

**Abstract:**

Archeological surveys conducted in the area of Shur House of Azgeleh from the part of the Salas Babajani city in the central Zagros area of the Parthian era have been obtained. Accordingly, the purpose of this study is to identify Parthian establishments in the area of Salas Babajani. Since environmental factors play an important role in the formation and pattern of human habitation, and the study of the relationship between human and environment is one of the main approaches of modern archeology. Therefore, in this study, the impact and role of environmental factors on the pattern of establishment of the historical sites of Salas Babajani.

The main question of this study is the impact and role of environmental factors on the pattern of historical sites in the village of Shur House in the Salas Babajani section. The field research method is a library based on field studies, analytics of environmental factors such as factors such as sea level, direction and slope of land, water resources using the geographic information system (GIS).

Based on the results of the archeological study, twenty-seven Parthian areas were identified, which were investigated in terms of environmental variables and the environmental factors that contribute to their formation and distribution were discussed. In this regard, the factors have been most influenced by the formation and location of these deployments to the altitude or altitude of the free water and water resources.

**Keywords:** settlement pattern, Parthian, Environmental factors, Salas Babajani, GIS.

## **Introduction:**

Archeological studies and the analysis of the establishment pattern to understand better the cultural prospect of the study area.

The Parthian period is one of the most important historical period in Iranian archeology, with many uncertainties about the type of settlement pattern, the type of livelihood, the economy, and their cultural and commercial relations. Salas Babajani is one of the borders towns of Kermanshah province located in the western Zagros area of central Zagros. Since our city is located between central Zagros and Mesopotamia, it has a specific geographical and strategy. In the past, the area has played an important and key role in establishing cultural communication between the two regions, Therefore, any archeological studies in this area help to further identify the area and identify cultural communication between the two areas. So far, no targeted studies have been conducted to analyze the status of residence and Parthian deployments in the area. Therefore, in the establishment pattern, the greatest attention given to biological geographical and human relationship focuses on the location and biological location in the geographical area, and the difference between the geographical status of each region, how the deployment **destruction** is different; therefore, with leading research, one can understand the human relationship with its surroundings, and interact with environmental and geographical factors. The topic and discussion of the settlement model is one of the topics discussed today in archeological studies.

Given the importance of the region and the strategic location, the lack of archeological studies, research and research studies to identify and explain cultural communication with neighboring areas seems necessary. The purpose of this study is to identify the pattern of establishment of the Parthian sites based on environmental factors. This study analyzes and evaluates archeological data with the help of the geographical information of the region.

## **The research questions are:**

- 1- How is the distribution and pattern of settlement of the Parthian period in the Salt House area?
- 2- What were the most important factors affecting the formation and distribution of the Parthian period in the study area?
- 3- Parthian areas of the study area belong to which Parthian period?

## **Research Method:**

The analysis of the pattern of deployment is one of the topics in archeology that, rather than focusing on an ancient place, examines regional. In this method, focusing on biological geography and human relationship in the location and living in the geography area focuses, which depends on the difference between the geographical status of each region, how the deployment distribution is different (Kowalewski, 2008; 227).

In the archeological point of view, Sima Earth and look at the landscape of settlement also deals with human interaction with the environment and introduce human and natural geography to the factors of landscape formation (Johnson, 2007; 3). In this study, approaches to the analysis of the field of starch and central location analysis were used in the assumption test. An analysis of environmental attraction or recruitment is discussed in historical cultural archeology whose approach is to discover the biological relationship of ancient sites and the surrounding environment. This theory was first introduced in 1970 by Vitafenery and Higgs (Rangerior and Ban, 2012; 367). In this study or the time of community between the establishment and the natural resources in the intense or weak use of those variable resources in the position of ancient sites and the livelihoods of the inhabitations (Alizadeh, 2004; 196). To conduct this study, the landscapes were initially investigated and then analyzed and analyzed using GIS software, the environmental and geographical conditions of the area were analyzed and identified and identified the severity and weakness of each of the factors affecting the distribution pattern of these area was identified and specified, factors that where analyzed include **width** of area, slope, type of area (foothills, plain, ...) distances of area to the closest source of water, agricultural land and soil fertility, type of settlement (permanent, temporary), altitude of height sea level, natural resources, number and time period of settlement, time of pottery, distance to the nearest ancient site around, access to roads and type of water resources (spring, **seasonal** river, permanent river,...). In order to better understand the type and number of periods of settlement of residences studied, all **potteries** discovered from the design was designed and approximately each area was estimated in the surface review process.

## **The geographical location of the study area:**

Salas Babajani is located in Kermanshah province, which is bounded on the north by Paveh, south to Islamabad West and Sar Pole Zahab. On the east by Javanrood and on the west by the Iraq border (Figure 1). The climate is a cold and tropical region. The location of the study area

includes the village of Shur House of the central part of Salas Babajani, located in the western area of central Zagros (Figure 2).

### **Distribution of Parthian sites in Shur Salas Babajani village:**

In this study, there were four ancient sites of the Parthian period in which we first introduce their geographical sites and geographical coordinates and cultural data.

#### **Local Lacanni:**

This area is located on the relatively steep slope of the **stem** slope of the Chiamaran (Choghamaran) and overlooking the Cham Zarisk river and located at a height of 2 meters above the free water level. Its slope is about 1-2 degrees. In the northwest and southeast of it, there are two hydrophilies. The two waterfalls eventually reach the east of the Cham Zarisk river. The slope of the enclosure in the vicinity of the hydrophilies reaches about 30 to 45 degrees. In fact, the area is located on the west and southwest to steep 45 degrees slope of low attitude hill and almost cone-shaped. Its length is 45 meters in the northwest – southeast direction 80 meters length and its width is 45 meters. The approximate area of this effect is %36 hectares.

The Cham Zarisk river flows north at its 175 meters east. From the west and southwestern side leading to the relatively steep slope of the hills of natural hills.

The cultural data of this site mainly includes pieces of pottery, pieces of glass containers, and a piece of bronze object. These date belong to the Parthian historical period.

The date density is more common in the northeast and the middle part of the area and approximately every 16 square meters of pottery 2 piece set pottery.

#### **Bani Shokan Area:**

This site is located on the northern slope of a mountain called Kwarzgan and on the hill of natural hills.

Kani Sheikh's mineral spring is located about 120 meters southwest of the area and its water flows north from its western margin. This site is located 320 meters southwest of the village of Posht Gar Chiamaran in the village of Shur House, at a height of 958 meters above free water level. A circle – shaped area located on a relatively flat surface of a natural hill. Its slope to the

southeast is about 5 degrees. The area leads to the south and southwest with a 25 degrees slope of the hills and agricultural land. From the north side of the hill slope is about 35 degrees.

This side of the hill has a rock slope leading to dirt roads.

The slope of the east and west slopes of the hill is about 35 – 37 degrees, which is limited from the west to the water creek.

Long in the north – south direction of 75 meters, **its** width of 70 meters and loud south west **bump** of the hill is about 20 meters relative to the periphery (the margins of the water creek). The approximate area of this **landmark** is %52 hectares. From the east and south to the agricultural land, and the Kani Sheikh's mineral spring is **about** 140 meters southwest and **its** water flows north from the eastern margin and a natural hill to the north. The dirt road is accessible to the north, east and southeast of the hill. Cultural data, which mainly includes places of historical pottery, is more common in the central part of the site as well as in the northeast.

The data density in this section is approximately 10 pieces per 25 square meters. According to the surface findings of the site, it is probably belonging to the Parthian period and possibly Seleucid.

### **Deh Kohneh:**

The area of the Deh Kohne is located on a natural and long stack in the northeast – southwest direction between two water course. On the southern slope there is a small water creek. This site is located about 40 meters north and northwest of the village of Kani Rash, Shur House, 988 meters above free water level. The almost oval enclosure, which is extended to the northeast – southwest direction on a natural stack with two bumps, encompasses the entire southwestern bump surface as well as the southern range of northern bumps. The slope of the courtyard from the south side is between 25 to 35 degrees. About 30 degrees from the west and about 10 degrees to the north, which eventually leads to the steep slope of the wall of a **water oak**. From the north – east side of the area with a slope of about 5 degrees **es** which is limited to agricultural land. Its length is 357 meters in the northeast direction, 147 meters wide. The loud bump is about 12 meters southwest of the hill. Its approximate area is 5/2 hectares. The natural stack and the enclosure area from the north and south leading to two hydrophilies. A small water creek flows northeast in the southeast.

The dried spring of Kani Rash is located on the south of the courtyard on the edge of the water creek. At the end of the southwest of the area, the pool is created to store water. Cultural data, which mainly included pieces of historical pottery, is greater in the western end, especially on the southwestern slope of the area.

In this section, there are approximately 18 potteries in 25 square meters.

Data congestion is less common in other parts of the courtyard and approximately 10 potteries of 25 square meters. The pottery of the southwest of the courtyard includes large pieces storage containers or burgers. Pottery components mainly include rope added bodies. According to the cultural findings of this site, it has a Parthian historical period.

### **Gorga Wan cemetery:**

The cemetery area is located shortly after the steep slope of the western slope of a natural hill called the Ghati Kwinje (Gorga Wan) and overlooking the Cham Zarisk river. The hill is mainly rocky with low thickness soil layers. This site leads from the south to a valley with a depth of more than 50 meters. This cemetery is located at a height of 854 meters above the free water level, located at the 1/5 kilometers west of the village of Haramian Olia and 1/4 kilometers southwest of the village of Haramian Sofla. The cemetery area is located on a steep and more rocky slope, a hill known as the Ghati Kwinja (Gorga Wan). The floor of the cemetery is a sandy – clay. The surface of the area is seen as parallel grooves in the north – south direction due to the exterior of the rock. The area is on the west slope at these grooves. Its slope to the west is about 35 degrees. To the south with a steep slope of about 45 degrees, it leads to the almost vertical walls at the valley. The real area and shape of the cemetery area cannot be recognized due to the absence of surface signs, but naturally the natural effects of the site have been effective in the form of the area. The scattering of pottery can only be observed up to a radius of 5 meters of unauthorized drilling pit. Its length is estimated at the north – south direction of 40 meters and its width 30 meters.

The approximate area of this landmark is %12 hectares. The Ghati Kowinjah mountain is the most important natural complication of the area on which the cemetery is located. The Cham Zarisk river flows north at 160 meters west. The Soleiman Malekan river flows 300 meters north in the east – west direction and eventually join the Cham Zariak river. Cultural data mainly consist of pottery pieces that can be seen in a small area up to a radius of 5 meters of unauthorized drilling pit.

There is no pottery scattering area elsewhere. The density around the pit is relatively high and approximately 1 square meters of 10 pottery pieces. Due to the specific position of the landmark and its location on a steep slope and in a low-key space of the mountain, it appears to have been used as a cemetery in the Parthian era. It should be noted however, that there were no remnants and piece of burial jug.

### **Gorga Wan Courtyard:**

This site is located at a height of 862 meters above sea level. 1/5 kilometers northwest of the village of Haramian Olia and 1/3 kilometers southwest of the village of Haramian Sofla. The surface of the enclosure has a complicated topography and has numerous highs at a height of approximately 15 – 1/5 meters due to its location on a rocky hill with low soil. The courtyard has been extended almost between the two bumps of the hill and mostly on the slope of the northern slope, which has more soil layers.

Its slope in the north direction of 30 to 35 degrees, which eventually leads to a very steep slope (about 45 degrees). From the south it has also limited to the slope of a completely 45 degree of the hill. In the northwest, there is a protrusion at a high of 2/5 – 3 meters. From the east to the high and low ground and then reaches the adjacent land. Part of the area's surface are due to the remains of the rubble architectural period. The highest point of the hill is located in the southwest of the courtyard. This enclosure covers an oval area that has expanded in the eastern – western direction.

Its length is 30 meters in the east – west direction, its width is 20 meters and its approximate area is 06/0 hectares. Among the important natural polls there is Soleiman Malekan river area that is on 160 meters north in a valley about 60 – 70 meters west. The river eventually flows into the Cham Zarisk river, which flows north at a 260 meters west of the area. The villagers, at the confluence of the two rivers, identified an area as a grave cemetery (Gabri), but nothing else was observed except for several unauthorized drilling pits. This site is located 250 meters northwest of the Gorga Wan area. Cultural data on the surface of the enclosure is relatively low, mainly pottery pieces and an iron arrow head. The data density in the central part of the courtyard is more common and approximately in 4 square meters observed 1 pottery piece.

In addition to the above findings, the remains of the architectural structures are seen with the materials of riverbanks. The site probably belonged to the Parthian and Sassanid era.

### **Asiaw hill:**

It is located about 20 meters western margin of the Cham Soleiman Malekan river and on the slope of the western valley. This site is located 630 meters southwest of the Haramian Sofla and in the vicinity of Mr. Aziz Soleimani's farmland in the village of Khaneh Shur, at a height of 834 meters above sea level. The shape of the area is in accordance with the natural side effect of the site and comprises almost a triangular shape. The east has a medium slope of about 25 – 30 degrees, which is eventually limited to an artificial and shallow channel near the end of the domain. The range between the slope end of the hillside and the Soleiman Malekan river has been leveled due to cultivation of wheat. On the north and northwest edge of the average 5 meters wide, which reaches from the east to the river. In the south, there is a smaller path. The slope of the courtyard in the northern ravine area is sharper and approximately 35 degrees.

The courtyard from the west is limited to rock outflows.

Its length is 38 meters in the north – south direction and 30 meters wide. Its highest point is about 10 meters high compared to the surrounding ground. The approximate area of this landmark is 0/31 hectares. The Cham Soleiman Malekan river flows northeast 20 meters northeast and finally flows to the west. Mr. Azim Yousefi's agricultural land is located in the east and northeast of Mr. Aziz Soleimani's agricultural land in the north. The Soleiman Malekan river valley in the southeast of the area is tighter. The area of the Ashi cemetery, which is identified in 1383 by Mohammadi Far, is about 75 meters north – west of this site. Cultural date density, which mainly includes pottery pieces, is more common in the middle of the courtyard. In this section, there are approximately 3 pieces of pottery in 4 square meters. The dispersion of the data on the other side of the northern ravine and among the agricultural land is less than 1 pottery pieces in 4 square meters. In general, due to the massive vegetation of the area, there is a little cultural material. According to superficial findings, this site is established in the historical period (Parthian).

### **Saraw Kisaleh:**

On the western slope of the high mountain of Kazhi Dari and south of a relatively high hill called Baneh Drizhu, there is a place among the alleys of the village of Kisaleh. The area is located in the south of the creek flowing from the mirage of Kisaleh and on the slope of the natural hills.



This courtyard is located between the fruit gardens and 480 meters southeast of the village of Kisaleh in the village of Khaneh Shur, at a height of 1104 meters above sea level. It is an almost oval area that is expanded due to the natural effects of the location in the northeast – southwest direction. Its average slope in the south and southwestern direction is about 30 degrees. The enclosure is located on a rock slope that, according to the evidence, is more thick in the southern part. To the east and west of this area is seen. In the eastern path, a small seasonal creek flows. This creek joins another creek on the edge of the southern slope of the courtyard. The slope of the enclosure on the edge of these path is faster and sometimes up to 40 degrees. The width of the courtyard at the northern end of it is low and is ultimately limited to the continuation of the rocky outskirts. Its length is 80 meters in the northeast – southwest direction, 44 meters wide and its highest point is compared to the surrounding ground is the south of area is 12 meters. The approximate area of this landmark is 25/0 hectares. The Kisaleh mirage spring located 290 meters northeast of it and the water flow, from it to the west of the creek in the west of the area, and at 60 meters west of it is seen fruit orchards and agricultural land in the village. The dirt road is stretched to the area and to the courtyard up to 65 meters west of the area. The cultural data of the site mainly includes the pottery of the historical period. The data density on the slope of the domain that leads to the eastern path is relatively high and is seen in approximately 14 pieces of pottery per 4 square meters. Among the collected collection from the surface of the enclosure a piece of iron is also seen. According to the cultural findings of this site, the historical period (Parthian) has been taken into consideration.

### **Courtyard name: Atur Garden**

On the western slope of the high mountain of Kazhi Dari and to the south of a relatively high hill called Banah Derizh and on the southern edge of the water creek flowing through the Kisaleh. The courtyard is on the slopes of a rock hill. The courtyard is located 400 meters southeast of the village of Kisaleh in the sub-district of Khaneh Shur, at the height of 1123 meters above sea level. It is an oval area that has expanded in the eastern – western direction. The eastern half of the area is formed on a relatively steep slope (about 40 degrees) on the rocky hill and its western half on the low – altitude bump along the hill slope.

The enclosure from the north leads to a steep of about 40 degrees. The southern slope of the stack on which the area is located is almost a rock and its slope varies from 30 – 45 degrees. The western slope of the stack is eroded due to seasonal floods and can be seen in vertical walls of approximately 8 – 10 meters. The surface of the enclosure is approximately flat, about 70×25

meters and only low – altitude inferiority can be seen due to the planting of fruit trees on its surface. Its length is 135 meters in the east – west direction, about 50 meters wide and about meters high. The approximate area of this landmark 67/0 hectares. A mountain called Banah Derizh is located north. On the west and southwest side of the village there are rural fruit gardens. Dirt road access to the southwest of the area leading to southwest of the courtyard. Cultural data mainly included pieces of historical (Parthian) pottery.

These data are most commonly seen in the middle of the courtyard. In this area of the site, there are about 5 pieces of pottery in every 16 square meters. According to the collected samples, this courtyard has a historical period and specifically Parthian.

### **Kharman Sutia:**

This courtyard is located on a natural terrace on the relatively high northeast slope of the mountain overlooking the Kisaleh mirage. The courtyard is located 820 meters southeast of the village of Kisaleh in the sub-district of Khaneh Shur, the central part, at a height of 1165 meters above sea level.

This courtyard is oval and expanded in the northwest – southeast direction. The area is located on a natural terrace on the northeast slope of a relatively high mountain. The general slope of the east courtyard is approximately 15 degrees, which is eventually leads to the adjacent valleys from the east and north at an angle of about 45 – 55 degrees.

This courtyard is from the west side to the slope of about 35 degrees of the hillslope. The slope of the southeast of the terrace is relatively sharp and approximately 40 degrees. Its length in the northwest – southeast direction is 75 meters. Its width is 38 meters, and its height is about 55 meters relative to the peripheral lands. The approximate area of this landmark is 28 hectares. The Kisaleh mirage spring is located 460 meters northeast at the area. A small seasonal water creek that originates from the Sardeh spring flows from 20 meters east to the northwest. The cultural data of the area mainly consists of a historical (Parthian) pottery.

The density of these data is greater in the central part of the courtyard. In this area of the courtyard, there are approximately 14 pieces of pottery per square meters. To the margins of the enclosure, the density of cultural materials is reduced, but in the northwestern corner and on the steep slope of the enclosure there are many pieces of pottery among the oak trees. According to the cultural data, the courtyard is likely to be considered in the historical (Parthian) period.

## **Naw Klekhan:**

The Naw klekhan area is located on the eastern slope of Dary mount and at the end of the slope of a hill called Banah Derizh on the northern edge of the water creek flowing from the Kisaleh mirage. This area is located 440 meters southwest of the village of Kisaleh in the sub-district of Khaneh Shur, the central part, at the height of 1126 meters above sea level.

It is an almost oval enclosure located in the eastern – western direction. This area is located on a natural terrace on the slopes of the Banah Derizh hill and on the northern edge of the creek flowing from the Kisaleh mirage. At the end side of the north and south of the rocky area the rocky area is evident. The slope of the area is in the south direction and overlooking to the water creek is approximately 45 degrees.

This area is limited from the north and northwest to a mild slope of about 10 degrees. This area is limited from the east to the slope of the Banah Derizh mountain with the slope of 5 degrees. Given the evidence, the thickness of the cultural accumulation of this area seem to be low. Its length is 93 meters in the east – west direction, 32 meters wide and about 17 meters high compared to the bottom of the adjacent valley. The approximate acreage of this landmark is %3 hectares. A small water creek that originated from the Kisaleh mirage is in 40 meters of its south flows to the northwest. The area from the north and northwest is limited to a path with width of approximately 7 meters. The Kisaleh cemetery is located 170 meters northeast to the site. The east and southeast side is limited to the agricultural land of the village of Kisaleh.

Cultural date mainly consists of pottery fragments with the Characteristics of historical (Parthian and Sassanid) pottery. The data density in the central part of the courtyard is more common and approximately 8 pieces of pottery per 16 square meters.

Due to superficial findings, the Naw Klekhan area in the historical period (mid – late Parthian and possibly Sassanid period) has been temporarily addressed.

## **Kapak Area:**

The Kapak area is located on the eastern slope of the Kazhi Dari mountain and at the end of the southwest slope of a hill called Banah Derizh and on the northern edge of the water flowing from the creek. This area is located 280 meters south of the village of Kisaleh, sub-district of Khaneh Shur, at a height of 1082 meters above sea level. It is an almost rhombus area that is enclosed in the hedge of agricultural fields and fruit gardens. Its expansion is in the northwest – southeast direction. The area is located on a 35 – 40 degrees slope of a hill called Banah

Derizh and on the northern edge of the water creek headstream from the Kisaleh **mirage**. In the middle part of the area, where the hedge between the agricultural lands and the fruit garden is created, there is a protrusion of about 1/5 meters high.

The enclosure from the west ends with a mild slope of (10 – 15 degrees) to a small path. The length of the area in the northwest – southeast direction is 140 meters, its width is 73 meters, and its highest point is about 18 meters compared to the adjacent valley and acreages about 1 hectare. The Kisaleh cemetery is located about 15 meters northwest, the dirt road is pulled up to the east of the northeast margin.

A small water creek that headstreams from the Kisaleh mirage is in south and pass clinging to it. The agricultural lands and fruit gardens are surrounded by other directions and the area is divided into two parts by hedge. In the northern half the wheat is cultivated and the southern half is used as a fruit garden. Cultural data mainly consists of pottery fragments with characteristics of historical (Parthian) era. The data density is more common in the northern half of the area and approximately 5 pottery pieces per 4 square meters. Due to the surface findings of the **Kapak** area, it has been considered in the historical (Parthian) period.

### **Holeh mirage (Sarab Holeh):**

The Holeh area is located in a low – lying plain on its low – rise hills on the edge of the Cham Holeh river. This landmark is located in the vicinity of the Sarab Holeh Olia (Holeh **upper** mirage). This area is located 1 kilometer west of the village of Holeh Olia (upper Holeh) and 590 meters north of the village of Holeh Sofla. Sub distinct of Khaneh Shur, central part, at a height of 938 meters above sea level. This area is almost oval and its expansion is in the west – eastern approximate direction. The enclosure is formed on a natural stack, 100 meters south of the **Holeh** river. The east and southeast side is leveled of the agricultural lands. Its southwestern slope leads to a mild slope of about 10 – 15 degrees to the spring and the water creek which flows from it. The general slope of the northwestern foothill is about 5 degrees, which has become a flat terrace due **to agricultural activities**, at the northeast to the north, the canal was created to leading the springs. The slope of the northern combes, which leads to the Sarab Holeh, is faster and about 20 – 25 degrees. Its length is 235 meters in the northwest – southeast direction, 163 meters wide and its highest point is about 3/6 meters relative to the adjacent lands. The approximate acreage of this area is 3 hectares. The Holeh is located in the northeast corner of this area, and the Cham Holeh river flows west at 100 meters north. The Tazeh Abad – Sheikh Seleh road extends to the northwest – southeast direction in 200 meters

south. The old cemetery of Holeh Ali (Holeh cemetery 2) is located west of the area. Cultural data include pre-historic pottery (copper, stone and bronze), stone artifact (possibly Neolithic), and a piece of historical (Parthian) pottery. The Neolithic stone artifacts are only seen in a range of 3×6 meters on the northern margin of the area and adjacent to the water canal. Copper, stone and bronze cultural data are observed in wider range of this section with high density (22 pieces of pottery per 4 square meters). Historical periodic cultural data is scattered throughout the area, but in the central part it is more density and approximately every 14 pieces of pottery per 4 square meters. According to surface findings, the Sarab Holeh Olia area has the establishment in Neolithic, copper and new stone periods, bronze and historical period (Parthian, Sassanid).

### **Gordi Borizh:**

This area is located in a strait between the two mountains of Nezar and Khwarataw and in a relatively large path (ravine). This area is located 600 meters northeast of Khosro village in the sub-district of Khaneh Shur, at a height of 1138 meters above sea level. Due to the existence of watercourses and steep slopes of the hills of this area, the area has a complicated topography the general slope of this site is in the southwest direction, and towards the village is about 25 – 30 degrees. The southern slope of the hills, which is located on its corner is about 25- 30 degrees, which eventually leads to a steep slope of about 70 – 85 degrees. In the southeast corner, the dry water spring is located. Its length in the northeast – southwest direction is 49 meters, its width is 41 meters. The Nezar (Nesar) mountains are located in the southeast and Khwarataw mountain to the northeast. The cultural data of this area consists of a pieces of historical era pottery, which are mainly scattered arounds with a very low density (6 pieces of pottery per 100 square meters). According to the cultural findings of this area, this site has a poor establishment in the historical period (Parthian, Sassanid).

### **Kani Barou:**

This area is located on the eastern margin of the Cham Zarisk river on the western slope of Baba Shah Veis mount (Babashah Avaz) and on the southern margin of a ravine. This site is located 1 kilometer west of the Negra Tireh Ali village in the sub-district of Khaneh Shur, at the height of 730 meters above sea level. This area is located on a mild slope (about 5 degrees) natural terrace on the eastern edge of the Cham Zarisk river. The slope of the enclosure on the edge of the river reaches about 35 – 40 degrees. The area is almost oval and spreads to the northwest – southeast. In the northern part there is a small ravine, width of about 3 – 8 meters, extending in the eastern –western approximate direction. This ravine divides the area into two

parts. The Cham Zarisk river flows in the north direction in 40 meters of west margin. In the northern half of the ravine area, approximately 3 – 8 meters in the eastern – western direction, which eventually reaches the river. Cultural data density, which mainly includes pieces of historical pottery, is relatively low at the area and approximately 2 – 3 pieces of pottery per 16 square meters can be observed. Due to the cultural data and superficial observations, this site seems to have a historical period (Parthian) establishment.

### **Kharnozgina:**

This enclosure is located in the highlands of Baba Shah Veis and on the mountain peak between the Nawrosh and Gordi Beranan mountains. This area is on the west overlooking the plain and the Cham Zarisk river. The site is located 1/9 kilometers northeast of the village of Negare Tireh Ali. The sub-district of Khaneh Shur, central part, at the height of 1212 meters above sea level. This enclosure is located on the high and almost conical hill summit at the highlands of Baba Shah Veis.

This area is in certain bump in the form of a circle at the top of the hill, so that the central part of the enclosure is the highest point. Its slope is mild in the east direction and is about 20 degrees, and in the north, south and west directions is about 40 to 50 degrees. Due to the distribution of cultural data, this enclosure has expanded further on the slope of the southern combe. On the eastern slope of this area, which has a softer slope, architectural remains can be seen in rows of regular rocks. Due to the intensity of erosion, do plan of the remains of architecture are not possible. Also on the southern and southeastern surface of this area, many rubbles are scattered around unauthorized drilling pits. The size of the enclosure is 40 meters from each side and its acreage is about %16 hectares. It leads from the north and south to relatively deep valleys that extended to the western plain and the Cham Zarisk river. Nawrosh mountain is in the southeast and the Gordi Beranan in the northwest. Sand road across to the village of Homajgah, Boustan Abad exceeds 650 meters north of this area.

The Baba Shah Veis cemetery is located 570 meters northeast of this enclosure. Cultural data are most commonly seen on the southern and southeastern slopes of this area, around unauthorized drilling pits. These data mainly include rough pottery with a sand binder and pottery. Cultural data density in this area of the site per square meters is about 10 pieces of pottery.

In other parts of the area, the data density is far less. Due to superficial cultural findings, the Khartozgineh area has been considered in the historical establishment (Parthian) period.

### **Kani Pish Pizal:**

This site is located around a small ravine and on low-level stacks on the western slope of Baba Shah Veis (Gordi **Beranan**) and on the eastern margin of Cham Zarisk river. The Kani Pish **Pizal** area is located 500 meters west of the Negare Tireh Ali in the village of Khaneh Shur, at a height of 771 meters above sea level.

It is not possible to determine the exact shape and dimensions of this area due to its cultural deposits under the natural erosions of the plain up to a depth of about 60 – 70 cm. This site is located on a low – altitude natural stack that leads to a mild slope of about 3 – 5 degrees to the agricultural lands around it. It has passed through the enclosure a small ravine **along** the east – west direction. The width of this ravine is between 4 – 6 meters and about 3 – 5 meters deep. Due to the thickness of the plain sediments at the enclosure surface, cultural materials are rarely seen. Most of the cultural data is visible within the ravine and especially in the walls. Its length in the east – western direction along the ravine about 150 meters and its width is established at about 150 meters due to its length and its height is about 3 – 5/1 meter relative to the adjacent lands. The approximate acreage of this enclosure is 2/25 hectares. A small ravine, approximately 4 – 6 meters in the east – western direction, **passes** through the area, at the enclosure surface the cultural **data** are rarely seen.

Almost **all cultural** data were found from **within** the ravine and its walls. These data, which mainly certain pieces of historical pottery, are located under 60 – 70 cm of plain sediments. Cultural data density per square meters of ravine walls is about 3 pieces.

According to cultural findings, this site has been considered and established in the historicak (Parthian) period.

### **Bani Hazharan:**

The Bani Hazharan enclosure is located on a natural stack, 300 meters from the eastern edge of the Cham Zarisk river. The enclosure is from the north and south leads to the two **paths**. This site is located 780 meters southwest of the village of Negare Tireh Ali, sub-**d**istrict of Khaneh Shur, central part, Salas Babajani country, Kermanshah province at a height of 761 meters above sea level.

The Bani Hazharan is formed on the straightened surface of the natural stack and its general slope is mild to west and about 10 – 15 degrees. This enclosure comprises an almost oval area that has expanded in the eastern – western direction. There is a large stream in the north and smaller stream in the south. Its length in the east – west direction is 220 meters and its width is 150 meters. This area is at the same level of adjacent agricultural lands. The acreage of this enclosure is approximately 2/3 hectares. Two springs are 760 meters east of the area and the other 200 meters southeast, also the Cham Zarisk river from the water resources adjacent to the area. The Cham Zarisk river flows north at a distance of 300 meters west. The relatively large stream is located 50 meters north of the area and a smaller path at 150 meters. Cultural data which mainly includes pieces of historical and Islamic pottery, are most commonly seen in the central part of the courtyard. In this area, the site is observed by about 10 pieces of pottery in every 100 square meters. Due to the superficial cultural findings, this site has been considered in the historical and Islamic period (Islamic centuries).

### **Sar Kapak:**

This enclosure is located on the natural hills with a rock floor on the western edge of the deep valley of the Cham Zarisk river (Gardi Ghaseman). Another river and a deep valley are located on the southern margin of the area.

The Sar Kapak enclosure is located 1 kilometer east of Sheikh Seleh village, sub-district of Khaneh Shur, 704 meters above sea level. This area is almost oval and in the east – western approximate direction on the low heights unevenness on the western margin of the deep valley of the Cham Zarisk river. Its general slope in the south direction is about 5 degrees. From the north to the low hills and from the south and west to the deep valleys with a slope of about 80 – 90 degrees. Through the years of the imposed war in the middle of the arc-shaped bulwarks, approximately 2 – 3 meters high are build, which extended from east to west of the site. On the northern slope of this canal can be seen at a depth of 1 – 1/5 meters. The length of this enclosure is 70 meters in the east – west direction and about 45 meters wide. The acreage of this area is about %38 hectares. The Cham Zarisk river (Gardi Ghaseman) crosses the east of the area and a smaller river flows on the southern margin. The remains of military fortifications and the bulwarks and canals of the war can be seen at the enclosure. Cultural data, which mainly includes historical pottery, are mainly found in the canal walls and also in the southern parts of the area adjacent to the abyss leads to the river (waterfall) is seen. The pottery density in the southern half of the enclosure is approximately 5 pieces of pottery in every 1 square meter, and



the canal walls on the northwestern end of the area is about in every 4 square meters one piece of pottery. Due to the cultural findings collected from the surface of the enclosure during the historical period (Parthian, Sassanid) has been considered and established.

### **Hanar hill:**

This hill is located in the middle of the small valley in the western margin of the Cham Zarisk river or Cham Hanar. The Hanar hill is located 450 meters east of Sheikh Seleh village in the sub-district of Khaneh Shur, 725 meters above sea level. The frame of the Hanar hill is almost oval and has spread to the east – west direction.

The slope of the southern combe is mild and about 5 degrees; that eventually leads to the southern hills. Due to the barricaded of the war ages this area has a complicated topography, and there are several pits on its surface.

The northern and eastern slope of the hill has a steep slope of about 30 degrees, which is eventually limited to flat lands on the margin and agricultural lands.

Almost the entire hill surface is under cultivation. A dirt road passes through the southern slope at the hill and is scattered to the Cham Zarisk river. The power transmission line has passed through the hill surface along with the road. The surface of the hill seems to have been somewhat leveling during the war. Due to the superficial observations, its cultural deposits appear to be relatively low. The length of the hill in the east – west direction is 100 meters, and its width is 60 meters. The height of the hill is about 3/8 meters relative to the adjacent lands. The approximate acreage of this hill is 6/0 hectares. The Cham Zarisk river or Cham Hanar flows 550 meters east of the hill to the north. Another river flows in the deep valley of this hill, which eventually joins the Cham Zarisk river.

Cultural data, which mainly includes pieces of historical pottery, is most commonly found in the central part of the main stack and also at the slope of the western and northern combe of the hill. Surface date density in the mentioned parts is average and about 2 pieces of pottery in every 4 square meters. Based on surface finding, this hill appeared to have been considered in the historical (Parthian and Sassanid) period.

### **Zamin Lar:**

The Zamin Lar (Narcani) enclosure is located on the northeast slope of a natural hill on the southern margin of a small stream which extended from the northwest to west. This site is

approximately 80 meters west of the semi-constructed school of Sheikh Seleh village and on the northwest edge of this village in the sub-district of Khaneh Shur, at a height of 734 above sea level.

This enclosure which encompasses a part of the eastern to south – eastern slopes, covers a natural hill from the north and northeast with a relatively slope of about 15 degrees, end with a relatively large path. The slope of the enclosure at the margin of the stream become sharper at once, and leading to a slope of 25 degrees to the vertical wall of the stream. The northern slope of the hill is inverted and relevant to the slope of the natural hill. In the southeast with a gentle slope of about 7 – 8 degrees to the agricultural lands. This area has been almost expanded in the east – western direction in an oval form. Its length in the east – west direction is 70 meters and its width in the other direction is 60 meters. The acreage of this direction %42 hectares. A stream which expanded from the northwest to the east of the enclosure, passes from the northern margin of it. Cultural date density which mainly includes of historical (Parthian) pottery in the western and southwestern part of the area is more than other parts. The data density in this part of the enclosure is about 3 pieces of pottery in every 16 square meters.

In the east and northeast, the data density is less and about 2 pieces of pottery in every 16 square meters. According to the cultural data of the discovery from the surface of the enclosure, it seems that it has been taken into consideration in the historical (Parthian) period.

### **Kani Maran:**

This enclosure is located on the natural hills of the western slope of BabaShah (Baba Shah Veis) mountain and 750 meters east of the Cham Zarisk river and on the northern margin of a small stream. The Kani Maran spring is located 125 meters southwest of this enclosure. The Kani Maran is located 750 meters south of the Negare Tireh village, in Khaneh Shur sub-district, at a height of 725 meters above sea level. This enclosure is located in an almost elliptical form on natural stacks with a rocky ground floor. Its expansion is in the northeast – southwest direction. The general slope of the enclosure is toward southwest, which reaches about 15 – 20 degrees on the margin of the stream slope. Due to the erosion at the rocks of the hill bed, it appears in the southern part.

Due to the superficial observations, cultural accumulation appears to be low in thickness. The northern slope of the hill, which extended to the dirt road of the Kolah Siah village, is about 5 – 10 degrees. The length of the area in the northeast – southwest direction is 90 meters and 75

meters wide. Its approximate acreage is 0/7 hectares. The enclosure from the south and southeast is limited to a small stream that extended along the east – west to the Cham Zarisk river.

Cultural data density in the southern slope, and especially in the southwest, is more likely to be seen in about 16 square meters, 4 – 5 pottery pieces. Potteries data are mainly seen on the margins and boundaries of agricultural land and rock beds and in its small ravines. These data mainly include piece of historical period. Based on surface findings and pieces of pottery surface, it appears to **has** been taken into consideration in the historical and specific – Parthian period.

### **Nawdeh:**

This enclosure is located on the western slope of the mountain (Melah Hawas) and 647 meters east of the Kasman river (Ghaseman) on the natural hills. The enclosure is 200 meters northwest of the village of Khaneh Shur, at a height of 784 meters above sea level. This enclosure is formed in circular form and located on the western slope of the Melah Hawas mountain, and a part of the slope of the northern combe of the natural, small hill with a relatively low altitude. The slope of the enclosure north and northwest is about 8 – 10 degrees. Due to the rich vegetation of the area, cultural data is difficult to find. The dimensions of this area is 40 in 40 meters. The vastness of the area is low and about 0/16 hectares. Melah Hawas mountain is located on the east and southeast. The **Kasman** river flows north at 647 meters west direction. Cultural data which mainly contain piece of historical (Parthian) pottery, are most commonly seen on the central part of the enclosure. Cultural data density in this section is about 3 pieces of pottery in every 4 square meters. This density is also seen from the east direction to 35 meters distance. Due to the massive vegetation of the area that is completely cultivated by wheat, it is almost difficult to find cultural data.

According to the cultural data of this site, the historical period (Parthian) has been taken into consideration.

### **Howkani:**

This enclosure is located in the valley of the Zamakan (Kaseman) river and on the northern slope of the natural hills overlooking the river. The Kaseman river has left the east, north and west of this area and eventually exits the border and enters Iraq territory. This enclosure is located 8 kilometers northwest of Sheikh Seleh village and 3/5 kilometers northwest of

Gazaneh village at zero point of the border. In the sub-district of Khaneh Shur, in height of 609 meters above sea level. The Howkani enclosure is an oval – shaped form on the northern slope of a natural hill overlooking the Kaseman river. This enclosure is almost expanded in the north – south direction. In the eastern margin, it was created during the imposed war at a height of about 4 meters there is a bulwark. Part of the area's sediments has been deposited by road machinery to the east of the area to build bulwark. The enclosure from the southeast and east leads to the vertical walls on the edge of the river and dirt road. The Kaseman river from southeast, east, north and west circumvent the area and eventually extended to Iraq. The length of the enclosure is 150 meters in the north direction, and its width is 125 meters. The acreage of this enclosure is about 1/7 hectares. The Howkani enclosure is located in the Kaseman river valley and the river surrounds the southeast, east, north and west. Cultural data density consists of historical pottery and area most commonly seen in the southeastern parts of the area and its central parts. The data density in the southeast of the enclosure and where the bulwarks of the war ages begins, in 1 square meter there is 2 pieces of pottery. According to the cultural findings, this enclosure seem to have temporary establishment in the historical (Parthian) period.

### **Ghouch Hill:**

This enclosure is located on the summit of a natural and relatively high hill. The hill has a rock bed spreads to the northwest – south west. The top of the hill is almost conical. The relatively large stream from the northern margin is located in the northeast – southwest direction.

The Ghouch hill area is located 1/5 kilometers southwest of the village of Kisaleh and 350 meters south of the sand road of Haramian Sofla in sub-district of Khaneh Shur, Kermanshah province, at a height of 1108 meters above sea level. This enclosure has a circular form on the conical – shaped hill. The hill peak with dimensions of  $15 \times 15$  is relatively flat but due to the creation of multiple pits of unauthorized drilling and also the creation of an unknown canals are grooves in the surroundings and the hill surface has a complex topography. The bed of this hill is a made of loose and gray rocks and its surface deposits thickness looks less than 3 meters. The enclosure is limited to the slope of natural hillside. The hill from the northwest side with a relatively mild slope of about 25 – 30 degrees to the loads around it. In other directions, the slope is steep and about 40 – 55 degrees. The dimensions of this enclosure, which in addition to the flat surface on the slope of the hill, are about  $20 \times 20$  meters. Cultural data, which mainly includes pieces of historical (Parthian) pottery is more scattered on the east and northeast slope

of the enclosure. The data density in this area is 3 – 4 pieces of pottery in every 4 square meters. In the southwest of the enclosure, there is also a piece of pottery and remains of animal bones around and the surface of the unauthorized pits. According to the cultural findings, this place seems to have been attracted to the historical (Parthian) period.

### **Kowan Rash:**

The Kowan Rash enclosure is adjacent to a relatively large stream, which eventually leads to the deep valley between the two mountains Khorataw and Narmoulah. The Cham Zarisk river also flows to the southern edge of the enclosure and the Narmoulah combe mountain towards the valley. This enclosure is located 530 meters southwest of the village of Wani Sar, sub-district of Khaneh Shur, at a height of 1224 meters above the surface. The Kowan Rash enclosure which has the oval – shaped form, is on the low – height stack, is expanded to the slope of the northwestern and overlooking to a stream.

Its southeastern half is used as farm land and its surface is completely plowed and around it. This part of the enclosure is almost flat and with a gentle slope it leads to adjacent lands. Its slope is about 25 – 35 degrees which is faster on the margin of the stream. In this section, there are inferiorities that appears a parts of it has been leveled due to the agricultural activities. Due to the rocky outskirts in the slope of this enclosure, the thickness of its cultural accumulation seem less, the length of the enclosure in the northwest – southeast direction is 50 meters and its width is 20 meters. The small river (Cham Kowan Rash) in the 150 meters of its south flows to the valley.

The Khorataw mountain is located in the northwest and the Narmoulah mountain is in the south of it. The cultural data of the Kowan Rash enclosure mainly include pieces of historical pottery and specifically the Parthian period. These data are most commonly seen on the northwestern slope of the enclosure overlooking the stream.

The data density of this part is relatively high and approximately 4 – 5 pieces of pottery in 1 square meter. In the flat part (southeast half), the data density enclosure is less and almost 2 pieces of pottery in 1 square meters. Based on pottery findings, the enclosure seems to have been taken into consideration in the historical (specifically Parthian) period.

### **Soulakan:**

This enclosure is located on a natural hill with a length of 300 meters which spreading in the north – south direction. On the east and west margin there are two streams. The width of the

eastern stream is about 5 – 8 meters. A fountain called Koni Shur is located in the village of Wani Sar, with a small creek passing through the western margin of the hill and combe of the Khorataw mountain. This enclosure is located 270 meters southwest of the village of Wani Sar, in the sub-district of Khaneh Shur, at a height of 1267 meters above sea level. This enclosure is located in the southern half of the natural Soulakan hill and its shape due to the almost triangular hill shape, so that it is more wide in the northern part and less in the southern part. The highest width is on the hill, especially in the northern part, which covers approximately smooth surface which is less than 15 meters. This enclosure is located on the steep slope of the east, west and south in three directions. The slope of its eastern and western combes is about 40 degrees, that eventually leads to the adjacent streams.

The slope of the southern combes is also steep and about 40 degrees. Finally, it is limited to a garden at the end of the hill slope. On the hill slope, the rock bed due to the erosion of the soil is fully visible and the thickness of its surface deposits is clear. The enclosure from the north leads to artificial grooves, probably created by the villagers for unknown reasons. Its length in the north – south direction is about 125 meters and its width is between 20- 65 meters. Its height compared to the surrounding stream bed is about 25 meters and acreage of the enclosure is about 52 hectares.

Cultural data, which mainly includes pieces of historical (Parthian) pottery. The cultural data is more scattered in the middle of the enclosure to the north and its density is about 14 pieces of pottery in every 16 square meters.

On the steep slope of the eastern combes of the hill, there are sometimes pottery pieces. Due to the cultural data scattered at the hill surface, this enclosure in the historical period and possibly the Parthian era, temporary and poorly deployed.

### **Kani Wei:**

This enclosure is located on a natural hill with a height of more than 30 meters in the middle of the foothill of the area on the western margin of Cham Baba Azam (one of the branches of the Cham Zarisk river).

A fountain called the Kani Wei is located at the end of its northern slope. This hill also leads to a great stream from the south. The Kani Wei enclosure is located 470 meters northwest of the village of Haft Gani, at a height of 977 meters above sea level. The Kani Wei enclosure has expanded in an approximate oval form on a natural and large hill in the eastern – western

direction. This hill is a continuation of the natural foothills of the region of the east. The slope of the enclosure in different directions is mild and between 10 – 15 degrees, which finally, from the south, west and north, leads to a steep slope of the natural foothill on the edge of the stream, the eastern foothill of the enclosure with a slope of about 10 degrees is limited to the adjacent foothills. Except for a small part at the top of the hill, where the rubbles are seen. The entire surface and surroundings are plowed and used as agricultural lands. The enclosure from the north also covers part of the steep slope of the foothill.

On this hillside, there is a spring known as the Kani Wei which is the source of water of the enclosure. Its length is 80 meters in the east – west approximate direction and its width is 60 meters. Its height is more than 30 meters compared to the adjacent lands. The approximate acreage of this enclosure is 0/48 hectares.

Cham Baba Azam flows north on its eastern margin. The fountain (Kani Wei) is located at the northern foothill of the area. The dispersal of cultural data, which mainly includes pieces of historical pottery, is most commonly seen in the central part of the enclosure and also its northeast and east foothill. The data density in this area is approximately 3 – 4 pieces of pottery in every 1 square meters. According to the cultural data, the hill surface seems to have been taken into consideration in the historical (Parthian) period (figure 3).

## Data Analysis:

The establishment pattern of the Parthian period in the Salas Babajani enclosure was initially examined based on the distance of the enclosure to the water resources (river). On average, the enclosures are located near water resources, and it was found that the distribution pattern of the enclosure studied was based on rivers in the area. Other outputs of the maps also show that the enclosures studied were placed and evaluated by GIS software after their location (UTM) was identified. In this assessment, one enclosure at the height of 609, eight enclosures at a height of 725 – 771 meters, four enclosures at a height of 834 – 885 meters, and three enclosures at a height of 938 – 988 meters, and nine enclosures at a height of 1082 – 1165 meters, which is a symbol of establishment in the plains and foothills (table 1). According to the cultural data obtained from the studied enclosures of prehistorical to the Parthian period, an enclosure of the Seleucid – Parthian period, nineteen enclosures of the Parthian period, five enclosures of the Parthian – Sassanid period, and one enclosure of the Sassanid – Islamic period, indicated that the enclosures have been active in a single period to several periods.

## Results:

In this study, it was found that, of the twenty – seven enclosures, three permanent and 24 temporary enclosures and the approximate acreage these enclosures vary from half to 5 hectares. There are different natural subjects around these enclosures such as mountains, valleys and hills. Most of identified Parthian enclosures in these villages were formed in the foothills, and five of the twenty-seven identified enclosures were located in the plains, perhaps due to the facilitation of animal husbandry and agriculture.

Of the twenty-seven enclosures, six multiple periods and the rest are single periods, most of the enclosures of the foothills and slopes of the mountains are closest to the water resources on the outskirts of springs, headstreams, or old streams, but adhere to the cluster pattern (the distance to other enclosures), due to the map enclosures scatterings (map 3) and the location of the enclosures alongside water resources such as the Cham Zarisk river, Soleiman Malekan, or Sarab Kisaleh are the most important reasons for the formation of these enclosures and regards the large number of Parthian areas, especially the enclosures with single – season and seasonal settlement indicate that the residents in these enclosures were immigrant and cattle farmer and have been established only in the special seasons of the year. Finally, based on the cultural findings (Pottery) the surveyed enclosures in the sub-district of Khaneh Shur, all belong to the



late Parthian period and perhaps the only settlement in one area (SB, 10) has begun in the early or mid-Parthian period.