

Original Research Article

# Investigating the Relationship Between the Alley (kūcheh) Landscape and the Dez River, and Its Transformation in the Historical Fabric of the City-River of Dezful (A Case Study of the Axis of Lab-e-Khandaq-Shohada-Khimeh Gah)\*

Amin Maghsoudi\*\*

*Department of Landscape Architecture, Faculty of Architecture, College of Fine Arts, University of Tehran, Iran*

Somaye Sabouri

*Department of Landscape Architecture, Faculty of Architecture, College of Fine Arts, University of Tehran, Iran*

Maedeh Ghasabeh

*Department of Landscape Architecture, Faculty of Architecture, College of Fine Arts, University of Tehran, Iran*

Houria Keyhanara

*Department of Landscape Architecture, Faculty of Architecture, College of Fine Arts, University of Tehran, Iran*

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**Abstract** | Alley (in Persian “kūcheh”) in traditional Iranian cities is perceived as a landscape phenomenon. Contemporary urban development in many historical Iranian cities has transformed this concept of the alley and its landscape. Such changes underscore the significance of examining the alley to extricate its values and characteristics in the historical fabric of Iranian cities. The present study attempts to investigate the alley in the historical fabric of Dezful, a historical Iranian river-city in Khuzestan, situated in proximity to the Dez River. Focusing on the interactions between the river and the urban fabric, this study hypothesizes that the alley landscape in the historical fabric of Dezful has been affected by the Dez River; however, contemporary urban development has transformed and damaged this landscape. This research answers the question by scrutinizing the alley on the axis of Lab-e-Khandaq-Shohada-Khimeh Gah: What physical and semantic components can be identified for the alley in connection with the Dez River, and how have these components been affected in the urban development process? This is a qualitative study drawing upon a descriptive-analytical approach. For this purpose, the literature was extensively reviewed, and field observation was used to collect the data. The findings of this research support the hypothesis showing that the alley in Dezful city has been influenced by the Dez River in terms of orientation, formation, and location; however, in addition, due to ritual events and narratives related to the river, the alley is also influenced by the Dez River in terms of semantics. The findings also showed that contemporary urban development in the historical fabric of Dezful has transformed the alley and its landscape through measures such as alley car-oriented street construction and widening since the Pahlavi period.

**Keywords** | *Alley, Landscape, City-River, Historical Fabric of Dezful, Iranian-Islamic city.*

**Introduction** | The alley in Iranian-Islamic cities does not just serve as a simple passage. In the traditional setting of Iranian cities, apart from a communication route linking two points, it is a multidimensional space serving a variety of functions for city residents (Shabani & Mansouri, 2021). The alley has

spatial and structural capacities that have escalated it into a place for creating social associates, consolidating the sense of belonging, and forming a collective identity in the spatial organization of the city. That is why the alley is instrumental in building the shared social memory of citizens or the urban landscape (Mansouri, 2013, 58). The alley in traditional Iranian cities is an

\*\*Corresponding author: +989163346376, amin.maghsoudi@ut.ac.ir

intermediary and articulated space between the two spheres of Iranian human life: the private sphere and the public sphere. Due to environmental, climatic, functional factors influenced by the culture, tradition, and customs of citizens, the alley has special physical and semantic aspects that can meet the physical and mental needs of its citizens and be a clear expression of the lived experience of humans; simply put, the alley is both a physical element and a semantic and cultural one that simultaneously satisfy individual and collective needs (Shabani & Mansouri, 2021). Given this unique characteristic of the alley, this urban space needs to be considered beyond its form as a phenomenon with landscape characteristics. Landscape is a concept referring to environments that are not defined only by their physical characteristics but by the presence of humans and their experiences and feelings. Landscape includes mental and semantic dimensions through the continuous perceptual process of humans. In a landscape phenomenon, space, in addition to physical dimensions, as a result of a process based on human reading and perception, also acquires a mental dimension, and they are so intertwined that it is basically impossible to separate or distinguish between them (Mansouri, 2021). Unfortunately, over the past decades, as a result of modernist approaches based on mechanical ideas, as well as the formation of new needs related to human life (Barati, 2004), the alley, as a valuable urban space, has experienced extensive changes and developments. Measures such as the construction of piercing streets penetrating the historical fabrics of Iranian cities (Atashinbar, 2015) and the widening of alleys to provide a desirable route for vehicle movement (Bahrami & Atashinbar, 2020) have brought numerous challenges, as a result of which the alley, as a landscape and the basic components of the urban landscape (Mansouri, 2021), has essentially changed. In this transformation process, the physical aspect of the alley, along with the mental dimensions produced by the citizens' life experience, has been lost due to the lack of recognition and awareness of the urban development process. However, citizens' perception of the city or the urban landscape is a process that is achieved through citizens' reading of the city as a place and its symbols that nurture human events and memories in its fabric (Mansouri, 2010). Consequently, the destruction of the alley and its simultaneous objective-subjective dimensions can have significant effects on a broader perspective of the urban landscape of traditional Iranian cities that have been shaped over the years and during an organic and continuous process.

Based on what has been presented so far, this research

aims to study the impacts of the contemporary urban development process in Iran (Maghsoudi, 2019) on the alley landscape in Dezful, which is one of the historical cities of Iran. Due to its proximity and connection to the Dez River, it reflects prominent features of traditional Iranian river cities. The historical fabric of this city presents unique examples of alley organization. Unfortunately, many valuable alleys in the city's historical fabric have been destroyed in the urban development process in the contemporary era. For that reason, studying the alley organization to recognize its landscape characteristics and the changes that it has gone through in the urban development process needs more investigation. Therefore, this study attempts to recognize the alley landscape in the historical fabric of this city in connection with the river element as the most important natural component of the city. Moreover, this study aims to examine the effects on the alley as a result of the contemporary urban development process through the case study of the axis of Lab-e-Khandaq-Shohada-Khimeh Gah (Fig. 1). The study focuses on three alleys - Lab Khandaq, Shohda, and Khimeh Gah - which sit along one another, leading to the Imamzadeh Rudband on the edge of the Dez River. This axis is one of the historical and important axes of the city connected to the Dez River. In addition, this axis plays a key role in the formation and output of events and social activities in the city. For that reason, it includes special semantic layers that shape the perceptions of citizens from an urban perspective.

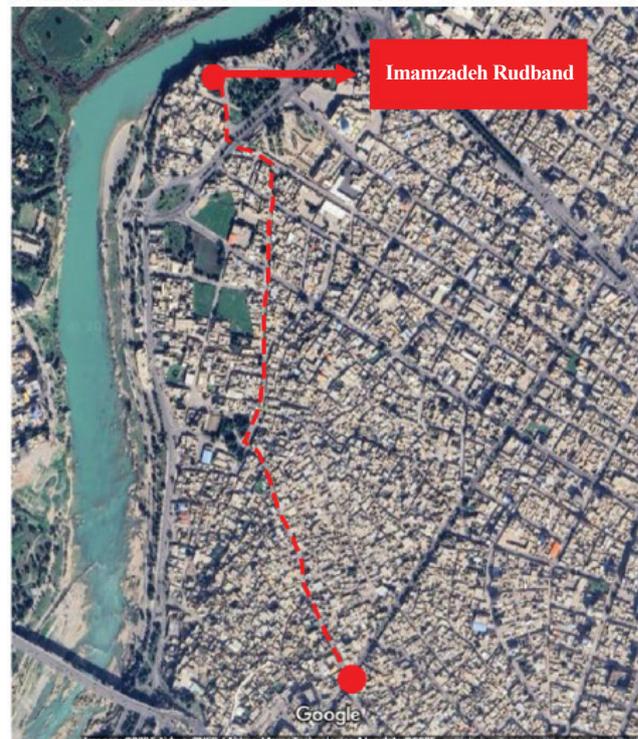


Fig. 1. Research study area, La-e- Khandaq-Shohada-Khimeh Gah axis. Source: Authors based on Google Maps, Emam (Ahvazi), 2003.

## Research Hypothesis and Question

This research hypothesizes that alley, one of the most important elements of the spatial organization of Dezful, which contributes to the spatial and mental order of the city, has been historically influenced by the Dez River. However, it seems that the scope of this impact is not constrained to the physical and spatial dimensions of the alley, but also includes its semantic and mental aspects. The alley landscape in Dezful city has been directly influenced by the Dez River as the most important natural element in the environmental fabric of the city. However, the characteristics of alley landscapes in the historical fabric of Dezful city have not been taken into account in the contemporary urban development process, and this has caused serious damage to the alley landscape. Thus, this study is an attempt to draw upon an objective-subjective perspective to examine how alleys on the Lab-e-Khandaq-Shohada-Khimeh Gah axis in the historical fabric of Dezful have been influenced by the Dez River, and what physical and semantic components in connection with the river can be identified on this axis? This study also aims to investigate how the objective-subjective components influenced by the Dez River contribute to the landscapes of alleys in the urban development process in the contemporary era.

## Literature Review

The alley in historical Iranian cities has intrigued Iranian scholars (Table 1). Proposing the idea of “alley as a landscape”, Mansouri (2021) attempted to present this urban element as a phenomenon different from the passage in the historical fabric of Iranian-Islamic cities, and to set a framework for perusal of the objective-subjective dimensions of the alley landscape based on a holistic approach. In another article, discussing the spatial organization in the Islamic city of Iran, Mansouri (2013) highlighted the alley as one of the main elements contributing to the shape of the spatial organization. Shabani & Mansouri (2021) scrutinized the concept of territory in the alley, how it was formed, and was affected by elements and components. Re-highlighting the concept of territory in the alley, Shabani et al. (2024) argued that the physical and behavioral components constitute the territory in the alleys of the neighborhoods (henceforth Mahallat) of historical Iranian cities. Also, Abdi Malek Kalaei et al. (2021) attempted to identify the hidden semantic components in alleys, organs of the Iranian city, by focusing on the subjective aspects of the alley in a case study of the historical fabric of the city of Sari. Similarly, Maghsoudi et al. (2025) attempted to examine and identify the component that constitutes it in the historical fabric of the city of Yazd by considering the alley as a landscape.

Studies of the historical fabric of Dezful city are relevant literature to this study. In literature, the historical fabric of Dezful has been examined from various aspects. Mehrgan (2024) examined the concept of the old fabric and its structure, studied the continuity and relationship of the old fabric of Dezful with the modern fabric of this city. Hataminejad et al. (2017) in their studies discussed the prioritization of strategies for the development of religious tourism in the historical fabric of Dezful city and presented solutions to strengthen this type of tourism. Momeni & Soltani (2018), in their research, emphasizing the Ashura culture, examined the effects of this ritual on the gathering centers in the historical fabric of Dezful city. Mardani (2022) focused on the public spaces of the historical fabric of Dezful city and attempted to scrutinize their role in creating active social relations by shedding light on a case study of the market and mosque in the old fabric of Dezful. Mavedat (2022) assessed the likelihood of a branding network in the historical fabric of the city based on a tourism, considering the historical fabric of the city. Also, Taban & Pourjfar (2008) emphasized the recognition of the historical identity of the old fabric of Dezful and attempted to identify factors in the urban development process. Mahmoodi & Mansourpour (2017) studied the position of physical factors and components affecting social interactions in the residential Mahallat of the historical fabric of Dezful. In addition, Azad et al. (2019), by introducing the “dastkand” (handcrafted) architecture in the historical fabric of the city of Dezful, discussed the factors of its formation, how to revive and use them as an opportunity for the development of sustainable tourism. Masoudi Nejad (2022) also explored the market structure in the historical fabric of the city of Dezful from the urban, economic, and social aspects. Lorzangeneh et al. (2024) investigated the effects of tangible and intangible physical components on the structure of Mahallat in the historical fabric of Dezful by measuring the components. Eyni & Taban (2019) also studied the effects of physical factors on the speed and direction of wind flow by analyzing climatic data related to wind flow in two areas in the historical fabric of Dezful city. Amanpour et al. (2016), by studying the historical fabric of Dezful, also explored how passive defense factors and elements were used in Dezful city. A perusal of the literature shows that alleys and the landscape emerging from them in the historical fabric of Dezful city needs more investigation. Even though they have evolved due to contemporary urban development, it is an issue that has received less attention (Table 2). Accordingly, this study attempts to fill the research gap on the historical fabric of

Table 1. Literature on the concept of alley (kūcheh) from Iranian researchers' perspectives. Source: Authors.

| Source                           | Research Area   |
|----------------------------------|---|
| Mansouri (2013)                  | The ally (kucheh) is a main element forming the spatial organization of the Iranian-Islamic city. |
| Abdi Malek Kalaei et al. (2021)  | Studying the subjective aspects of the hidden landscape in the alley(kucheh)                      |
| Mansouri (2021)                  | Introducing the alley (kucheh) as a landscape   |
| Shabani & Mansouri et al. (2021) | Exploring the concept of territory in the alley   |
| Shabani et al. (2024)            | Identifying the physical and behavioral components of the territory in the alley(kucheh)          |
| Maghsoudi et al. (2025)          | Identifying the components of alley (kucheh) landscapes in the historical fabric of Yazd          |

Table 2. Available approaches and research fields related to studies of the historical fabric of Dezful. Source: Authors.

| Approach                  | Source                        | Description  |
|---------------------------|-------------------------------|--|
| Tourism                   | Hataminejad et al. (2017)     | Strategies for developing religious tourism in a historical fabric                                 |
|                           | Azad et al. (2019)            | Studying the handicrafts to develop sustainable tourism in a historical fabric                     |
|                           | Mavedat (2022)                | Tourism approach to branding network in a historical fabric  |
| Climate                   | Eyni & Taban (2019)           | Climatic studies of wind flow in the historical fabric   |
| Reconstruction management | Amanpour et al. (2016)        | Studying passive defense factors in a historical fabric  |
| Identity                  | Taban & Pourjfar (2008)       | Re-identifying the identity of the historical fabric in the urban development process              |
| Physical-spatial          | Masoudi Nejad (2022)          | Studying the Bazaar structure in the historical fabric of Dezful                                   |
|                           | Mahmoodi & Mansourpour (2017) | Physical factors affecting social interactions in historic neighborhoods                           |
|                           | Momeni & Soltani (2018)       | Identifying the impact of ritual on gathering centers in the historical fabric                     |
|                           | Mardani (2022)                | Public spaces and their role in creating active social relationships                               |
|                           | Lorzangeneh et al. (2024)     | Identifying tangible and intangible physical components in the structure of historic neighborhoods |
|                           | Mehrgan (2024)                | Studying the historical fabric and how it relates to the modern fabric of Dezful city              |

Dezful city and attempts to contribute to the scientific literature on alleys by perusing the alley landscape in Dezful.

## Research Methodology

This research is qualitative, employing a descriptive-analytical approach. The research was carried out in two phases. In the first phase, an attempt was made to identify the components of the alley landscape in the Lab-e-Khandaq-Shohada-Khimeh Gah axis in connection with the Dez River. In the next phase, after identifying the objective-subjective dimensions of the alley landscape in the study axis, the changes caused by the urban development process were examined, and the relationship between the urban development process and the characteristics of the alley landscape along the river was scrutinized. The data collection method in this research is also generally based on field visits and library methods. For this purpose, a field visit to the historical fabric of Dezful city and the Lab-e-Khandaq-Shohada-Khimeh Gah axis was conducted by the authors of this study between the 28th and 29th of November, 2024. During this visit, a set of observations was carried out using tools such as aerial photography, photography, and videography. Moreover, interviews and discussions with citizens between the ages of 30 and 60 in the study area were conducted<sup>1</sup>, and initial relationships of the alley with the Dez River were documented. In the next phase, to examine the components, written sources such as articles, historical books, and travelogues were reviewed, and also visual sources such as historical maps and aerial images were examined. Then the relationship of these components with the river element was independently analyzed. After identifying the components of the alley landscape in the studied, the effects of the urban development process on these components were investigated, the physical changes caused by the urban development process in different periods and their effects on the components of the alley landscape were studied by referring to documents and literature such as comprehensive plans, urban development plans in the historical fabric of Dezful city, as well as research conducted in this field (Fig. 2).

## Theoretical Foundation

### • Conceptualization of landscape

Landscape, as a part of the human environment, is shaped and perceived through human perceptions and experience (Maghsoudi et al., 2020). This concept has a noteworthy impact on the quality of human life and also establishes a complicated link with their understanding of environmental patterns and processes, as well as the recognition of natural and artificial

beauties (Mansouri & Shafia, 2021). Landscape is a reflection of human interaction with the environment (Atashinbar, 2009), in which physical and semantic aspects merge and appear as a spatial phenomenon (Maghsoudi et al., 2024). For this reason, landscape as a phenomenon not only has external and objective dimensions, but its mental dimensions also exist in the perceptual structure of humans as inhabitants of the environment (Sabokro et al., 2022). Landscape has formed throughout history under the influence of human interactions with the environment and within the framework of natural, historical, cultural, ritual, and economic conditions. Landscape is not only a reflection of the objective reality of the environment, but also the result of human experiences, feelings, and perceptions of that environment (Mansouri, 2010). This bilateral interaction transforms landscape into a phenomenon that is simultaneously objective and subjective, acting as an inseparable part of spatial identity and the human environment.:

### • Alley as a landscape phenomenon

The equivalent term of “alley” in Persian is “kücheh”. This term is made of “kuy” (neighborhood) and “che” (diminutive suffix) and refers to a space as a small neighbourhood or Mahalleh (Mansouri, 2021). Therefore, apart from the concept of movement, this term also implies pause and stop in its spatial fabric (Shabani & Mansouri, 2021). An alley is not only a path or passage but has qualitative and semantic aspects that distinguish it from usual roads linking two points (Barati & Zarringhalam, 2013). In Iranian culture, alleys are associated with attributes such as garden alley (kucheh-bagh), market alley (kücheh-bazar), and dead-end alley (kucheh-bonbast), which reflect activities and spatial qualities associated with collective experiences and historical memory (ibid.). In an Iranian city, it functions as a place for collective life and social interactions. These spaces are a platform for human communication, information exchange, and cooperation, and play a pivotal role in developing a sense of belonging to the place, social solidarity, and the formation of the local community (Maghsoudi et al., 2025). Alleys are also the vital arteries of the city, carrying history and collective memories and preserving urban identity through their historical fabrics, traditional architecture, and titles (Mansouri, 2021). Therefore, preserving alleys in the historical fabric of cities means preserving historical memory and urban identity (ibid.). Functionally, alleys facilitate the movement of people from the private space of the house to public areas such as the market and the square. However, in addition to providing access, this urban space also hosts cultural and social events such as ritual

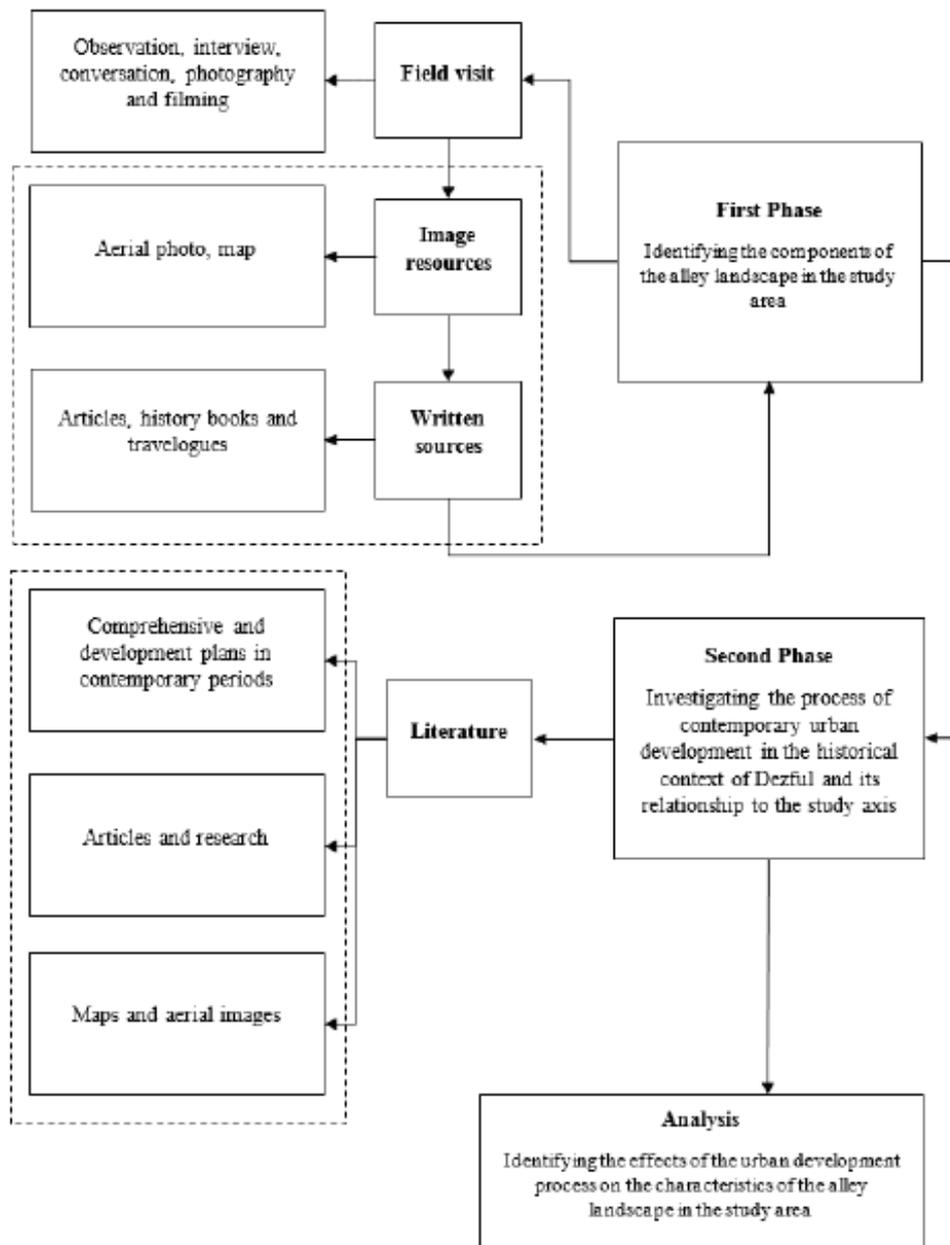


Fig. 2. The different phases of the research method. Source: Authors.

ceremonies, gatherings, and children's games. These features turn the alley into a key element in orientation, navigation, and reading of urban space and help to form the identity connection between individuals and the environment (Shabani & Mansouri, 2021). Therefore, in addition to being a key element in the skeleton and structure of Mahallat, alleys play an important role in the formation of the underlying order or the residents' perception of the neighborhood structure and the city in a broader perspective (Habibi, 2003). Given these features, the alley in the spatial organization of the Iranian city can be considered as a type of urban landscape that contains a set of physical, functional, and semantic elements that shape the residents'

understanding of the neighborhood and the city based on collective memories, cultural exchanges, and social interactions. That is why alleys, with their landscape characteristics, play a vital role in building urban identity and strengthening the sense of urban belonging, not only as a physical element, but also as a meaningful and social space (Maghsoudi et al., 2024).

## Findings of the Study

### • Physical impacts of the river on the alley

The old fabric of Dezful has been mainly affected by the Dez River in different historical periods (Mavedat, 2022). It consists of two parts, northern and southern. In the northern part, which is the concern of this study, part

of the city has emerged on the slope of the riverbank. In general, the fabric of the city in the northern half has been formed mainly along the east-west direction and towards the river and its edge. In this area, at some points of the access routes to the riverbank, there are alleys with steep slopes, which are called “bondar” in the local language. The alleys are transformed into stepped passages due to the high slope to provide quick and direct access from the fabric to the riverbank, the most important natural element of the city (Masoudi Nejad, 2022). Similarly, the axis of Lab-e-Khandaq-Shohada-Khimeh Gah, following this spatial structure in the northern part of the historical fabric, has an east-west orientation towards the river edge. This orientation is in the southern half of the fabric; the orientation of the alleys and passages, unlike the northern part, is formed along a natural north-south slope, which is why there is no direct access from within the fabric and Mahallat to the river edge in this part of the city (*ibid.*) (Fig. 3). Therefore, it should be stated that the topography and natural slope of the lands around the river have been an important factor in the orientation of the alleys in the complex and intertwined fabric of this part of the city (Amanpour et al., 2016), which is why the study axis of this research, influenced by this feature, has an orientation towards the river.

As the old fabric of Dezful city is situated along the Dez River, the temperature regulation by the river is another factor associated with the orientation of the alleys. Dezful has a hot and semi-humid climate, and the summer temperature exceeds 55 degrees Celsius (Taban et al., 2012). Intense sunlight and high temperature, along with relative humidity, are the main climatic problems of this city (Azad et al., 2019). The river acts as a large-scale urban ventilation system and causes cooling and air conditioning in the historical fabric of Dezful because the winds pass over its surface and blow towards the historical fabric of Dezful city, and surface evaporation (Taban & Pourjafar, 2008). For this reason, the orientations of alleys, passages, and also buildings in the fabric have been towards the favorable wind and the edge of the river because cool breeze blowing from the river can serve as an urban ventilation system and help cool the alleys (Eyni & Taban, 2019) (Fig. 4). The wind flow from the river, along with the shadow created by high walls in narrow alleys in the historical fabric, plays a key role in decreasing temperature and humidity in Dezful (Taban & Pourjafar, 2008). Affected by this feature and conditions, the alleys in the studied axis also have an east-west orientation towards the river due to the use of favorable wind and adjustment of climatic conditions.

In addition to the major effects of the Dez River on the spatial structure of the alleys and their orientation



Fig. 3. Orientations of streets and alleys in the northern half of the historical fabric of Dezful city towards the river edge, influenced by topography and land slope.

Source: Authors based on Masoudi Nejad, 2022.

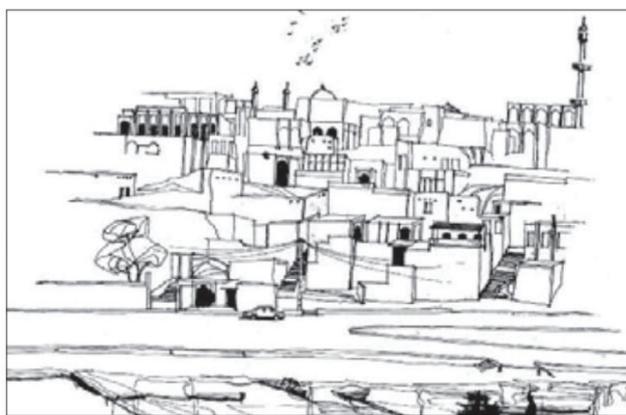


Fig. 4. Orientations of alleys and buildings in the historical context of Dezful towards the Dez River. Source: Taban & Pourjafar, 2008.

in the Lab-e-Khandaq-Shohada-Khimeh Gah axis was also influenced by the Dez River in terms of its location. Part of the study axis was built on a historical moat that branched off the Dez River on its eastern bank. The “Lab Khandaq” alley, which takes its name from this historical moat and passes through the old Mahallat of Heydar Khaneh and Lab-e-Khandaq, is located on the historical city wall made in the Al-Buyid era. This fence in the fifth and sixth centuries AH included a moat to protect the city and also to supply water to the city of

Dezful (Emam (Ahvazi), 2003). According to Emam (Ahvazi) (ibid., 115), it seems that this moat was a channel and a water distribution line for floods caused by rainfall that existed naturally and was used to make it impassable and intensify the city's defensive position in the past. This moat is currently filled, and the alley has been built on its edge. In addition to its defensive role, it also served as a source of irrigation and access to the water resources of the Dez River, and for this reason, it had a fundamental impact on the urban structure of Dezful (Fig. 5). This moat was dug between the two famous castles of Dezful, "Upper Castle" and "Lower Castle" (one for officers and the other for soldiers). The upper castle was located in the northern part of the mosque of the present-day "Lab-e-Khandaq" Mahalleh, while the lower one was located in the southern part of the mentioned area, around which a wide and deep moat was dug in a semicircle (ibid., 108 & 26). The path of this moat separated from the Dez River in front of a garden called "Gazer", which is today a park on the edge of the Dez River, and towards the east, it used to pass under the tomb of "Molla Rajab Barsi" and the "kernasyoon" and "Katkun" Mahallat, and a little further north of the "Lab-e- Khandaq" mosque, and after crossing the width of the current Imam Khomeini alley, it entered the Heydar Khaneh Mahalleh, and then from a place called "Qol Nan," it flowed into the desert around the city of Dezful (ibid., 100) (Fig. 5).

• Mental impacts of the river on the alley

Apart from affecting the objective dimensions, the

Dez River has generated unique meanings and mental effects triggered by the alley in the historical fabric of the city of Dezful. In general, ritual ceremonies, especially the mourning of the days of Muharram, have a special place in Dezful. There are various rituals and customs related to this ceremony, in which many citizens of Dezful participate (Hataminejad et al., 2017). The mourning ceremony of Muharram finds meaning in direct connection with the concept of water. Water has always been known as a symbol of life, mercy, and purity in Iranian culture (Foroughi Abri, 2003). However, the event of Ashura and the narratives associated with water in this event sanctify water and stir deep mental reactions in Iranians. In the historical narratives of the Ashura event, water is a special element, where the closure of the access route to the "Alqama" water stream to the armies of Hussein ibn Ali, the third Imam of the Shiites, served as a military weapon to defeat him and his armies. Regarding the importance of water and its presence in the Ashura ceremony and the ritual culture of the Iranians, symbols such as "Saqa" or "Saqakhaneh" need to be considered in this fabric (Shahla, 2020).

The Muharram mourning ceremony in Dezful is a historical and deep-rooted ritual and is considered an element of urban identity; in this ceremony, the city's landmark buildings, as well as urban axes and landmarks, are of great importance; the presence of numerous mosques, holy places, numerous shrines and pilgrimage sites, urban spaces and numerous axes all reflect the position of this Shiite religion in

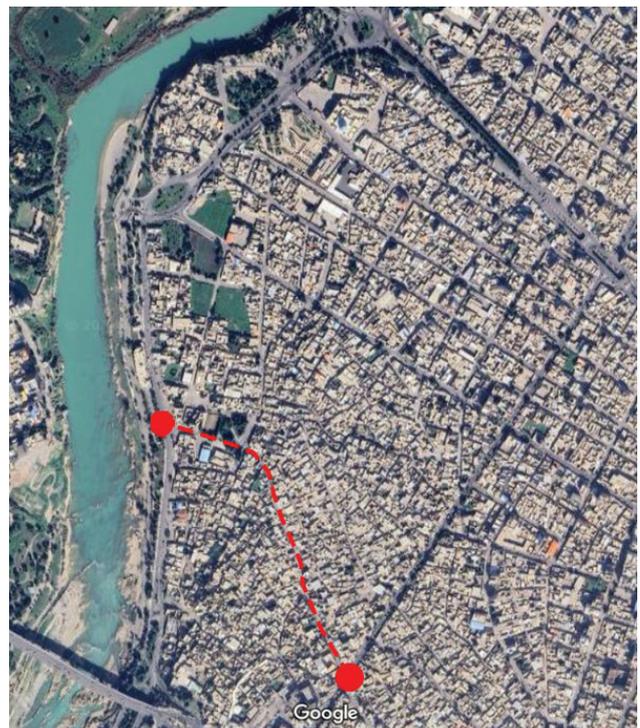
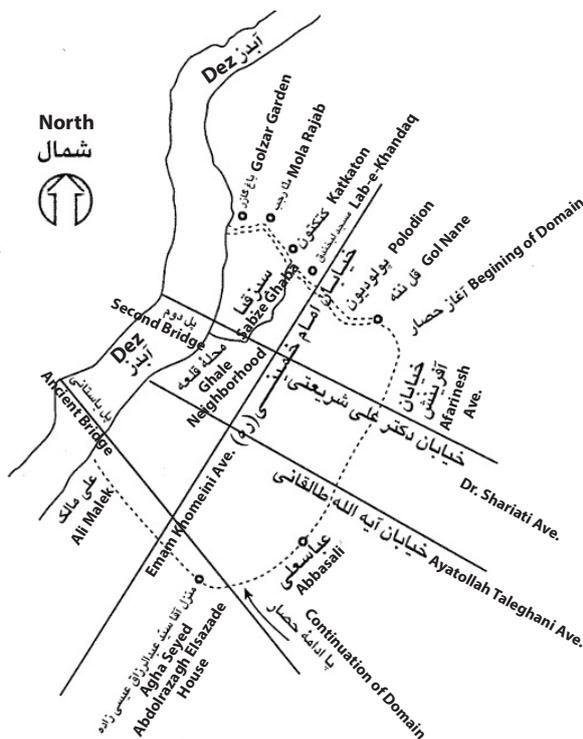


Fig. 5. Location of the historical moat in Dezful, on which Lab-e- Khandaq alley is built. Source: Authors based on Google Maps and Imam, 2003.

Dezful (Momeni & Soltani, 2018). In the mourning ceremony during the decade of Muharram, mourning groups usually move in groups through the city's axes and alleys every evening during the Maghrib adhan (sunset prayer call) and until midnight, passing through other Mahallat on their way and joining other mourning groups while performing rituals such as beating the chest, reciting laments, and chaining (*ibid.*). On these routes, there are mosques, takayas, husseiniyyas, and tombs, which are usually considered the places where mourning groups of each Mahalleh gather and act as focal points to attract the crowd during mourning ceremonies (Mardani, 2022).

The Lab-e-Khandaq-Shohada-Khimeh Gah axis is one of the main and important routes during the Muharram ritual. The mourning groups in the morning ceremony of Ashura, after passing through various Mahallat, finally enter the Lab-e-Khandaq alley, then go through the Shohada alley and also the Khimeh Gah. At noon of Ashura, they gather at a place called the Imamzadeh Rudband tomb on the edge of the Dez River and hold rituals related to this day. This path of movement and ultimately reaching the edge of the Dez River can be a symbolic reading of the narrative related to the closure of the water to the armies of Hussein ibn Ali, where the participants in this ritual, by passing through the alleys of Lab-e-Khandaq, Shohada and Khimeh Gah, bring themselves to the Dez River, as a symbol of water and the Alqamah stream, mourning the thirst and suffering inflicted on the third Imam of the Shiites. Through this religious event, the axis of "Lab-e-Khandaq-Shohada-Khimeh Gah" becomes a ritual passage that is essentially understood through the concept of the river in the minds of the citizens.

On the other hand, the endpoint of this axis, the Imamzadeh Rudband tomb, is another element that finds its meaning in association with the Dez River. This tomb on the edge of the Dez River, which is located in a special place, belongs to a person named Seyed Sultan Ali Siah-Push, known as Pir Rudband (Fig. 6). According to local narratives, this person was a descendant of the seventh Imam of the Shiites who came to Dezful to propagate Shiism. However, after the residents of Dezful ignored his invitation, this person dammed the water of the Dez River in a mythical process to invite the people of Dezful to accept the Shiite religion through this miracle. From then on, this person became popular with the citizens of Dezful as Agha Rudband or Pir Rudband, and the tomb dedicated to him was recognized as one of the religious and ritual places of the city. This narrative clearly shows the importance of the Dez River in the mindset of the people and its association with religious and social beliefs (Emam (Ahvazi), 2003).

Except for the mental ties, the link between the tomb and the historical water infrastructure in Dezful can be examined. As historical images and old maps of this city show, the Imamzadeh Rudband tomb was the starting point of the water intake route of one of the historical "qomesh" in Dezful. Qomesh is the water supply system in the old fabric of Dezful, relying on the water from the Dez River. This water infrastructure is generally used to provide drinking water and agriculture, and is directly connected to the Dez River as a water source. Qomeshes have many similarities in terms of function with the qanat, another famous Iranian water infrastructure, with the difference that the qanat generally relies on underground water springs, while the qomesh in Dezful is based on the Dez River. Qomeshes have played a prominent role in the

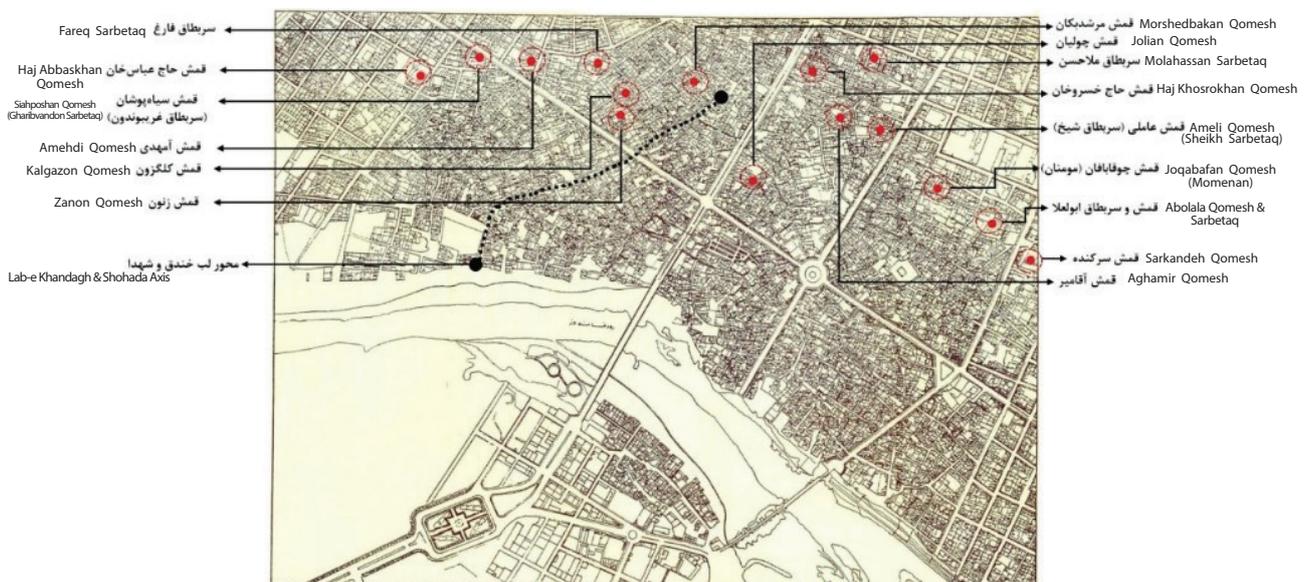


Fig. 6. Location of "Qomesh" and "Sarbetaq" in the historical context of Dezful. Source: Authors based on Emam (Ahvazi), 2003.

formation of the historical fabric of Dezful in such a way that they have had a close connection with the urban axes and alleys of Dezful. For this reason, they were often located in strategic locations in Mahallat, such as the center of the neighborhood or the main passage of the neighborhood (Fig. 6). The location of the “Imamzadeh Rudband” tomb on the site of the Dez River’s fork into the qomesh can also be considered in connection with the mythical narratives related to this person and his role in controlling the water of the Dez River, and it strengthens the citizens’ mental image of this place and its connection with the river, as well as the Lab-e-Khandaq-Shohada-Khimeh Gah axis. In an aerial photograph from 1956, the route of the shafts of these qomeshes can be seen on the eastern bank of the Dez River. These qomeshes, whose “Dardooneh” or water intake route leads to the Rudband area, are evidence of the connection of this place with water supply systems from the Dez River (Fig. 7) (Behnia, 1992).

#### • Contemporary urban development and alley transformation

The city of Dezful was founded about 18 centuries ago, in 260 AD, by Shahpur of the Sassanid Empire, after conquering Rome and settling a population there; and it expanded in the 4th and 5th centuries AH until the Qajar era (Mehrgan, 2024). Until the modern era, the city was surrounded by a wall during the Safavid era; the urban fabric of Dezful in the early urbanization period until the late Qajar era, following traditional urban planning patterns, had an organic structure that generally expanded radially (Taban & Pourjafar, 2008) (Fig. 8). New urban expansion in the modern era began after 1931, concurrently with the first Pahlavi period (Momeni & Soltani, 2018). At this stage, consistent with political and economic developments, the urban fabric changed in terms of physical appearance caused by the expansion of the city, the fence around the historical fabric was destroyed and new streets were built with a checkerboard shape, imitating European cities, that cut through the urban fabric and connected its beginning and end (Taban & pourJafar, 2008). These streets, which are referred to as piercing streets and whose roots go back to the Renaissance period in Europe, cut through the existing fabric in a straight, star-shaped, or perpendicular manner and were known as a manifestation of the authority of the government over society and decisive and commanding interventions in the city (Atashinbar, 2015). This street construction during the Pahlavi period caused a rupture in the structure and internal relations of the historical fabric of Dezful city (Taban & Pourjafar, 2008). In the following decades, especially between 1931 and 1966, with the increase in population and the number of households and the consequent need for more residential units, Dezful grew outside the historical fabric of the city and expanded to the south, east, and north (Sheykh Beyglou & Negahban, 2017).

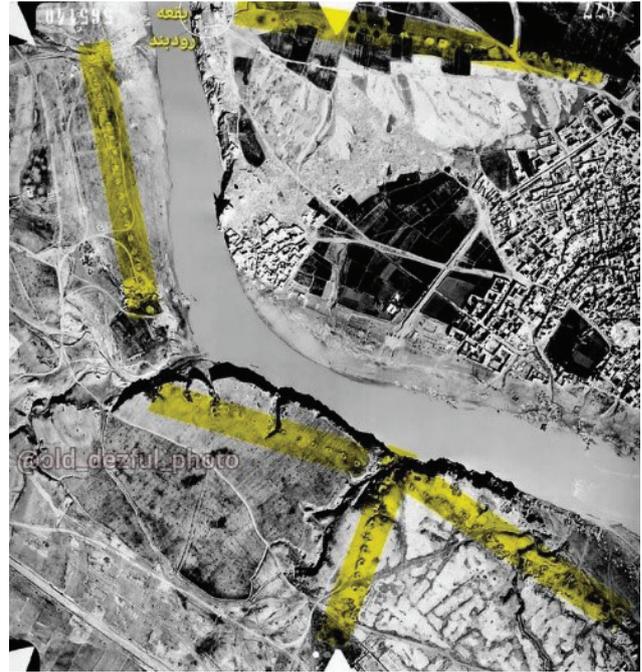


Fig. 7. Location of the “Imamzadeh Rudband” tomb on the starting point of one of the qomesh in Dezful, as well as a view of the bars of the qomesh in Dezful. Source: Behnia, 1992.



Fig. 8. Historical structure of Dezful city at the beginning of the Pahlavi period. Source: Authors based on Taban & Pourjfar, 2008.

The development of Dezful in the 1950s and 1970s, as a result of the doubling of the city’s population and the construction of a bridge over the Dez River and the increase

in communications between the east and west of the river, entered a new period, as a result of which new residential neighborhoods and administrative sites were built on the other side of the river on the west side of Dez; also, developments took place within the old fabric of Dezful during this period, which as a result had a deeper impact on the Mahallat and historical axes of Dezful (*ibid.*). During this period, with the increasing importance of streets and motorized transportation and the dominance of riding, many alleys and passages in the historical fabric of Dezful were modified and widened to facilitate vehicle movement. This action led to the destruction of many alleys, changing their width, and also transforming these historical structures into car-oriented alleys; this development, along with the continuous use of new materials, fashion, and the construction of worthless and identityless facades within the historical fabric, has caused serious conflicts with the ancient architecture of the fabric and the destruction of the elements that make up the alley landscape in many parts of the historical Mahallat (Taban & Pourjafar, 2008).

Due to this urban development in the contemporary era in Dezful, the axis consisting of the alleys of “Lab Khandaq”, “Shohada”, and “Khimegah” has also transformed. In the first step, the construction of piercing streets in the form of “Imam Khomeini”, “Ayatollah Ghazi”, “Mirdamad”, “Rodaki”

and also the coastal boulevard has caused spatial interruption and physical rupture of the extension of the alley axis along them, especially near the “Imamzadeh Rudband” tomb, which, in addition to affecting the spatial integrity of the axis, has also affected the perception of the alleys as a single axis to some extent (Fig. 9). On the other hand, due to the expansion measures, the historical bodies of the existing buildings in this axis have been destroyed in some parts, and as a result of their retreat, the cross-section of the alley and its width has changed, so that these alleys with a width of less than 6 meters, and consequently a low permeability coefficient, have become car-oriented streets with a width of nearly 12 meters, in which, due to the dominance of cars and motor vehicles, there is no space for pedestrian movement (Lorzanganeh et al., 2024). In addition, the construction of worthless building facades and the use of materials unrelated to the historical identity of these alleys, such as cement blocks and machine bricks, iron doors, openings for cooling equipment, as well as installations related to urban infrastructure such as concrete lighting columns or urban power transformers, are other factors that have affected the visual overality and appearance of the historical alleys in the axis under study. Due to these physical interventions and also inconsistent with the identity of the historical fabric, the alleys today face problems such as visual, physical, and

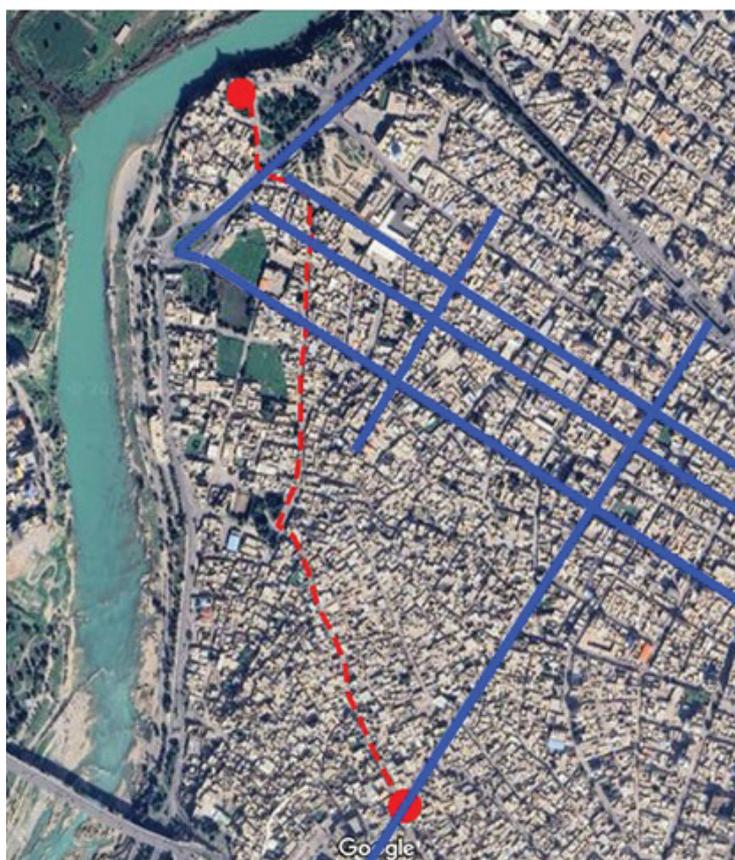


Fig. 9. Disruptions of alley organization as a result of the construction of piercing streets in the historical fabric of Dezful city. Source: Authors on Google map.

identity confusion, which, as a result, has disrupted the perception of their landscape, which was composed of a set of unique objective-subjective dimensions about the Dez River throughout history. In fact, due to the actions that have taken place today, both the impact and connection of the river with the alley have become much weaker than before. The lack of spatial extension towards the river, the change in the sections of the alley, the emphasis on the presence of cars, and the destruction of historical signs in the alleys are all, in fact, a reflection of this reality (Fig. 10).

### Declaration of No Conflict of Interest

The authors declare that they have no conflict of interest in conducting this research.



Fig. 10. Cross-section of the alley in the study area and the physical effects of widening to facilitate pedestrian movement. Source: Authors, 2025.

### Endnotes

\* This article is extracted from the Research Project entitled “A placed-oriented Approach in the Spatial Planning of Khuzestan Provice” which was conducted under supervision of Dr. “Seyed Amir Mansouri” by the research team of NAZAR Research Center in Khozestan province in 2024.

1. The interview process was conducted in an unstructured manner and lasted 15-20 minutes through a conversation with interviewees at the age range of 30 to 60 years. We selected

this age group range to reap the benefit of deeper collective memories associated with the study area. All interviews were conducted during the research team’s field visit, and all interviewees were interviewed at the study area at the time of the visit. The interviewees included 20 people, consisting of 12 men and 8 women. In this interview, the participants were asked to recount events, memories, or narratives related to the river connection and the study area.

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