

Original Research Article

The Role of Haji Abdulghaffar Najm Al-Mulk's Civil Plans and Measures in Renovation of Khorramabad-Dezful Road in the 1880s (Kialan Route)*

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Abstract

Problem statement: Though Najm Al-Mulk is better known for his scientific character and experience in various sciences, his practical actions related to roads and buildings have not received much attention. However, one of his most important civil works, whose essential part is documented and available, was carried out during his two trips to Khuzestan and the renovation of Khorramabad-Dezful road. The ignorance of this important historical road in past studies has doubled the neglect of his role in this path. This matter has encouraged some researchers to attribute many of the important works to his travels to other historical periods. This research seeks to answer the question that What measures, including improving the road and creating the necessary buildings and fortification, were taken to increase the quality of Khorramabad-Dezful road by Najm Al-Mulk? What effect did all these measures have on the quality and transportation of this route?

Research objective: This research attempts to examine the civil plans and measures of Najm Al-Mulk for renovating Khorramabad-Dezful road and explain its consequences.

Research method: This research is a qualitative systematic literature review using historical interpretive analysis. Data includes historical documents and maps in travelogues, books, articles, reports, and archives, some of which have been published for the first time.

Conclusion: The results showed that Najm Al-Mulk's plans and their implementation significantly improved the quality of the roadbed, especially in its critical points. On the other hand, with designing new caravanserais (inns) based on modern spatial needs, he played a significant role in changing the type of these buildings in this region, which are quite different from what existed before, especially in the Safavid period. These measures provided the conditions for a safe and secure passage of this route, which was lost due to the disturbances of the last years of the Qajar period.

Keywords: Najm Al-Mulk, Lorestan, Khuzestan, Khorramabad-Dezful road, Kialan.

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Introduction

The attention of foreigners to southwestern Iran, especially Khuzestan, which in addition to its privileged strategic position in the mid-nineteenth century was also attractive in terms of archaeological richness and potential oil extraction capacity, made Nasser al-Din Shah sure to take more serious efforts in the development of the region. Therefore, in 1880, he sent two people to visit Khuzestan simultaneously to rebuild the Ahvaz Dam and submit a report to the Shah. These two trustee people, who were considered to be the most elite ones, were Mirza Taghi Khan Kashani and Haji Abdulghaffar Najm Al-Mulk, who presented the results of their mission in the form of reports, plans, and suggestions. Although the role of appropriate and safe ways in the development and prosperity of trade was fully evident, he also emphasized creating appropriate ways as a bedrock and guarantee of the success of all development measures in his reports. Because at this time, Khuzestan, like intact treasures (Kashani, 1991) seemed to be only a part of Iran, but in practice, it was separate from (Najm Al-Mulk, 1962). Therefore, the most suitable way to Khuzestan was passing through the difficult and insecure region of Lorestan. Another shorter route from Khorramabad to Dezful. Despite the long history of this route, it was a long time that safe access to Khuzestan was possible through a relatively smoother but farther Madianrud road. In many cases, Bakhtiari crossroads and even crossing the country of Iraq and entering Khuzestan via the Madianrud route were preferred.

Accordingly, Najm Al-Mulk went on his second trip to Khuzestan with a delegation, including the new ruler of Lorestan in 1306 AH (1267 SH, 1888 CE), to implement these decisions. This issue was so important that he took a trip to Dezful from Khorramabad to avoid any mistake in choosing the most suitable route. Finally, under his guidance and based on his plan, a relatively comprehensive development operation was prepared for the development and security of Khorramabad-Dezful road, as the gateway to Khuzestan, through Kialan route. It seems that with these measures, the quality and safety of this road

changed appropriately in a short period, and according to the evidence in historical documents, it has been a turning point in the renovation of this route. However, since the historical developments of this path have remained unknown and insufficient research has been conducted on it, the effective actions of Najm Al-Mulk have not been properly recognized or distinguished from other measures throughout history, especially from the Safavid period onwards.

Therefore, this study attempts to carefully analyze the plans and development measures of Najm Al-Mulk in the renovation of Khorramabad-Dezful road from 1260 SH (1881 AD) onwards and examine its consequences. This general goal will be achieved by answering the following question:

- What measures did Najm Al-Mulk take to increase the quality of Khorramabad-Dezful road, including improving the road surface and creating the necessary buildings and fortifications, and what effect did all these measures have on the quality and traffic on this route?

Clarifying a sample of practical engineering and civil engineering experiences of Najm Al-Mulk in the renovation of the Khorramabad-Dezful route, this study can be the basis for more research on the introduction of this less known route. Its analyses and results and the introduction of unseen first-hand sources; This can be the basis for development and tourism planning, given the specific capacities of the region.

Research methodology

This research draws upon a qualitative paradigm (systematic literature review) and uses a historical interpretive analysis. The research tools for data gathering included historical documents such as travelogues, books, articles, archives, and maps, some of which were extracted from the archives of the Ministry of Foreign Affairs and the Qatar National Library. Some of the data have been published in this study for the first time. Accordingly, the security and development conditions of Khorramabad-Dezful road are first described from the past until Najm Al-Mulk's first visit to Khuzestan. Then, after examining his two

visits and his actions alongside them, his effects on the renovation and improvement of the quality of this road are discussed by investigating the historical documents from after his second visit.

Literature review

Najm Al-Mulk's scientific personality, knowledge, and experiences in astronomy, mathematics, geography, and engineering in recent years have been the concern of researchers. The data for these studies have been extracted from first-hand Qajar and Pahlavi sources. After Dabirsiyaghi, who published Najm Al-Mulk's first travelogue to Khuzestan, Pakdaman (1974) was one of the pioneers in writing about his background. In the following years, and especially in the last decade, various studies have been conducted in this field (Sadat Mousavi, 2015; Dabirsiyaghi, 2003) and also specifically on Najm Al-Mulk's skills in sciences and technologies, such as astronomy (Yavari, 2018), physics (Nikseresht & Soleimani Tabar, 2020), demography (Ketabi, 2006), geography (Saghafi, 2015b; Karamzadeh, 2018), telegraph (Saghafi, 2018) and even philosophy (Ranjbar, 2018) and his relationship with medicine (Saghafi, 2015a). Ahmad Ketabi clarified more aspects of Najm Al-Mulk's experiences with the publication of his second travelogue to Khuzestan. However, despite the two travelogues of Khuzestan, which are considered as his most important works and have a civil focus, so far, no research has just focused on his practical activities in engineering. Only publishing of some of the maps prepared by him (Danaeifar & Tehrani, 2015) or the reference to determining the qibla of the mosque (Saghafi, 2018) can be mentioned among these studies. In addition, these shortcomings can be related to the unknown nature of Dezful-Khorramabad route. Since the beginning of the last century, research on the historical roads of Lorestan during archeological (Stein, 1940; Karimi, 1950; Izadpanah, 1976), military geography (Razmara, 1941), and historical excavations (Saki, 1964; Papi Balagariveh, 2008) have been paid more attention, among which mainly written and to some extent visual and graphic information about this

route can be obtained. Even more specialized research in recent years on the historical monuments, roads, and routes of Lorestan (Motarjem & Heydari, 2018; Sabzi, Hejebri Noubari, Hemmati Azandaryani & Bahrami, 2018; Sabzi, Hemmati Azandaryani & Omid, 2019; Yousofvand & Neyestani, 2020; Eslami Nasab, Afkhami, Shahbazi Shiran & Rezaloo, 2018; Shahrokhi & Nemati, 2018; Bahrami & Shahidani, 2018) has not covered this path much. Ali Sajadi studied the roads of Lorestan and its relationship with Khuzestan in several studies (2004, 2014, 2015, 2019). In his studies, Ahmad Parviz obtained very valuable information and maps about the communication routes from Khorramabad to Dezful. Some of which he has published on web pages. Hajizadeh, Eslaminsab, and Mohammadyarloo (2015) also studied the ancient road from Hamedan to Khuzestan, specifically the route from Khorramabad to Poldokhtar. Rajabi (1992), during the introduction of communication routes of Khuzestan to other parts of Iran, has given a brief description of the Lorestan route. However, by analyzing historical documents and introducing new sources to other researchers in this field while introducing the exact spatial information of the Kialan route and its features, this research clarifies the role of Najm Al-Mulk in improving its quality through a critical approach.

Research findings

• The condition of the Khorramabad-Dezful route before the first trip of Najm Al-Mulk

Khorramabad is located at 48° 35' and Dezful at 48° 24', exactly along the same longitude, and at 120 km air distance from each other. Such data promote a relatively simple path. However, the nearly 1000 meters difference in height and the unevenness between them made this route one of the most difficult routes in the country. Even now, the land distance has been reduced to 180 km with the opening of a new freeway, and for more than eighty years (from 1928 to 2010) the minimum suitable distance between them has been about 230 km. These parallel terrains are stretched along the northwest-southeast and have formed narrow and stepped plains connected only by narrow straits,

terrible passes, and river banks and have been the reason for the separation of Khuzestan from the central parts of Iran throughout history. For this reason, the opening of the national road in 1928 was such an important event that it was mentioned as the connection of Khuzestan to Iran (Etela'at newspaper, November 28th, 1928). This has been the dream of the Iranian government for almost fifty years.

Before the opening of this road and during the Qajar period, although many trails connected the cold regions of Lorestan to the tropical lands of Khuzestan, tourists and reporters who traveled this route named several main roads. In his report, Kashani mentioned three communication routes between Dezful and Khorramabad, namely Rah-e Kialan, Rah-e Chol or Durah, and Rah-e Seymareh (1992), the third of which was named as Jaidar by Rawlinson¹. However, before that and since the beginning of the Qajar period, various tourists had used this route or parts of it. Mahmud Mirza Qajar and Hesam Al-Saltanah started their journey from Boroujerd in December 1829 and returned to Khorramabad in May 1830. Their departure route was from Seymareh, and their return route was through Rah-e Chol (Mahmoud Mirza Qajar, 2011). After him, Rawlinson entered the Khorramabad-Dezful route from Jaidar in March 1835 while going from Zahab to Khuzestan. However, on his return to Khorramabad in May 1836, he crossed the fourth route rather than the three routes mentioned by Kashani, namely the Mongareh route, which was directly connecting Dezful to Khorramabad (Rawlinson, 1983). De Bode² also left Dezful after studying Rawlinson's travelogue on February 15th, 1839, and entered Khorramabad through Jaidar and Madianrud routes on March 1st (De Bode, 1992).

After the beginning of the long reign of Nasser al-Din Shah, more people traveled along this road. The first trip in this period was made by Hassan Ali Khan Afshar. He mentioned the three routes between Lorestan and Khuzestan as Jaidar, Kialan, and Maangooreh [Mongareh], among which he took the hard path of Kialan, after exiting Khorramabad on November 8th, 1849, and arriving at Dezful on

December 7th (Hassan Ali Khan Afshar, 2003). On the way back, he took the same path again. Monsieur Cherikov mentioned in his travelogue three trips between Lorestan and Khuzestan: The first time from Mongareh to Khorramabad, the second time from Kermanshah to Dezful, and the third time from Dezful to Kerend. On the first trip, on July 29th, 1850, he left Dezful and entered Khorramabad in September of the same year, crossing the Mongareh route, where he had a long stop. The second time in late December and mid-February 1850, he entered the route of Dezful from Jaidar, and on April 20th, 1851, left Dezful to Kerend (Cherikov, 1979). Schindler³, who served as an inspector of the Iranian Telegraph Lines, traveled this route several times during 1877 and 1878 (Baring, 1882). In addition to the previous four routes, he mentioned another hiking trail that passes through the Savaran Mountain as the fifth route (Schindler, 1879). Therefore, according to the available documents, the four main routes of Mongareh, Kialan, Chol, and Jaidar can be distinguished at this time, among which Mongareh is the shortest and Jaidar is the longest. On the other hand, Mongareh was the most rugged one while Jaidar was the smoothest one between Khorramabad and Dezful. Kialan-Chol road stretched between the two roads, most of which were shared and consisted of two or three dangerous passes. According to the Iran newspaper, the extension of the wire and the establishment of the telegraph to Shushtar, as an important development in this road, had been done until 1877 (No. 346, March 30th, 1877).

As the evidence shows, the relative security of the country's roads was established during the period of Agha Mohammad Khan and Fath Ali Shah, which changed to some extent after the Iran-Russia wars (Jafari & Soleimani, 2018). This security can be seen in Lorestan and the period of Nasser al-Din Shah, and especially in its first decade, which has been repeatedly praised by the Shah and his Chancellor (Ehteshami, Laghaei & Moezzi, 2004). Of course, at the beginning of his rule, there were reports of some clashes in this road between government agents and local people (Vaqaye Etefaqiyah newspaper, No. 50).

• The first trip of Najm Al-Mulk to Khuzestan in 1881 and its achievements

In such a situation, Najm Al-Mulk left Dar al-Khalafa for Khuzestan on Wednesday, the 23rd of Dhihjah 1298 AH, equivalent to November 16th, 1881, to estimate the restoration of the ancient dam of Ahvaz. Two years before that, the government of Lorestan was handed over to Zel'Al-Sultan, and he introduced Muzaffar al-Mulk as his deputy in Lorestan, who is known for carrying out extensive civil works. At this time, the Iran newspaper writes about the situation of the road from Lorestan to Khuzestan as follows: "The road to Arabistan is secure, and convoys pass through safely (No. 454, May 6th, 1881). Moreover, in these years, especially in 1881, and unlike the years before the rule of Zel'Al-Sultan, a considerable number of news pieces about the security of Lorestan had been reported in this newspaper (No. 446-453, 459, 462, 463, 468).

The importance of this trip was such that a few days later, it was announced to the public in the same newspaper as follows: "The dam on the Ahvaz River, which the strong government of us is constructing, is now being examined by engineers and officials from Dar al-Khalafah, who have gone there to estimate its expenses and determine its uses. Insha'Allah, the operation will begin soon." (No. 472, November 28th, 1881). He left Khorramabad on January 30th, 1882, and entered Dezful on February 5th through Kialan road, and as mentioned, the houses of Shahanshah, Nasir Khan Judaki Fort, Mokhberabad, Kialan Strait, Qal'eh Razeh, and Hosseinieh. Just as Estakhri and Ibn Huqal realized the distance between Shapurkhast (Khorramabad) to Lur (near Andimeshk) to be uninhabited, Najm Al-Mulk also states about 900 years later: "There is no settlement from there [Khorramabad] to Dezful" (Najm Al-Mulk, 1962, 18). However, in his report and plan, he pointed to residential or fortified places that can be used to assess the civil quality of this route.

Izadpanah mentioned the existence of eight caravanserais named Shahanshah, Chemeshk, Qal'eh Nasir, Awsar [Absard], Mishvand, Sarvgol, Charta, and Razeh, left from the Safavid period and at regular

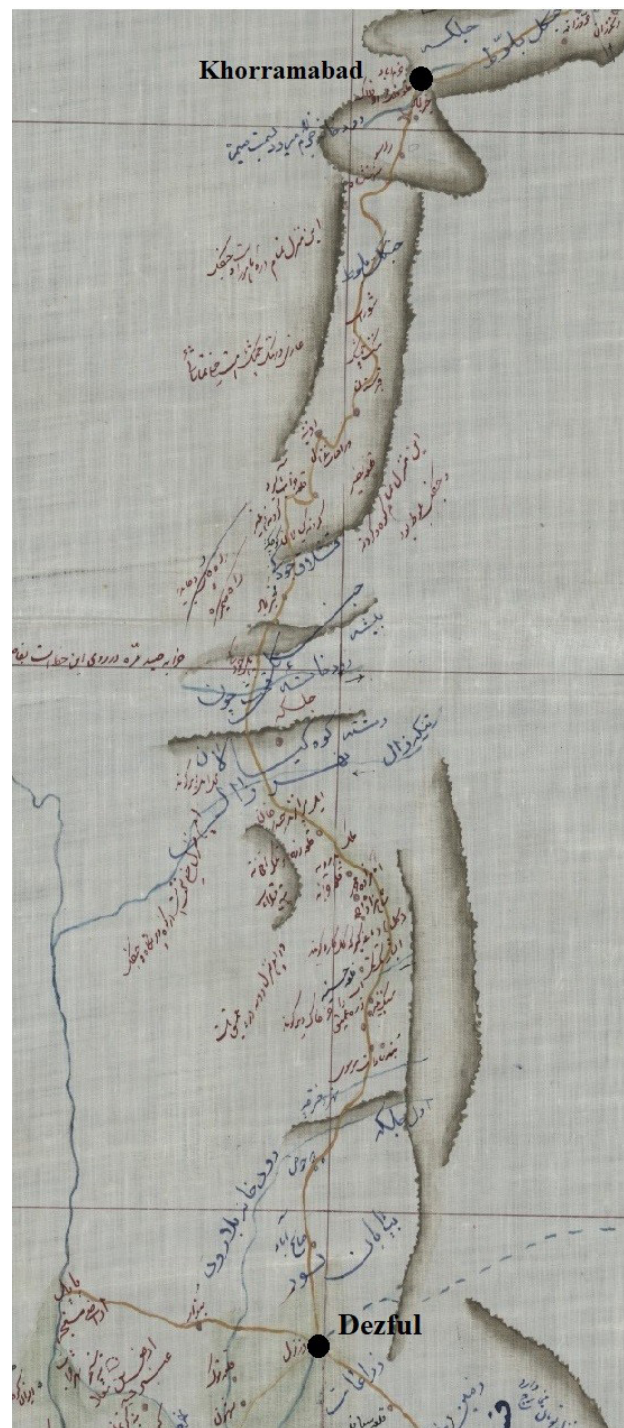


Fig. 1. Najm Al-Mulk's drawing map from Khorramabad-Dezful route and its features. Source: The Ministry of Foreign Affairs Documentation Center.

intervals of five Farsakhs (leagues), in the same path, which has been the criterion of judgment for many scholars after him (1976, 49). However, this claim seems to require a little reflection and further investigation. On the map, he draw (Fig. 1), Najm Al-Mulk pointed to the Nasir Fort, Absard Fort,

Mokhberabad, Qal'eh Razeh, and the Telegraph House, Hosseinieh Fort, and a ruined fort between Razeh and Hosseinieh. However, he did not pass Nasir Fort. In his travelogue, he provided more details and referred to Imamzadehs in Shahanshah and the Telegraph House in Mokhberabad and Razeh. A British military report, prepared in 1885 on the southwestern regions of the country, carefully described this route. Its explanations and information are greatly correspondent with the information of Najm Al-Mulk, who has passed this road four years before (Bell, 1885). Before him, Schindler passed the same path in the summer of 1877 and provided similar information. He also mentioned the existence of forty houses in Shahanshah and a building called Qal'eh-Sorkh in the Baraftab-e-Ghazal region (Schindler, 1879, 89 & 90).

Finally, after staying in Khuzestan for almost nine months, Najm Al-Mulk returned to Tehran via Bakhtiari and Isfahan road, and a map of his route and the existing settlements and tolls, along with explanations about their quality, are available in the Ministry of Foreign Affairs' documents (Fig. 1). Also in Isfahan, he presented a report of his trip and the necessary measures were taken in Lorestan (4 cases), Khuzestan (11 cases), and Bakhtiari (4 cases) under the title of "Treatise of Suggestions" (Hedayat, 2009). One of his most important suggestions in Lorestan was to build five or six caravanserais on the way from Khorramabad to Dezful.

• The second trip of Najm Al-Mulk to Khuzestan in 1888

Najm Al-Mulk's second trip to Khuzestan began on December 11th, 1888, from Tehran, accompanied by Nazem Khalvat, the new ruler of Lorestan. Etemad Al-Saltaneh has said in his memoirs from November 25th, 1888: "Before lunch, the Crown Prince, the Viceroy, and the ministers were present. They were planning to close the Ahvaz dam. Najm Al-Mulk will take away five thousand tomans provisionally, and leave" (1971, 605); of course, only a week later, he announced the cancellation of the Ahvaz dam's closing (ibid., 606). However, this trip seems to have been carried out to implement Najm Al-Mulk's ideas and plans that he had

laid out in the previous trip, and Nazem Khalvat has been attending to them during his rule. One of the main actions of Nazem Khalvat is to repair the Chalanchulan bridge and the Kialan road (Valizadeh Mo'jezi, 2001, 279). Shortly before the second trip, Zel Al-Sultan was the ruler of Lorestan and Muzaffar Al-Mulk, was still the deputy of Zel Al-Sultan in this region, with a one-year exception (from 1883 to 1884, when Heshmat Al-Dawla replaced him). Zel Al-Sultan carried out many civil works in Khorramabad and some measures in improving Khorramabad-Dezful road, including the construction of Mushvand (Mishvand) Fortress and the construction of Takhtchan and Dahlich roads, that have been attributed to him (ibid.). Heshmat al-Dawla and Zia al-Dawla replaced him in a short time until the reign of Nazem Khalvat. The news in the Iran newspaper also indicated the establishment of relative security in this path (No. 506, December 11th, 1882; No. 562, February 25th, 1884). The newspaper also quoted in its 576th issue: "Good forts and settlements are built everywhere from Arabistan [Khuzestan] to Khorramabad" (July 10th, 1885).

During this trip, he left Khorramabad on January 27th, 1889, and entered Dezful on February 5th, after crossing the Chol road after nine days. Along the way, he mentioned the houses and passages of the Shahanshah, Tang Chemeshek, Shurab⁴, Absard, Dahlich Strait, Badamak, Dalmian⁵ [Valmian], Dom Chol, Abgarmak⁶ plain, Bohlool⁷ Strait, Chamgerdab Plain, Pol-e Tang, Razeh and Gelal Murt⁸ forts. For this reason, on the second trip, he chose another route so that he would choose "one which is more suitable in every aspect, for caravans, post and telegraphs" (Najm Al-Mulk, 2007, 66), among which, finally the road of Kialan was chosen for this matter. In addition, the construction of caravanserais and telegraph houses and repair of the road began immediately by Master Mehdi Memar (ibid., 63). The expense of the entire construction of roads and forts was estimated to be around twenty-five thousand tomans (ibid., 70). While his trip was in progress, the news of the ongoing actions in this road was reflected in the Iran newspaper, No. 673, dated December 9th, 1888, as follows: "The Arabistan

road is now extremely secure, and now government officials are working to extend the telegraph line and build reputable post offices along the Arabistan road". Finally, after seven months, disappointed with the implementation of his main goal, which was to repair the Ahvaz Dam, he returned to Tehran, passing through Bushehr, Shiraz, and Isfahan⁹.

• Conditions of Khorramabad-Dezful route after Najm Al-Mulk's second trip

After Najm Al-Mulk's second trip to Khuzestan, many people traveled from Khorramabad to Dezful or vice versa, most of whom chose the Kialan route; This indicates a relative improvement in the conditions of this challenging route. The most important of these people whose works and travelogues are available can be Haji Abdullah Khan Qaraguzlu (1887 to 1890), Jacques De Morgan (1891), Mirza Mohammad Ali Khan Farid Al-Mulk (1897), Madame Ella R. Durand (1899), Arnold Wilson (1912 & 1913), and Cecil John Edmonds (1917). These travelogues, along with other available historical reports, are a good criterion for evaluating the actions of Najm Al-Mulk on this road. One of the most important documents available is the news that was published in the Iran newspaper No. 709 dated February 11th, 1890. This newspaper reported the following about the actions of Nazem Khalvat in the affairs of roads and buildings of Khorramabad-Dezful route: "Nazem Khalvat, ordered by the growing government has built prestigious and useful buildings and monuments in Lorestan and the road between Khorramabad and Dezful, the description of which is as follows: Seven forts have been designed by Haji Najm Al-Mulk, and engineered by Mirza Abdollah Khan Mohandes, and built on the peaks of the Jebal mountains, and each fort consists of a post office, a telegraph office, buildings, and peasant houses. In fact, each fort has four forts". Then it points to the completion of four of them and the imminence of the completion of the other three and explains the name and location of the seven forts as follows: "The first fort is two miles away from the city of Khorramabad called Shahanshah, which has been completed and established, the second fort called Nazemiyeh, which

has also been completed, the third fort called Nasiriyah, which has also been completed, the fourth fort called Mokhberiyeh, which is almost completed, the fifth fort is called Aminiyeh, half of which has been completed, the sixth fort called Soltanieh has been completed, and the telegraph house of the seventh fort called Mohandesiyeh has not been built yet" (*ibid.*). On this basis, except for the position of the Shahanshah, which is known, we can guess the location of Nazemiyeh in Cheshmehk, Nasiriyah in Qala-e Nasir, Mokhberiyeh in Mishvand, Aminiyeh in Berenjzar, Soltanieh in Razeh, and Mohandesiyeh in Hosseinieh. Of course, since this newspaper is state-owned, it is not possible to confirm with certainty the accuracy of the reflected content. Despite all the mentioned ambiguities, according to the documents and travelogues available after the second trip of Najm Al-Mulk, the houses with buildings and passages of the Kialan route at this time are quite clear, which are as follows (Fig. 2):

1- Khorramabad, 2- Shahanshah, 3- Cheshmehk, 4- Nasir Fort (or alternative route from Eshkenah¹⁰ Bridge), 5- Mishvand (Alternative route from Beik Ali tomb¹¹), 6- Berenjzar¹², 7-Qal'eh Razeh, 8- Hosseinieh (alternative route from Gelal Murt) and 9-Dezful (Fig. 2).

Therefore, analyzing reports and travelogues and paying attention to the quality of the road and the buildings in them can help to obscure the general condition of the route. In the following, Khorramabad-Dezful road after Najm Al-Mulk's trip will be analyzed house-to-house:

- Khorramabad to Shahanshah

Haji Abdullah Khan Qaraguzlu, who passed through Kialan on his way back from Khuzestan in 1890, wrote about this road: "From the Shahanshah to the city of Khorramabad, they made all two leagues of the road very well and smoothed the Pass at the beginning of the house into a spiral, which is really a good job" (2003, 9). Farid Al-Mulk Hamedani also said the following about the quality of this route: "The late Nazem Khalvat built a street from Khorramabad to the foot of the pass and built a road in the passage that can be easily crossed" (1975, 146). Madame Durand has

implicitly referred to the proper quality of the road with galloping from Shahanshah to Khorramabad (1967, 168).

While travelogues and reports before Najm Al-Mulk's trip have considered the Shahanshah as a village with several houses and shrines in it, many reports of this period have mentioned the existence of a caravanserai (Fig. 3). Qaraguzlu said about this caravanserai: "In Shahanshah itself, there was no settlement before, and now they have built a caravanserai and a few houses, in which the peasants inhabited. Indeed, Shahanshah was reclaimed" (2003, 9). Madame Durand has interpreted it as a beautiful caravanserai (1967, 168). Edmonds stated in his memoirs that he was welcomed by the residents and stayed in the Shahanshah caravanserai (1983, 117).

- Shahanshah to Chemeshek

Qaraguzlu described the narration of this route as "it is four parasangs, two-thirds of it was built, and it is perfect" (2003, 9), and Farid Al-Mulk also referred to the construction of the road by Nazem Khalvat (1975, 148). Other people have not mentioned the unsuitability of the route, and some have spoken about the beauties and trees and meadows and animals of this area (Durand, 1967, 166; Edmonds, 1983, 116). Considering that Najm Al-Mulk said in his second trip that: "Tang-e Chemeshek was in a desert and nothing

can be found" (2008, 65), and according to the previous evidence, it seems that the current caravanserai there did not exist at the time. However, after his trip, the existence of the Chemeshek caravanserai has attracted numerous tourists. Qaraguzlu described it as follows: "In Tang-e Chemeshek itself, he built a very good caravanserai [Nazem Khalvat], which will be very useful especially for passers-by in winter" (2003, 9), and Farid Al-Mulk also attributed its construction to Nazem Khalvat, and have said that "it is a perfect place and water is flowing near the fort, but the fort is deteriorating due to carelessness" (1975, 148). While at this time only ten years passed since its construction. The quality of this building was so good that Madam Durand complained that he could not stay in it due to the occupation of the rooms by the provincial treasury guards (1967, 165). The military report of 1912, prepared by Wilson, mentions the proper condition of the Chemeshek caravanserai (Wilson, 1912, 53).

- Chemeshek to Qal'eh Nasir

Due to climatic or security considerations, parts of the Kialan route, especially after Chemeshek to Andimeshk, were divided into two parts. One of these sections was the distance from Chemeshek to Absard at the beginning of Dahlich pass. Accordingly, the most commonly used road was crossing Ghazal Mountain and Eshkeneh Bridge and reaching Absard. The other branch was

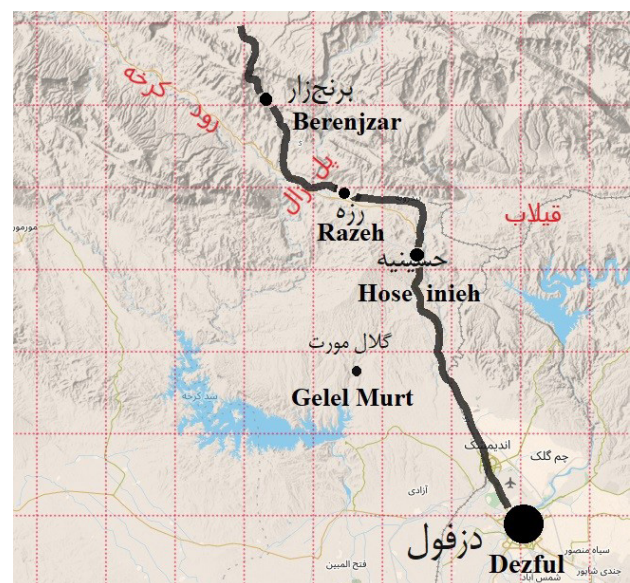
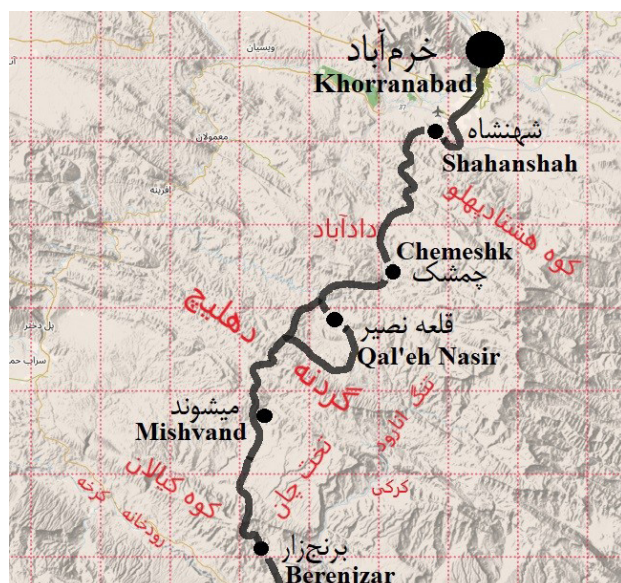


Fig. 2. Khorramabad-Dezful route and houses with buildings after Najm Al-Mulk's second trip, Right: Khorramabad to Berenjzar, Left: Berenjzar to Dezful. Source: Authors.

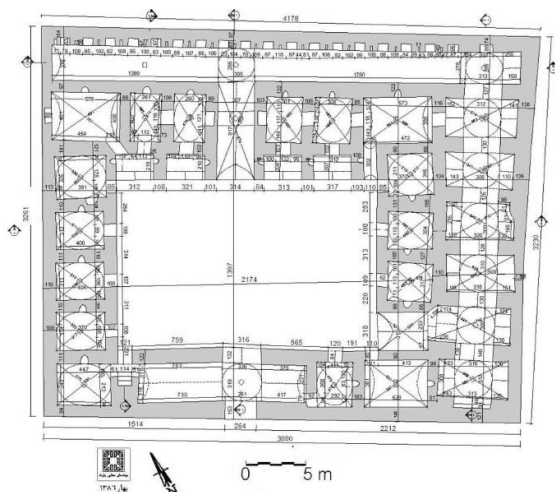


Fig. 3. Right: Plan and Left: Interior view of Shahanshah Caravanserai. Source: Parviz, 2020 a & b.

crossing Qal'eh Nasir, which was used to cross the telegraph line and provide better security. Qaraguzlu, Farid Al-Mulk, Durand, Edmonds, and even Najm Al-Mulk crossed the first route, and Qaraguzlu attributed the improvement of parts of this route to Nazem Khalvat. Also, during his visit to Qal'eh Nasir, he mentioned the existence of older telegraph and post offices, and the construction of a caravanserai with dimensions of 45 cubits by 35 cubits by Nazem Khalvat (2003, 8). Edmonds also observed the ruins of the caravanserai and the post office of Nazem Khalvat near Qal'eh Nasir (1983, 115). Izadpanah mentioned a fort 100 meters away from Qal'eh Nasir, which is similar in construction to the two forts of Shahanshah and Chemeshek (1976, 44), which is most likely the caravanserai of Nazem Khalvat. He also saw another ruined fort a little further from the fort and the caravanserai (ibid.). De Morgan passed through this place and called it Nasrabad (2019).

- Qal'eh Nasir to Mishvad

The two routes mentioned above join at the beginning of the Dahlich Mountain Pass, and again after passing through the Mountain Pass, the road is divided into two branches. One has passed through the tomb of Beik Ali, and the other has passed through the Mishvand fort. Regarding the quality of the pass, Qaraguzlu said: "About three-quarters of a mile of it was built last year by Nazem Khalvat, with the width of five or six cubits, in a very good spiral. Passing through here would not

bother" (2003, 8). However, Farid Al-Mulk described the passage as very difficult, and Durand also described it as difficult to cross the Dahlich and the small Kialan. Edmonds attributed the construction of the road to Nazem Khalvat.

The remains of the Mishvand fort date back to the pre-Qajar period, but after the construction of the telegraph office in the 1870s, it was renamed Mokhberabad. In his first trip, Najm Al-Mulk considered it a telegraph office built by Schindler, which was then deserted (1962, 19); while at that time, not even ten years had passed since its construction. Madame Durand in 1899 and Edmonds eighteen years later mentioned the existence of the Mokhberabad caravanserai and settled there. Morad Ali Papi Balagariveh considered it as Mishvand and believed it is similar to the Shahanshah and Chemeshek Caravanserai in terms of construction and build (2008, 250), which can confirm the synchronicity of construction of this caravanserai with the other two (Fig. 4).

- Mishvand to Berenjzar

The most challenging part of the route running through the famous Kialan Mountain Pass is this one. Before reaching the Kialan Mountain, there is an ancient caravanserai, called Sarvgol¹³, up to which there has been a relatively smooth route in the Takhtchan area. Qaraguzlu passed from Beik Ali's tomb to Sarvgol and wrote about its quality: "The whole road is covered with flat stones, making it difficult to see the road" (2003, 7).

Farid Al-Mulk also passed through the same road, and due to the invisibility of the road, they lost their way to Sarvgol (1975, 149). On the contrary to the other two, Durand moved from Sarvgol to Mokhberabad (Mishvand) and mentioned it as a simple journey that was done in the form of a ride on the natural paving with a gentle slope (1985, 160). Edmonds's writings are also interpreted as an easy journey between Sarvgol and Mokhberabad. In Wilson's report of 1912, it is referred to as a route that becomes a good route for mules only by removing rocks from it (Wilson, 1912, 58).

But the second part of this route, which is between Sarvgol and Mishvand and passes through the pass of Kialan, is not similar to the other part at all. Qaraguzlu considered the distance between the two to be three Farsakhs (leagues), which may take about twelve hours. He also wrote about the improvement of half leagues on each side of the peak by Nazem Khalvat: "This place is the worst part of this road, and its repair has resulted in general welfare for passers-by, and it is essential to build the rest of it" (2003, 7). Farid Al-Mulk also referred to the repair of the road by Nazem Khalvat, which made the road easier to take, but he considered its slope too much. Madame Durand gave a complete description of the ascent and descent of the Kialans, which she considered very difficult and at the same time not terrifying. Edmonds, like Farid Al-Mulk, described it as a steep ascent that did not seem difficult (1983, 112).

Qaraguzlu has said the following about the Berenjzar

caravanserai: "Last year, Nazem Khalvat built the foundation of a caravanserai (⁴⁰ cubits by 40 cubits). When my servant passed by, two cubits had risen from the ground" (2003, 6). It was then called Aminiyeh, which corresponds to the Aminiyeh caravanserai mentioned in the Iran newspaper, that was presented above. In that report, it is mentioned that half of this building was built, and Qaraguzlu also reported the construction of two cubits of its wall in the same period. A few years later, Farid Al-Mulk wrote about its condition: "In Berenjzar, the remains of a caravanserai can be seen, which is one of the buildings of the late Nazem Khalvat, but it is ruined" (1975, 150). Edmonds also described the building of the Berenjzar caravanserai and telegraph office as in poor condition and on the verge of destruction (1983, 111). Moreover, except for some Qajar documents and maps, the name of Berenjzar cannot be seen in any of the existing maps and books, and now that area is known as Charta and includes the Charta Caravanserai in it. Although, its dimensions are different from the dimensions that Qaraguzlu mentioned for Aminiyeh Caravanserai (Fig. 5).

- Berenjzar to Qal'eh Razeh

According to the reports of Qaraguzlu and Farid Al-Mulk, this was a rocky road, and Edmonds described it as a terrible road, and there is no claim that any of these people repaired the road. However, in Wilson's military report in 1912, the construction of a 20-foot-long Zal brick bridge is attributed to Muzaffar al-Mulk (Wilson, 1912), which was also mentioned in Najm Al-Mulk's

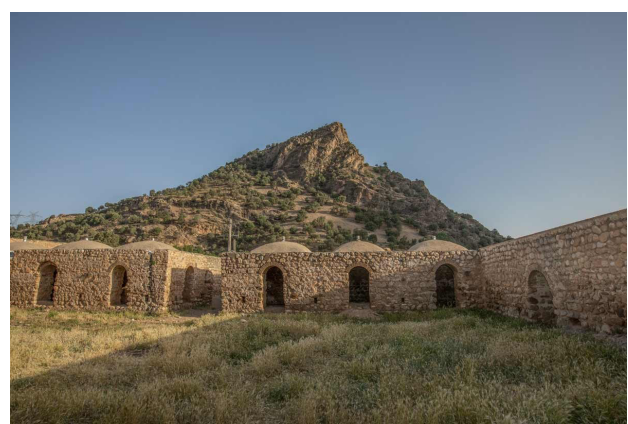


Fig. 3. Right: Plan and Left: Interior view of Shahanshah Caravanserai. Source: Parviz, 2020 a & b.



Fig. 5. Charta Caravanserai in Berenjzar. Source: Papi Balagariveh, 2008.

second trip (2007, 68). Presently, the examination of this route also shows that from Qal'eh Razeh to a little after Zal bridge is relatively smooth and suitable, and the described rocky path began from there to Berenjzar along the river and on the hills.

Qaraguzlu has quoted the following about the buildings in Razeh: "From the past, there were two forts on top of the two hills in this ruined place that was almost collapsing. Last year, Nazam Khalvat repaired them well and named this area Sultaniyeh" (2003, 6). Farid Al-Mulk only referred to the construction of the fort, without any details about the time or its builder, and Durand did not write much about the quality of the fort; however, from the image she has presented, its relatively good condition can be concluded. On the other hand, Edmonds called it a ruined caravanserai.

- Qal'eh Razeh to Hosseinieh

There is no significant point about the quality of this route; Farid Al-Mulk described it as more flat and in some places hard and rocky, and Durand also referred to some beautiful valleys, especially Tok Tok-Ab. Therefore, it does not seem that any special improvement operations have been performed. Qaraguzlu has said about Hosseinieh fort: "Hosseinieh had a fort from the past, last year Nazem Khalvat also built a new building and named it Mohandesieh, but it seems that it has not been completed yet" (2003, 5).

- Hosseinieh to Dezful

This route can be divided into two main parts in terms of the condition of the roadbed, namely from Hosseinieh to Balaroud and from Balaroud to Dezful. The first part

is similar to the route from Razeh to Hosseinieh and has elevations; While after the Balaroud bridge, the path is completely smooth, and the Lur and Salehabad deserts (current Andimeshk) are located in this section. Another route that separates from the main route to the south shortly before Qal'eh Razeh was connected to Salehabad by passing through Gelal Murt; Najm Al-Mulk's second voyage and Edmonds's voyage have been made from this route.

Discussion

Now, by analyzing the available documents after Najm Al-Mulk's second trip to Khuzestan, in comparison with what was obtained from the condition of the Khorramabad-Dezful route before his first trip, one can judge his role in the renovation of this route in comparison with other available comments. Therefore, for this purpose, the house-to-house comparison of the condition of the roadbed and its buildings will be explained. In the first step, we can firmly comply with the renovation of the entire road from Khorramabad to Shahanshah and the construction of its caravanserai after the second trip of Najm Al-Mulk, while some sources attribute the construction of the caravanserai to the Safavid period. Investigation of existing documents does not even confirm the existence of a ruined caravanserai from the beginning of the Qajar period onwards, and only some remains of a fort can be seen in the north of the current caravanserai (Sajadi, 2020). Ahmad Parviz (2020 C) also referred to some presented evidence, including the contents of the Iran newspaper No. 709, which considered it a Qajar building designed by Najm Al-Mulk. In addition to the newspaper, this opinion can be confirmed despite the reports of Qaraguzlu and, to some extent Farid Al-Mulk. The architectural style of the building also corresponds to what is described in the newspaper, which can be seen in other caravanserais and other buildings of the time, such as the ChalanChulan Bridge. In the same issue of the Iran newspaper, it is stated about the architecture of the caravanserai buildings: "All arches of these forts are made from bricks and plaster, and the walls, foundations, and courtyards are made from stones and

plaster. The width of each foundation and wall is one and a half cubits. If they do not repair these forts for the next hundred years, there will be no destruction and refraction in their foundation, and it will not lead to destruction and degradation “(No. 709, February 11th, 1890).

According to Qaraguzlu and the approval of Farid Al-Mulk, as well as the analysis of other existing reports, the renovation of difficult sections from the Shahanshah to the Chemeshek border can also be confirmed by the prediction of Najm Al-Mulk and the implementation of Nazem Khalvat. Also, backed by the above-mentioned evidence, considering that the existence of an older caravanserai in the distant past in the area of Chemeshek cannot be denied, without a doubt, the existing building of Chemeshek caravanserai is the same Nazemieh mentioned in Iran newspaper and Qaraguzlu's travelogue. Parts of the access route from Chemeshek to Qal'eh Nasir - especially to Eshkeneh bridge - have been naturally difficult and have apparently been improved by order of Najm Al-Mulk. However, unlike the previous two caravanserais, the destruction and lack of any remains of the caravanserais and the telegraph office of Qal'eh Nasir needs a little more investigation. Due to its architectural similarity to the other two caravanserais reported by Izadpanah, it is the same Naserieh caravanserai, however, it is completely different.

The Dahlich mountain pass on the way to Qal'eh Nasir is one of the other areas that Nazem Khalvat restored according to the available documents and evidence, and the Mishvand Caravanserai is the same Mokhberieh that was designed by Najm Al-Mulk and implemented and built by Nazem Khalvat with the help of Mehdi Memar. In the next route (Mishvand to Berenjzar), the most important civil action of this period, namely the repair of the difficult parts of the Kialan Mountain Pass, has been carried out, about which there is no doubt. On the other hand, the relatively vague point of this part of the route goes back to the Berenjzar caravanserai. While the Iran newspapers and Qaraguzlu reported that it was half-completed around 1890, about ten years later, Farid Al-Mulk referred to it as destroyed, and thirty years

later, Edmonds declared it to be in ruins. Assuming that the building is unfinished, Farid Al-Mulk and Edmonds have called its remains ruined or in ruins; But assuming that it was completed, its destruction in a short period is a bit questionable. This caravanserai is almost certainly the same as Aminiyeh, which is now called Charta. Papi Balagariveh considered it similar to Mishvand and Chemeshek (2008, 251).

From the restoration of the bedrock of the Berenjzar road to Qal'eh Razeh, nothing is reported in the existing historical documents, and only limited research is conducted about it. While the Iran newspaper reported the news of the construction of the Razeh caravanserai to be done by Nazem Khalvat, Qaraguzlu considered the renovation and restoration of the previous building to be done by him. Izadpanah also claims that “the general view of the walls and rooms of the fort shows that in the following years, its architectural composition has been changed” (1976, 13). Accordingly, given the style of architecture and technology, the construction of the fort, and its difference with the Shahanshah, Chemeshek, and Mishvand buildings, it can be said that Qaraguzlu's opinion seems to be correct. The Iran newspaper also mentioned the construction of the Mohandesieh caravanserai, which Qaraguzlu explicitly considered to be a building adjacent to the old Hosseinieh fort. Therefore, considering that there are no traces of it left, it is a little difficult to judge in this case.

Another noteworthy point is that since the telegraph office and post office were added to the existing functions in the country, the design of new caravanserais was based on the consideration of these spaces, which is also reflected in the 709th issue of the Iran newspaper. Therefore, by designing a new type of caravanserai, Najm Al-Mulk has had an important impact on their formation, which has made important differences compared to the older forts attributed to the Safavid period, such as Qal'eh Razeh. It seems that its more complete and unique example is manifested in Chemeshek, which has two spaces attached to the caravanserai and three courtyards.

On his second voyage, after the Dahlich Pass, Najm Al-

Mulk crossed the Chol road, and shortly before Qal'eh Razeh, he changed his route to Gelal Murt. Therefore, he did not pass through Mishvand, Berenjzar, Hosseinieh, and possibly Qal'eh Razeh during this trip, and after that, he returned to Tehran via Isfahan. As a result, due to passing through Shahanshah and Chemeshek, he had more information than the necessary points about these two caravanserais and the destroyed caravanserai adjacent to Qal'eh Nasir, and these buildings are better completed in terms of architecture and available functions than others.

Conclusion

The present study was an attempt to examine the development plans and measures of Najm Al-Mulk in his two trips to Khuzestan, and explain their consequences in the renovation of the Khorramabad-Dezful road. Therefore, by examining the situation of this road, before the first trip, between the first and second trip and finally after the second trip, based on valid historical evidence and documents, and comparing and analyzing them, a clearer picture of the events during this period can be presented, and the main research question can be answered.

Najm Al-Mulk traveled to Lorestan and Khuzestan in the fall of 1881. Although his main mission was to estimate the reconstruction of the old dam of Ahvaz, due to the importance of the road and proper access, he examined the entire length of the route, especially from Khorramabad to Dezful. Finally, he presented his initial suggestions, including the need to build several ligaments. After that, Muzaffar al-Mulk, who was known for carrying out civil works in Lorestan and Khuzestan, made efforts to renovate this road and restore Zal bridge and the construction of Mishvand caravanserai are attributed to him. However, the measures taken were not enough to make this problematic route suitable. Therefore, in response to the first part of the research question, it can be said that Najm Al-Mulk left for the region while the new ruler of Lorestan and Khuzestan at the end of the fall of 1888, who played a great

role in coordination and formation of effective and lasting measures that were taken to renovate the road from Khorramabad to Dezful. The most important of these measures in the field of roadbed was the repair of difficult and uneven sections of Khorramabad-Dezful route, including the Kialan Pass and Dahlich, which played a key role in improving the quality of the road. On the one hand, he had an important role in improving the quality and safety of the road and the buildings, with the idea of designing multi-purpose buildings (residential and office), and construction (in Shahanshah, Chemeshek, Mishvand, Berenjzar, and possibly Hosseinieh) or restoration (Razeh) of buildings along this route. On the other hand, he introduced changes in their architectural style compared to the earlier examples attributed to the Safavid period (with a predominantly military aspect). Therefore, although the existence of Safavid caravanserais in this route can not be denied, the available documents show that many of these buildings were designed with the advice or recommendation of Najm Al-Mulk and were executed by Nazem Khalvat.

Also, the answer to the second part of the research question is that the set of modernization measures of Najm Al-Mulk and Nazem Khalvat considerably improved the quality of this route and made it the shortest way and the main choice of the travelers. However, the unrest in the region caused by the weakness of the central government, especially around the constitutional movement and the First World War,



Fig. 6. Chemeshek Caravanserai with three courtyards that has introduced different types of in-transit buildings in Lorestan. Source: WWW.lorestan.mcth.ir.

caused years of insecurity on the Khorramabad-Dezful road and destroyed some of these achievements. In addition to achieving the main goal, this study has been able to both introduce important sources to identify the routes of the region in the Qajar period and to provide information about the less known parts of this route along with their exact location. It is also suggested that the exact physical typology of the existing buildings and their spatial and temporal differences, as well as other communication routes from Lorestan to Khuzestan, which have many historical and tourism potentials, be seriously investigated.

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Endnotes

1. Henry Creswicke Rawlinson
2. Clement Augustus De Bode
3. Albert Houtum Schindler
4. In his travelogue, Najm Al-Mulk has mentioned "Shurab" between Chemeshek and Qal'eh Nasir. While the Shurab River is located on the way from Shahanshah to Chemeshek and has been reflected in all reports and maps, including Najm Al-Mulk's own drawing. Therefore, it seems that he made a mistake in writing the travelogue.
5. "Valmian", which is also mentioned as "Valiman" in some sources, is located in the northwest of "Besiar" mountain after the Chol Pass, which is not mentioned in the maps now. Najm Al-Mulk called it Delmian, which seems to be wrong.
6. Refers to the Abgarm plain, which according to the available evidence and also to the explicit claim of Edmonds is located near the Strait of Lilem. In some existing maps, its location is considered to be a short distance from Tang-e-Fani in the current location of Gary Baba Khan village, which does not seem to be very correct.
7. This name is used only by Najm Al-Mulk and also on Wilson's map (Namely the Bohloul Garden).
8. Gelal Murt village is located in Hosseinieh district and southwest of Hosseinieh city (Fig. 2).
9. Nizam Al-Saltanah made a great effort not to repair the Ahvaz dam, and finally, by inquiring by telegram from Amin Al-Sultan and his answer that there are other priorities to the Ahvaz dam (Najm Al-Mulk, 2007, 101), Najm Al-Mulk was sent to Tehran.
10. It is located in Baraftab-e Ghazal area and has been a crossroads of several important roads.
11. The tomb of Beik Ali, which in some sources is also called the tomb of Bovali, is claimed by Qaraguzlu to be the burial place of a person named Beik-Ali (2003: 8). This area is also very unknown in the existing maps or reports and even many locals do not know about it. It is located behind the Mishvand strait and can be reached from the foot of the Bukan Pass.
12. "Berenjzar", which is also called "Berenjkar" in some sources, is one of the unknown areas along this route and is not currently seen on maps and other geographical information. This place is on the southern slope of Kialan and it is the same area that is now called "Charta" and has a famous caravanserai.

13. The old caravanserai of Sarvgol is located on the northern slopes of Kialan in an area called Takht-ghan.

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