and lack of progress of a country. According to the above reasons, Iran has had a feudal class society and this process had been stopped by attack of foreign tribes. It can be said that history of any country has its own characteristics and cannot be extended to other countries, and the class structure of ancient Iranian society represents existence of feudal and non-authoritarian system in it. For this reason, proving the idea that in ancient Iran we had observed formation of feudalism means rejection of the theory of those who believe in theory of Eastern autocracy and its application to all history of territory of Iran.

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