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Growing the Economy by the Religious Valuation in Alqush Town

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Introduction:

Alqoah is a village in the Nineveh plains of northern Iraq, a sub-district of the Tel Kaif District, and is situated 45 km north of the city of Mosul. It is one of the most important historical places in Iraq. In 1913, the town of Alqosh was populated by 7,000 Chaldean Catholics, according to (Joseph Tfinkdji). Since the 1970s, many have emigrated. It is estimated that in the cities of Detroit, Michigan, the western suburb of Fairfield in Sydney, Australia, and San Diego, California, at least 40,000 'Alquushnaye' refugees and their 2nd and 3rd generation descendants remain. In February 2010, 4,300 civilians were forced to flee from Mosul to the Nineveh plains by attacks on Assyrian Chaldean Syriacs in northern Iraq. A United Nations report indicated that 504 Assyrians had moved to Alqosh at once. After the post-2003 Iraq war, many Assyrians from Mosul and Baghdad have escaped to Alqosh for safety. The inhabitants are usually known as ethnic Assyrians, adherents of the Chaldean Catholic Church, although they do not belong to the Assyrian Church of the East, whose members are often referred to as Assyrians in contrast to Chaldeans (wikiwand, n.d.). A multitude of ethnic and religious groups, including Christians, Yazidis, Shabaka, and Muslims, are located in the district of Alqosh in the Nineveh Plains. Although the town of Alqosh is exclusively Christian, many other groups live in the surrounding villages. Including Derboza, which is a Yazidi village, is also next to the shrine. For being home to numerous ethnic groups, Alqosh is well-known. Throughout the 42 villages around Alqosh, Christians, Yazidis, Muslim Arabs, and Muslim Kurds live. In the past, Jews also lived there. This town is where it can be found, with its four churches, two monasteries, and 500 Christian families. In and around the town, a range of religious sites is scattered, including the tomb of Prophet Nahum, one of the 12 minor prophets of Judaism. Alqosh is a historic example of coexistence in Kurdistan. The 12th prophet of the B'nai Israel (Children of Israel) was the Prophet Nahum. This very sacred place. They hold religious ceremonies here every year, because this shrine is holy to us. Alqosh is also a Chaldean site, carved into the mountains above the town, for the Rabban Hormizd Monastery (Sahar. A, 2020). Agriculture (wheat , barley, chickpeas, lentils , beans, cucumbers, gourds, melons, grapes, and figs) and animal husbandry (sheep and goats) are the basis of the town's economy. Traditional trade included cloth weaving and dying. A major spiritual center is Alqosh. Two significant E-Syr. The monasteries are near Alqosh: the Rabban Hormizd Monastery, founded in the 7th century. The historical evidence in Alqosh, make this place to be one of the most important places in the world. (Alessandro.M gedsh, n.d.)



Figure 1, Alqush site.

Source: Alessandro.M gedsh, n.d.

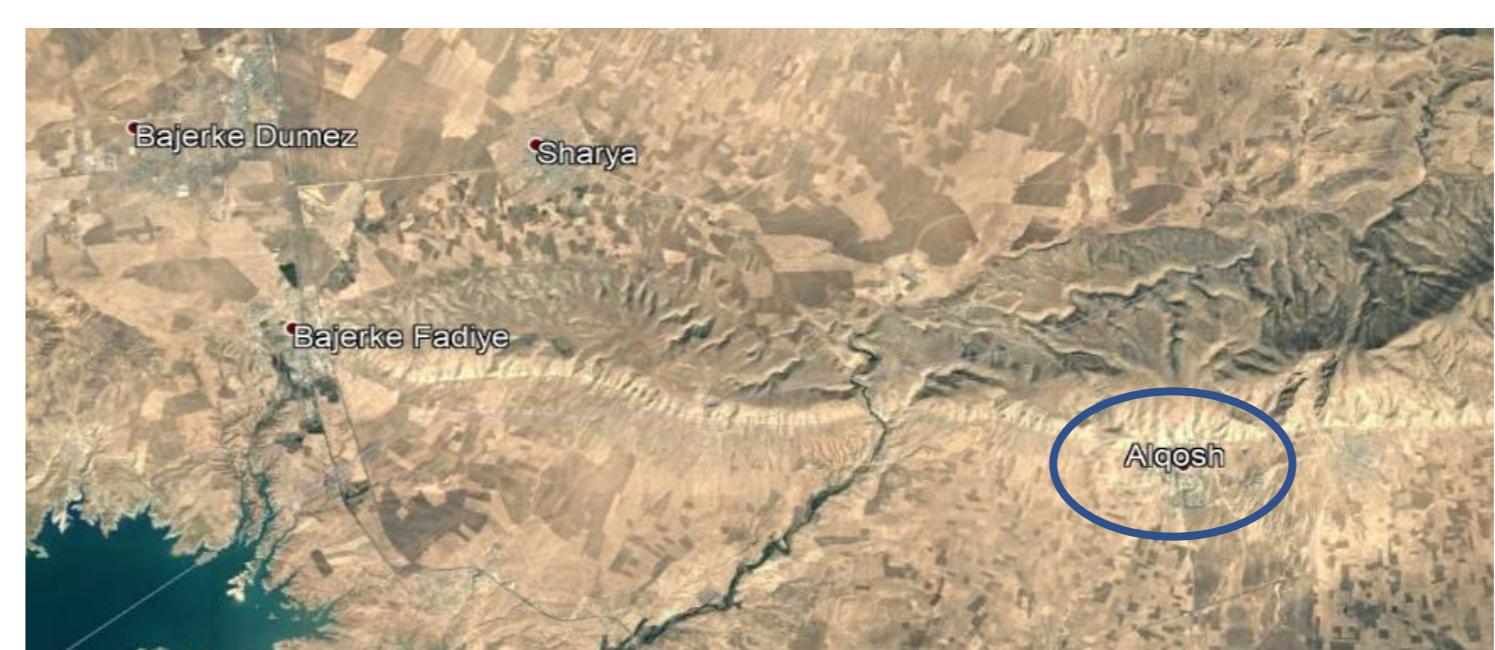


Figure 2, Alqush on map
Source, Google Map, 2020

Climate of Alqush:

Alqush climate shown in bellow chart:



Figure 3, Alqush climate from 2009-2020

As shown in Figure 3, Alqush temperature is mostly high and can reach to + 40 C.

Main regional problems:

There are different problems in Alqush including:

- Immigrants due to lack of job opportunities.
- Lack of informational data in the area.
- Car dependency region.
- Neglectful tourism places.
- High unemployment rate.
- Lack of water resources, dependency on only one resource.
- A deficiency of the healthcare system.
- A strict society that has some complex rules that discourage many people to visit the area.

Regional goals:

This research aims to:

- Maintaining and developing tourism and historic areas to increase the economic growth in the region.
- Establishing a public transportation system in and between Alqush and other suburban areas in the region to encourage visitors to come.
- Developing a transit-oriented system in Alqush center with different modes including walking, cycling, etc., and Establishing sustainable traditional roads and highways with integrated walkable sidewalks.
- Encouraging investment and small businesses in the area to provide job opportunities that lead to decrease immigration.
- Develop and improve the educational system styles and building institutes to enhance the skill and knowledge of the Labour force.
- Interface with KRG's scientists, geologists, archaeologists, and other historic organizations to visit and study the area for finishing more data and sharing valuable information with local and international sources.
- Searching for more sustainable water, food, and energy resources for sustainable future development without depending on regional resources
- Promoting the health care system for residents and visitors to ensure safety for all types of people visiting Alqush from different cities and countries.
- Enhancing environmental protection programs for positive environmental effects in and outside the town.
- Encouraging social activities in the area by developing a friendly neighborhood and open spaces helps to interact with the sense of the place making it more interesting.

Stage 1: Methodology:

Data collection plan:

A data collection Plan						Table 1
Set of data.	Data required	How to collect the data (methods)	From where (source)	By who	Achieved/Not	
Area map	§ Geography	Maps.	Directory of spatial planning	Roj, Omed	Yes	
	§ Geology	Maps.	Directory of spatial panning		No	
	§ Topography	Maps.	Directory spatial planning		No	
	§ Soil classification	Maps or text.	Directory of spatial planning		No	
	§ Transportation		Directory of spatial planning			
	§ Other maps	Maps+ charts + written.	Directory of spatial planning		Yes	
	Alqush in hierarchy settlements	Maps and documents	Online data		Yes	
	Alqush in central place theory practice	Map and documents	Online data		Yes	
Demography	§ Population	Interviews or reports	Directory of statistics website. Organizations reports.	Milad, Omed, Muhammad Mahdi	Yes	
	§ Immigration	Interview or. Reports.	Directories.		Yes	
	§ Distribution of settlements	Documents and records.	Researchers. (All categories)		No	
	§ Ethnics	Interviews.			Yes	
Socio-cultural sector	§ History	Documents and reports	Online data	Shahd, Hayvgir	Yes	
	§ Health and hospitals	Interviews	Site visit		Yes	
	§ Traditions and culture.	Interviews.	Site visit		Yes	

	§ Education (primary & secondary) Social problems	Interviews Interview	Site visit Site visit		Yes Yes
Economic sector	§ Industry	Questionnaires	Site visit	Shahd, Hayvgir, Roj	Yes
	§ Agriculture	Questionnaires	Site visit		Yes
	§ Tourism	Maps and observations	Directorates of spatial planning		Yes
	Religious valuation sustainable standard	Documents and report Questionnaires	KRI municipality		Yes
	§ Trade	Questionnaires	Site visit		Yes
	§ Finance and investment.	Questionnaires	Site visit		Yes
	Economic challenges	Questionnaires	Site visit		Yes
Environmental sector	§ Air quality	Interview	Site visit	Milad, Muhammad Mahdi	Yes
	§ Water quality	Interview	Site visit		Yes
	§ Pollution area	Interview	Site visit		Yes
	§ Soil	Maps or reports	Directory of spatial Planning		No
	§ Landfill	Maps and reports	Directory of spatial Planning		No
	Climate of Alquush	Documents and reports	Online data		Yes
	Environmental challenges	Interviews	Site visit		Yes

Stage 2: Results and discussion:

Alqush is an Assyrian town located in Kurdistan Region of Iraq (KRI).

Area map:

Bellow Figure shows area map of Alqush

Figure 4, Alqush area map.



Alqush is located 30 Kilometers south-east of Duhok and 45 Kilometers north of Mosul.

Transportation:

The transportation in Alqush is mainly on private cars and who ever can afford transportation will purchase a private car. The area does not face high traffic and congestions. Also, car dependency has less impact on the environment . There are no such problems in relation to transportation.

Figure 5 and 6, shows the urbanization and town growth of Alqush from 2010 to 2018.

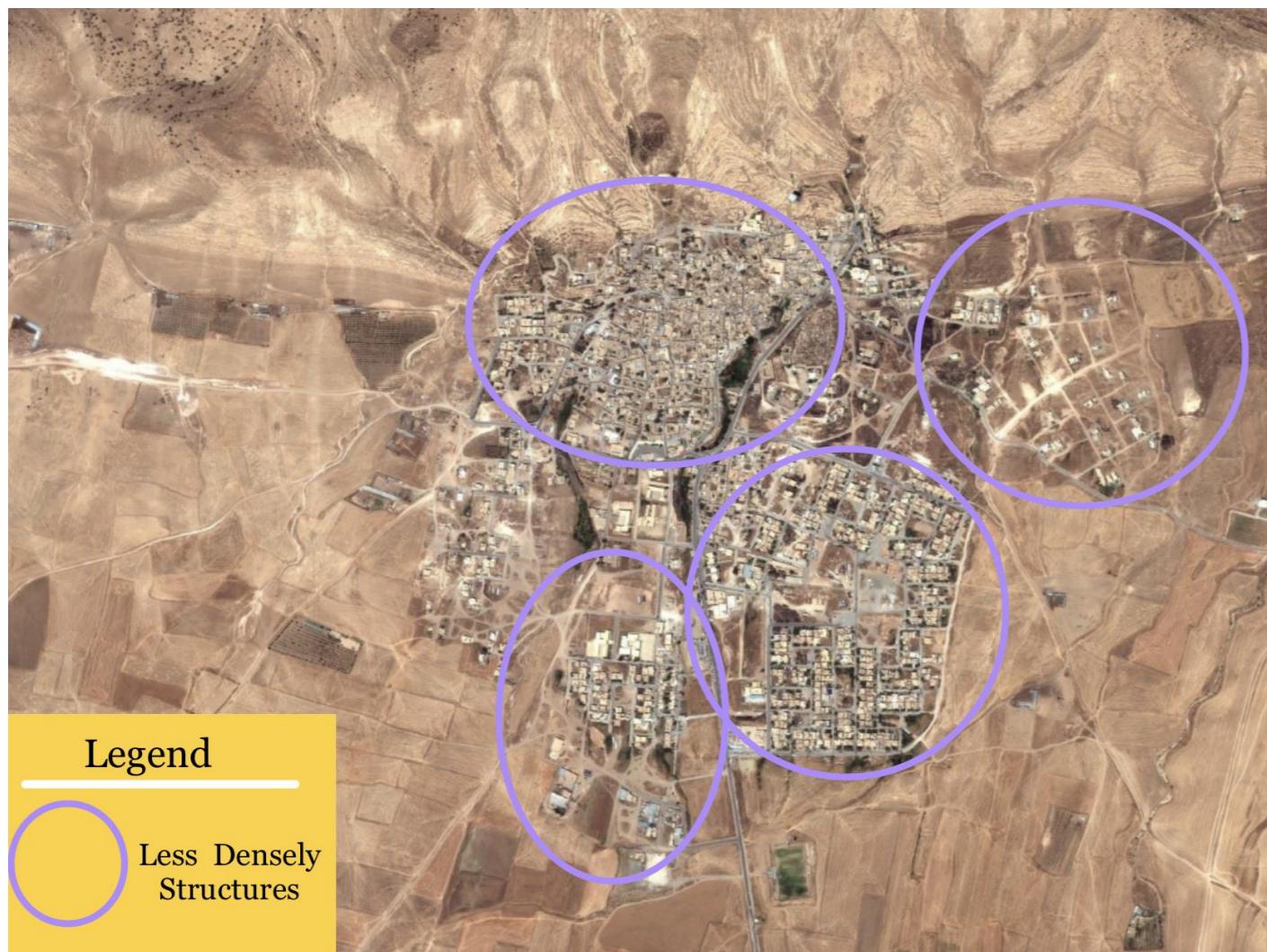


Figure 5, Alqush in 2010 .

Source: Zoom Earth.



Figure 6, Alqush in 2018.

Source: Zoom Earth.

Alqush town in hierarchy of settlements:

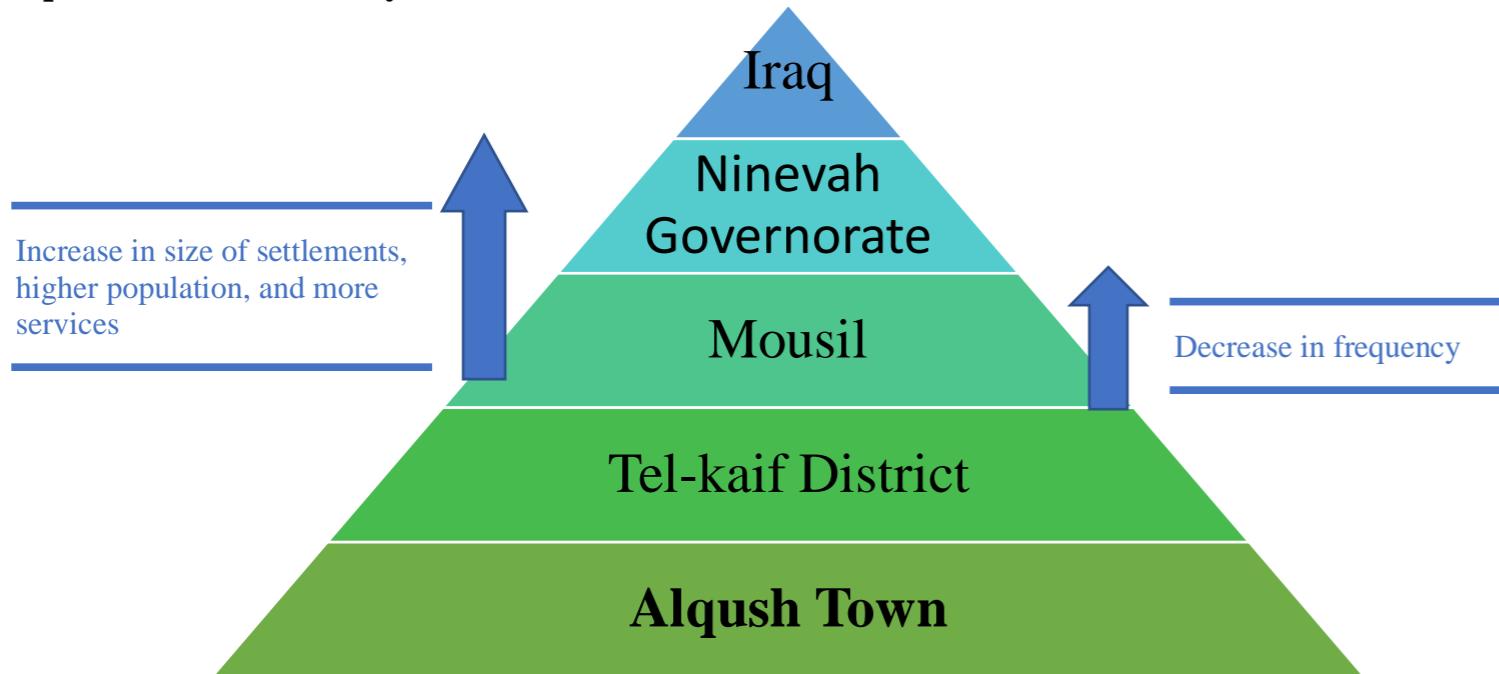


Figure 7, shows a hierarchy for describing Alqush town area with other nearby and surrounding areas. Which is going up from Alqush which is smallest to Iraq as the whole country.
Source: made from interviews

Figure 8, shows Alqush in central place theory practice which is Alqush area in between Duhok city, Akre city, and Mosul city. Also, connection among them and the way they interact with each other.

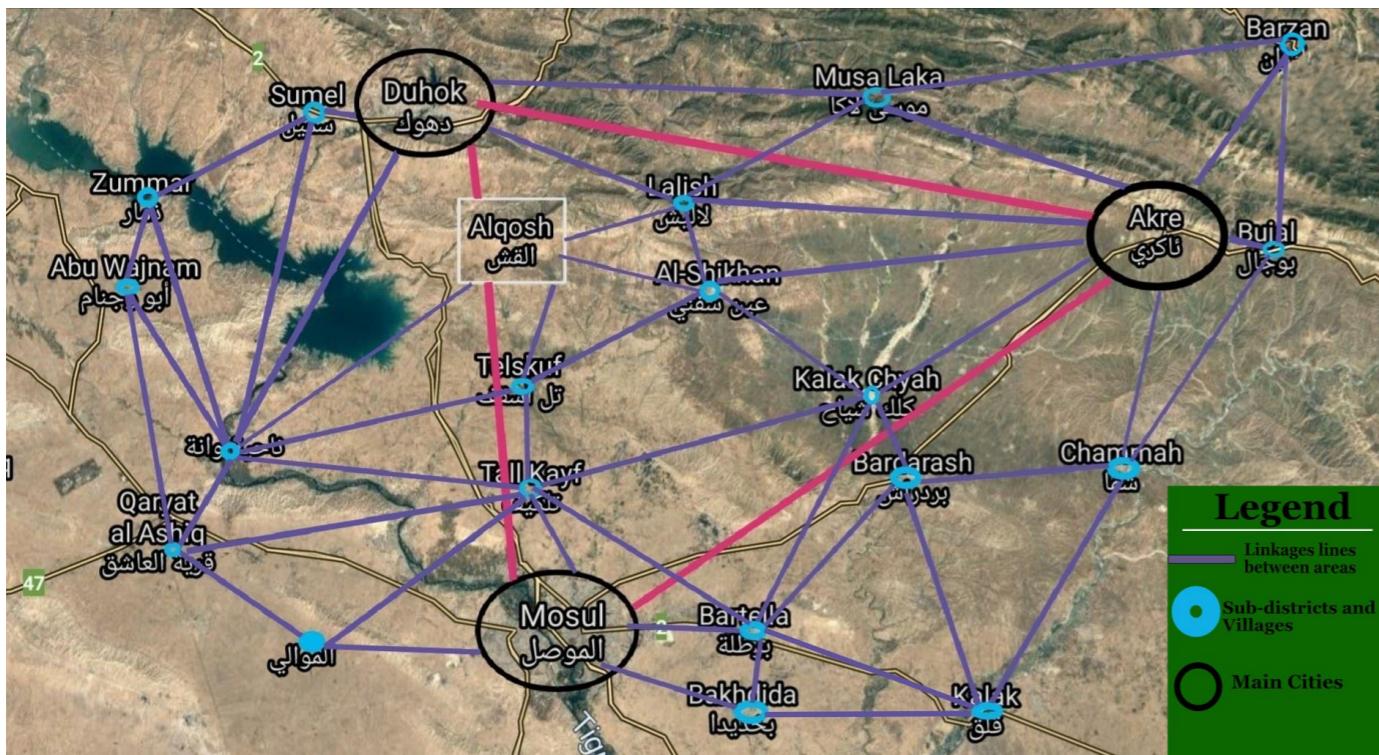


Figure 9, Alqush in central place theory practice. Source: By researchers

Demography of Alqush:

Population:

in March 2020, the village had a population of 4,567 and 1,015 Chaldean Catholic denomination families According to the Unrepresented Nations & Peoples Organization, most of the residents, with a lower proportion of Yazidis, are Assyrians (Wikiwand, n.d.).

Immigration:

The inhabitants count of Alqush has been changed and developed throughout the time. The formal census in the Iraqi region governments data couldn't be trusted for the manipulation that was done to it, mostly the Assyrian Christian population data was manipulated. The census statistics figures from the nineteenth to the modern date centuries vary from 2,500 to 20,180. It is estimated in the Hurmiz Aboona states that there were 250 families in Alqush in 1850. Patriarch Joseph Audi visited north of Iraq for his congregation in 1867 - 1868, in the visit he estimated that Alqush had 2,477 people in 1868. Another scholar named Joseph Shikho that had a visit to Alqush in 1895 and stated that the population was 5,000 (Aprim, n.d.). Figure 10, shows population changing from 1850 to 2020.

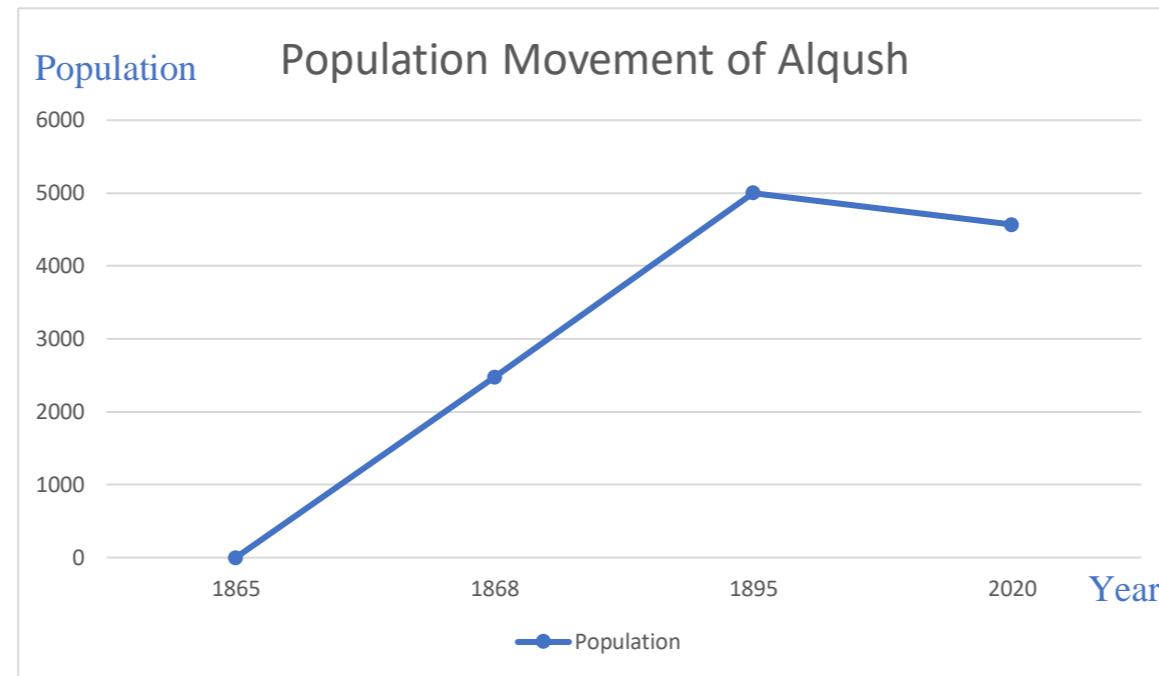


Figure 10, Alqush population changes from 1850 to 2020

Source: (Aprim, n.d.) & Alqush citizens.

Ethnics:

Alqush citizens are mostly Christians and don't accept other religion groups members to be in Alqush and together they share spirituality of the same beliefs.

Economic sector:**Current status and potentials:**

Economic conditions of Alqush citizens are nominal which means most of citizens are neither rich or poor. There are different economic sources in Alqush:

- People in Alqush raise animals and own farming lands.
- There is a Tiger drink storage places in Alqush and they are good in producing some fruits like melon.
- There are some wedding events places that are also used as some income source to some people in Alqush.
- There are chicken projects in Alqush that produce original eggs.
- There's also religion tourism as a lot of people visit religion places every year.
- Also, there are Alcohol works and some other trading as well.

Economic challenges:

The main economic challenge is Lack of jobs and a lot of Alqush citizens left Alqush due to unemployment and leave the country. A number of years past and graduated students didn't get any job in the area. There are no workshops for teaching people to work like haircut, sewing, and cars repairing for both genders even though Alqush has administrative representatives. The head of administrations of Alqush tend to travel a lot leaving administration place and this make big gap. Also, there are some other problems like lack of restaurants in Alqush. There were a number of attacks that causes slow development in the area. Conflict between central government and Kurdistan government over the land to own and this took citizens rights. Different organizations has role by political parts in building some entertainment places like sport playgrounds, swimming pools, etc. As mentioned in Figure 6, the population of Alqush decreased in 2020 and economic challenges are one of the main reasons that make people leave their country.

Tourism map:



- 1) **St. Homrized Monastery:** Saint Hormizd Monastery is regarded as an important place for the Chaldean Catholic people. It was founded in about 640 AD and is located in the mountains north-east from Alqush. The Monastery was the residents for the patrache of the Eliya line of the church from 1551 to the 18th century. After Rome intersection in early 19th century, the Monastery became an important symbol in the Chaldean Catholic Church.
- 2) **Lady Monastery:** The Atibey was founded in the period of Pirshop Yousif Aqudo. The Lady Monastery located in seven acres of land. The abbey is divided into 3 parts. The first part, is. Special for the respect of visitors and also contain the museum which was founded in 1874. The second part, is for Abbey presentations and the Monk's rooms. The north part of this section contains Monk's graves. The final part, is the primary housing for the Monks. The northen level of this section was made into an orphanage in 1950.
- 3) **St. Michael's Church and School:** Saint Michael Nohadry's Church is regarded as one of the oldest architectural structures in the ancient town in Alqush. It was constructed during his Lifetime in the year 414 A.D. St. Michael constructed a church with the help of people of the village.
- 4) **Girls Orphanage:** The building in the current day in a house for orphan girls in Alqush. In 1960s and 70s people used it as storage house for. Supplies and in 1970 turned to girl orphanage.





- 5) **Prophet Nahoum's Tomb:** prophet Nahum was the author of one of the books of the Old Testament, which depicts the destruction Nineveh, during the Assyrian period. Prophet Nahum was one of the prophets. Of the Israelites who lived in the early 7th century BC. The tomb of Prophet Nahum and his sister Sarah are one of the oldest archeological sites in Iraq which simulates 27 centuries of history.
- 6) **Alqush Heritage Museum:** Alqush Heritage Museum was opened on 2015. The opening day was anniversary of Duhok governorate with the presence f Bishop St. Michael Mikdisi.
- 7) **Old Alqush Bazar:** the old bazar of Alqush is located in the center parts of the old town area near saint Joseph's school. It is comprised of many ancient building and houses, part of which are currently demolished.
- 8) **St. Joseph's School:** Joseph is a personality of the new Testament figures, the preacher of Mary and the educator of Jesus Christ. The school was built in commemorate of his personality in the year 1961.



- 9) **Old Alqush Cemetery:** The old cemetery of Alqush is located in the center part of Alqush Heritage Museum. The cemetery contains graves of people that date back to the 19th century as was carved on many tombstones.
- 10) **St. Qardagh's Church,** Saint Qardagh descends from a noble family in the Sassanid Empire during the 4th century. He was rejected by his family because of his conversion to Christianity. The church was constructed in the year 1980.

Religious valuation sustainable standards:

For religious areas sustainability a number of standards given by Kurdistan Region of Iraq (KRI) municipality:

- Preservation and protection of these historical and religious places is very important.
- These areas should be protected against over-forming and modification as this can make visitors and tourists can like and appreciate these areas.
- Restriction of land use in and around these important places are necessary, in order to protect the appearance of these places.
- Presentation and references of history and traditions form substantial contents of the marketing strategy.

For economic development it's important to provide job opportunities in the area equally for both genders.

Socio-cultural sector:

A brief history:

Alqosh history is very ancient which is back to ancient Assyrian empire and could be much more. It has been found that Alqosh had been mentioned in Sennacherib's era 750 B.C. its name appeared inside Sennacherib's palace by the mural which was discovered in Tel kuyunjik (refers to sheep's' Hill in Turkmeni) in Mosul. They had engraved behind the mural a phrase says "This rock was bought from Alqosh's Mountain". Moreover the ancient Assyrian names still used in different sites as like Bee Sinnat (a plain area south of Alqosh), Sainna neighborhood refers to the Moon neighborhood . The well known ruin of shayro Meliktha that is marked in the Iraqi ruins Map accordingly as a temple carries a carved od Sennacherib that aims an arrow by his bow (**Religion Wiki, n.d.**)

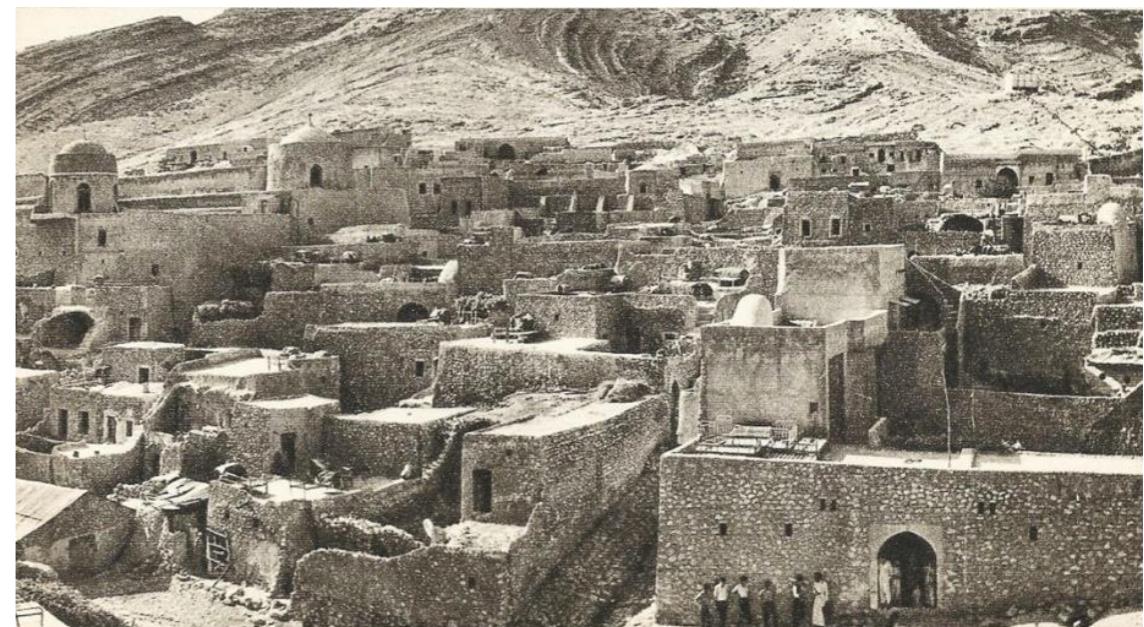


Figure 11, Mar Gorgis Church in Alqush

Traditions and culture:

There are a lot of different cultural activities take place in relations to Alqush. There special celebrations days like Rban-Hrmz celebration day, Mar-Mekha special day, and some other activities that are related to Alqush citizens only. Usually adults and old people gather around a certain place to communicate with each other. Kids play with each other in streets and different places.



Figure 12, Shop of Alqush.
Source: (Ishtar, 2017)



Figure 13, Inside Alqush shop.
Source: (Ishtar, 2017)



Figure 14, Alqush- Rban Hirmz
Source: <https://pin.it/67gjOiA>

Education:

In Alqush, there are primary and secondary schools as well. Students can have there study normally. There are no universities and institutions in Alqush. There are no such problems in relations to educations of schools like lack of schools or teachers.

Health and hospitals:

There is only one single hospital in Alqush. The number of doctors in Alqush are too few in comparing to the citizens need. The hospitals facilities are not efficient enough and need more attentions and care.

For hospitals based on Iraqi standards, Alqush needs a hospital with 1400sqm area or two hospitals of 700sqm for Alqush citizens because Alqush has population of about 4000 people * 0.35sqm.

Social problems:

In Alqush strangers are not allowed to build houses because there are only Christians live there so you need to be a member of Alqush till you can build a house there. Also, Mosque are not allowed to be build in Alqush as only Christians live there. There are some people in the area that are restrictive with woman.



Figure 15, A church in Alqush.

Source: (Ishtar, 2017)

Environment sector:**Air quality:**

The environment in Alqush is clean because the area is not facing congestion and the air has very a good quality.

Water quality:

The citizens in Alqush recently in the last years depend on water wells and they are in good quality.

Environmental challenges:

Alqush does not have big problems in relations to environment like harmful pollutions or burnings in the area but it has some near mountains that make steep land which can be challenging for future urbanization. Check Figure 16. Finally, there are no forests, landfills, rivers, and certain pollution areas in Alqush.



Figure 16, Alqush and it's surrounding environment.

Stage 3: Setting goals, objectives, and alternatives:

Alqush is a small town consist of 476km² and a population of about 5000 residents that needs more attention. To improve Alqush some effective changes needs including:

Effective policies for enhancing religious valuations areas:

- Easy and strategic system for foreign investors like providing lowers taxation.
- Restricting land use nearby and around religious valuation areas to make sure these places are seen in an easy and clear way.
- Protecting and modifying religious valuations areas.

Improving the sidewalks quality, safety and comfort by:

- I. Making sure all needed areas are walkable for pedestrians.
- II. Adding street furniture on walkways.
- III. Enhancing the safety by including buffer zones between the streets and sidewalks.
- IV. An organized lighting system, painted streets, zones and cross points.
- V. Planting trees on sidewalks to help creating the shadows in sunny days.
- VI. A safe crossing points.

1. Developing a livelihood built environment by:

- I. A pedestrian friendly public spaces. A walkable and accessible trips for the local market is a great base for the economic development.
- II. Encouraging local-cultural businesses for example a coffee shop with a cultural sense.
- III. A public open space/park for community gatherings, festivals, events and other local celebrations.
- IV. Arts and culture is what make an urban place livable and inviting. To encourage creativity and innovation a museum can be built in a special location with a unique design having a wide open front space for galleries, public libraries, traditional shops etc.

2. Developing a healthier and secure area by :

- I. Buildings a medical center. (The size based on the population needs).
- II. Social equity for all citizens.

3. A sustainable development needs a successful food production that fills all the local needs and it is best to have a surplus for trade.

Spiritual/Religious or faith based tourism refers to traveling to religious sites for expressing spiritual form or for admiring and learning their related architecture, art, traditions and food. These religious places in Alqosh aren't not only religious centers but furthermore a cultural and economic valuation in the town. The aim is to grow a steady flow of income to the local business, see figure:

For sustainable development a popper plan needed and it must contains all sectors including environmentally, social and economical.



Alternatives (Conservative Plan)

Develop Buss Rapid Transit (BRT) system between Alqush, Sharya, Domeez, and Fayda as public transportation till people easily reach to Alqush.
Provide two to three clean hotels with good services for tourisms till they spend more time in Alqush.
A high school to improve Alqush town resident's knowledge and skills
Supplemental products provided by the government theses includes tourist guides, information centers, sign and tourist routes.
A grouped tourism tour managed by the local government and implemented by local people to explain importance of religious valuations places and other areas.
A public awareness programs by schools and organizations for the tourism potential to grow knowledgeable of the society.
The infrastructural facilities is essential such as clean streets, a good water quality, an available internet, etc. for a satisfied impression by visitors and a sustainable living standard for the locals while preserving local cultural traditions and identity.
To grow the market and the number of visitors an outdoors corporation is needed with organizations, governments and so on. It can be supported by KRG governmental institutions. The support of other countries is essential to open the area more to the international world an encouraging more investors, visitors, residents to come.
An effective marketing and promotional plan to engage more tourists and business in the town. By organizational programs and workshops for expanding the knowledge and skill sharing. Especially culturally and art sectors.
Add agricultural land to provide job opportunities for Alqush town residents and decrease immigration of residents

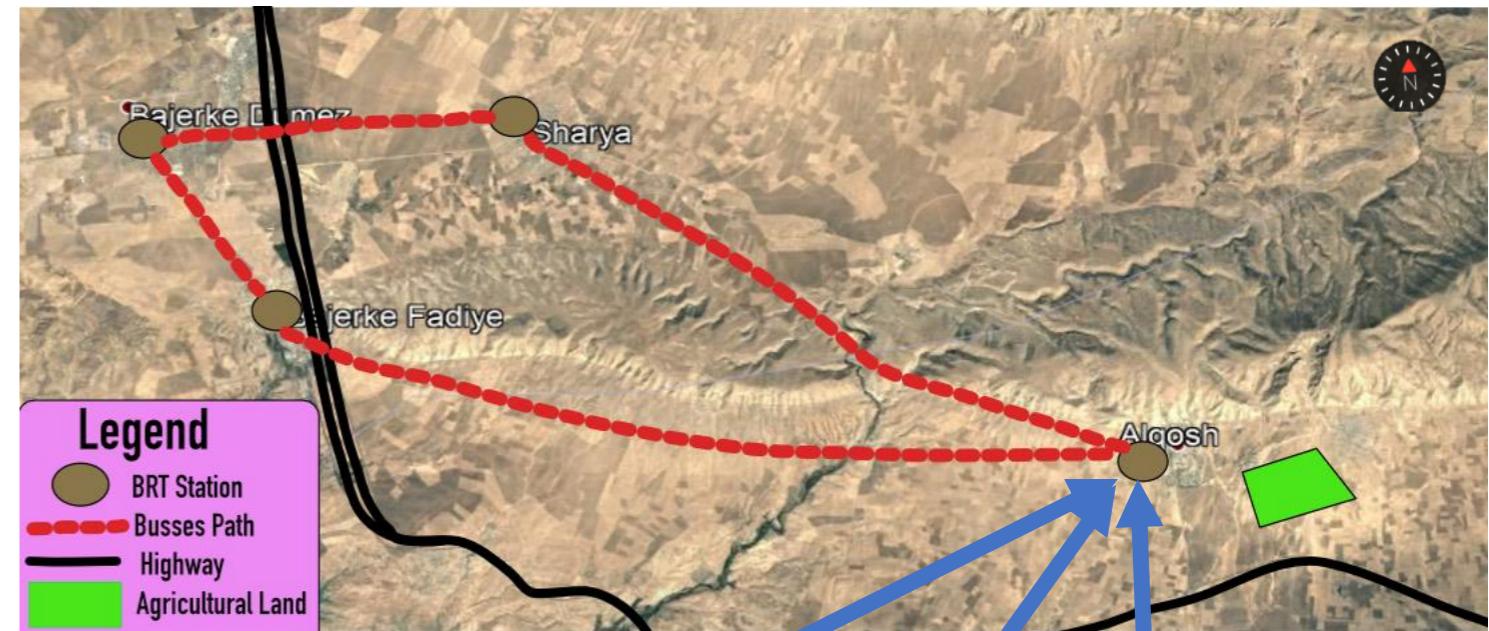


Figure 17, Conservative map
Source, by group members

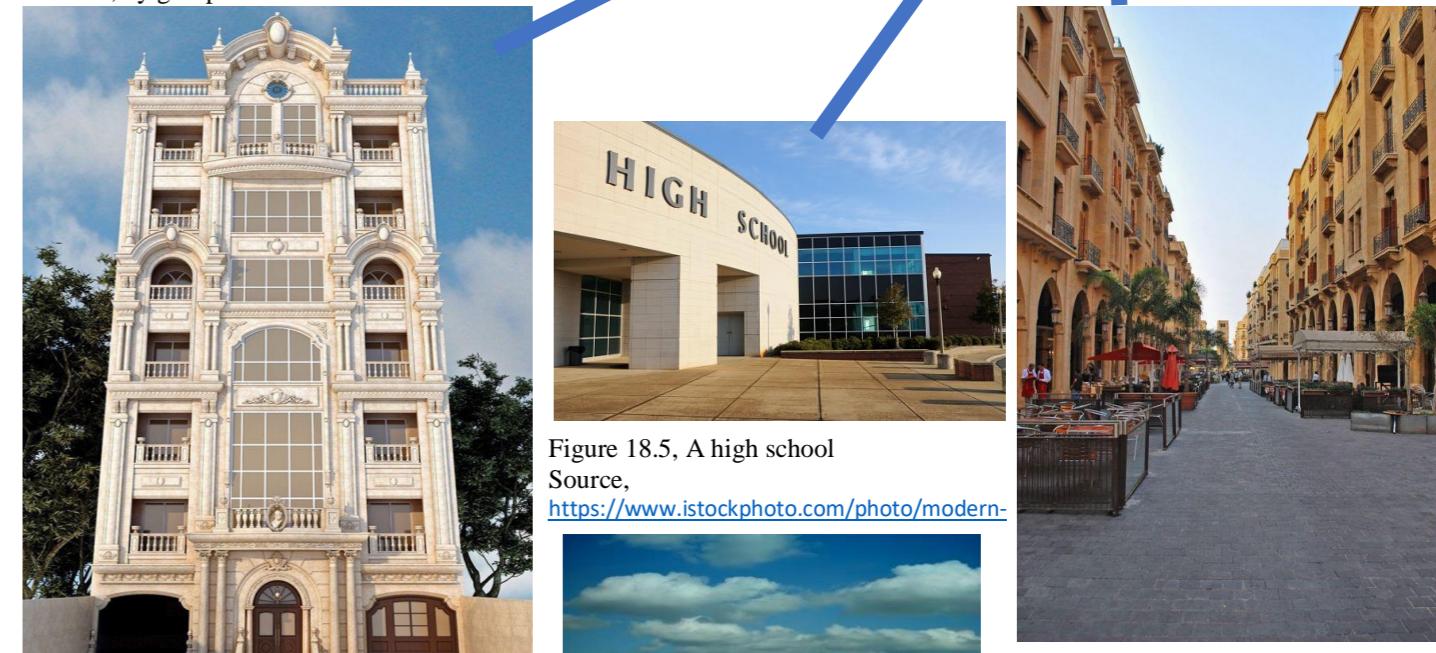


Figure 18, A clean hotel
Source, <https://pin.it/4wv8IXb>

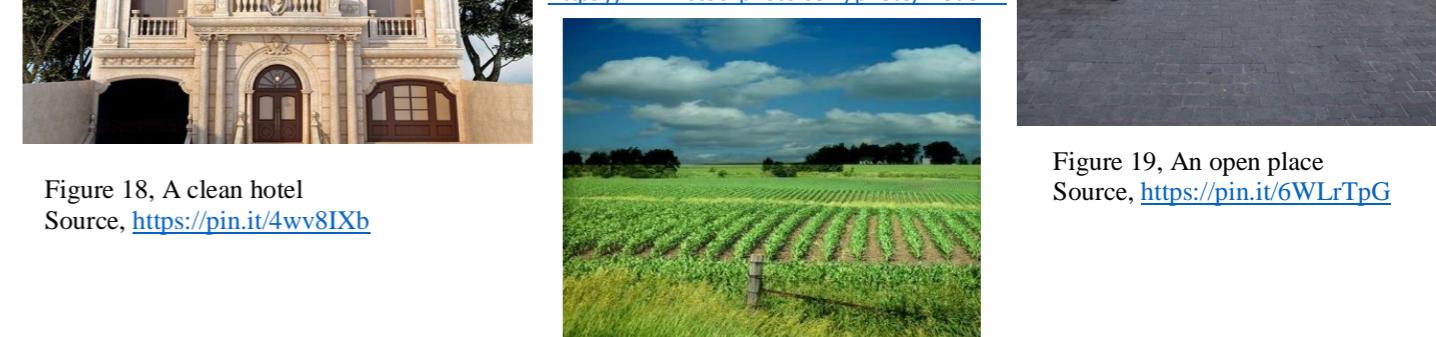


Figure 19.5, Agricultural land
Source, <https://in-georgia.com/purchase-and-legalization-of-non-agricultural-land/>

Alternatives (Radical Plan)

Building and maintaining recreational places for tourists and residents these places can be invested by people from the region or foreigners, but the importance is to provide the job opportunities for local people. Examples: museum, open spaces like plaza, local bazar, workshops, restaurants, workshops, galleries, etc.

Continuing Duhok airport project which will influence the region tourism sector positively.

Constructing a bus transit station and Railway between all important suburban and cities points. This will assist the local trade, accessibility between the regions, economic development and so on.

A bicycles roads and integrated walkable streets to reduce car dependency and maintaining the clean air quality.

A minibus transport system available for all people who prefer to not walk, old ages, special needs inside Alquush.

Make a restaurant in the top of mountain till people see the whole town. In addition, Teleferic or cable system for transporting to the restaurant and return tourism back.

Make agricultural land to provide job opportunities for Alquush town residents and decrease immigration of residents



Figure 25, A Teleferic transport system
Source, <https://pin.it/1743mMs>

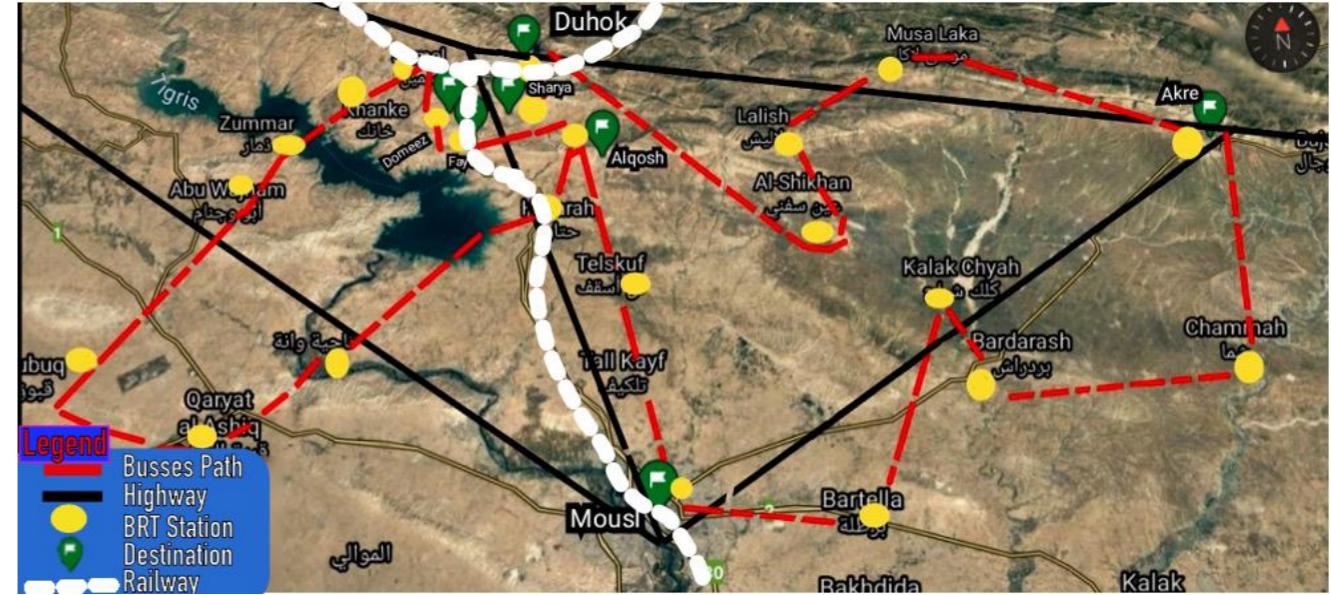


Figure 20, Buss Rapid Transit (BRT) with Railway network of transportation
Source, By group members



Figure 21, A gallery with cultural photos
Source, <https://pin.it/NrepmaC>



Figure 22, An open space
Source, <https://pin.it/lizLwsk>



Figure 23, A cultural restaurant
Source, <https://pin.it/2rbr1IK>



Figure 24, A buss in buss station
Source, <https://pin.it/aHvnzQU>



Figure 26, Duhok International Airport purposed plan
Source, Duhok International Official page
https://ar-ar.facebook.com/DuhokInternationalAirport/photos/ph.275257695924048_2207520000_553553001427848/?type=3&theater



Figure 27, A minibus
Source, <https://pin.it/5L2cMz2>

Stage 4: Evaluating the Alternatives to choose most effective one:

In this stage alternatives of conservative plane and radical plan are evaluated of each these four sectors (Demographic, Social, Economic, Environment). The highest number given to each point is 2 out of 2, then we have 1 point for medium and 0 for low or not applied.

Economic sector:

NO.	Conservative	Reasons	Actors Involved	Evaluation	Total	Radical	Reasons	Actors Involved	Evaluation	Total
1.	Encourage foreign for investment In the area.	provide job opportunities for economic growth	Local government, private sectors, NGO	2	10/10	Making BRT transport system and Railway between most important cities, districts, and subdistricts.	Enhancing accessibility and linking the region's distincts together	Local government, transportation ministry of Nineveh governorate	2	10/10
2.	Making BRT transport system Between four town.	Enhancing accessibility and linking the four distincts together	Local government, transportation ministry of Nineveh governorate	2		Investing in protecting and modifying Tourism religious historical area. Also, expand services around them.	To protect the valuable power side of Alqosh which has a historical religious identity.	local government, organizations, private sectors and Nineveh governorate.	2	
3.	Investing in protecting and modifying Tourism religious historical area	To protect the valuable power side of Alqosh which has a historical religious identity.	local government, organizations, private sectors and Nineveh governorate.	2		Finishing Duhok International Airport	Improving international attractiveness and enhancing economic linkages between regions.	Kurdistan Region Government (KRG)	2	
4.	Making small hotels for tourism to spend more time at Alquush	providing a safe and clean shelters for tourists for a positive travel experience.	Local people, local government, private sectors	2		Telefric to Rban- Hrmz church and build nearby restaurant	To transport tourists to the church and restaurant on the mountain to see the whole Alquush town	Public Private Partnership (PPP's) between public (government) and private sectors to implement this project including transportation ministry of Nineveh governorate, and local government	2	
5.	Tourism programs like guidelines, grouped tour	to facilitate the visiting process of tourists.	Local people and government	2		Making agricultural land to provide job opportunities	To decrease immigration of residents to other areas	Local government local people, Nineveh governorate	2	

Socio-cultural sector:

NO.	Conservative and Radical	Reasons	Actors involved	Evaluation	Total
1.	Public awareness programs to make people preserve the importance of the towns valuable areas, places, environment, etc.	To enhance the sense of identity and involving all types of people in the development.	Local government, social media, TV programs, school programs	2	8/10
2.	Educational institution to teach local citizens the importance of the area (radical)	To prove knowledge and skill sharing places to develop the area for better economic, social life, gender equality, and environment	local government and Ministries of education of Nineveh governorate	2	
3.	Build Health Center.	To provide health care for residents and visitors.	local government, Nineveh governorate and Head of Elites	2	
4.	Build cultural museum	To explain the importance and explore the history Alqush tow	local people, private sector, or local government.	1	
	Build open public spaces (radical)	To enhance relationships between citizens and encourage social activities and attract tourism	Local government, Municipality of Nineveh	1	

Environment sector:

NO .	Conservative	Reasons	Actors involved	Evaluation	Total	Radical	Reasons	Actors involved	Evaluation	Total
1.	Designing an accessible city by providing bicycles lines	For cheaper transit mode, and less polluted transportation	local government and Nineveh government and NGO	1	6/10	Providing an accessible city and mix use of land and buildings	For shorter trip times, decreasing using of cars, neighborhoods integrated approaches with nearby commercial area, service areas, etc.	Local government, local people, Public Private Partnership (PPP) programs, private sectors	2	7/10
2.	Building perfect sidewalks design.	Healthier and walkable environment for residents and visitors	local government, Public Private Partnership (PPP)between private and public sector	2		Buildings sidewalks to serve all types of people	To serve people with special needs, kids, teens, etc.	local government, Public Private Partnership (PPP)between private and public sector	2	
3	Creating a greener city by planting more trees, parks, green roofs.	For a cleaner air quality, shayding and protection of soil.	Local people, local government, NGO, private sectors	1		Creating a greener city by making parks	To make area healthier and to serve environment and	local people, local government, NGO, private sectors	1	
4.	Making policies	For protecting the environment like restricting cutting trees and making pollution industries to maintain the process of environmental development	Local government	2		Make environmental policies	For protecting the environment like restricting cutting trees and making pollution industries	Local government	2	

Demographic sector:

NO.	Conservative	Reasons	Actors involved	Evaluati on	Total	Radical	Reasons	Actors involved	Evaluati on	Total
1.	Studying the demography by government institutions.	To clarify age-groups, genders rate, etc. To understand needs and consumption information.	Government institutions.	2	4/10	Studying the demography To clarify age-groups, genders rate, etc. To understand their needs in better way	To clarify age-groups, genders rate, etc. To understand needs and consumption information.	Government institutions.	2	4/10
2.	Gender equality awareness by media, school programs, organizations assessments, etc.	To create a livable town for both genders	Policies, Media, school programs, organizations assessments, TV programs, etc.	2		Gender equality awareness by media, school programs, organizations assessments, etc.	To create a livable town for both genders	Policies, Media, school programs, organizations assessments, TV programs, etc.	2	

Implementation of alternatives:

A. Economic sector (radical changes with one conservative):

Bellow table shows sequence of steps with describing how and by whom applying these steps. Also, the benefits and linkages improvements for the region along the time needed with actors who monitors and keep an eye on the implementation of steps during and after applying these sequence of steps. In addition, the number of times for monitoring the steps of implementation.

No.	Sequence of steps	How	Actors	Benefits and linkages improvements for the region	Time	Monitoring
1.	Investing in protecting and modifying Tourism religious historical area and Also, expand services around them.	By investing and modifying religious historical area and preventing from collapsing.	Local government, organizations, private sectors and Nineveh governorate.	Maintaining the historical religious valuations areas and tourists visitations from across different areas globally.	Long term.	Monitoring of the investment should take place by local government and Nineveh government by once a year.
2.	Improve transportation system between most important cities, districts, and subdistricts.	Through building Bus Rapid Transit (BRT) and Railway system of transportation.	Local government and transportation ministry of Nineveh governorate	Easier and cheaper accessibility for people of most important areas to visit Alquash .	Long term.	The system of transportation should be monitored by transportation ministry and local government by once every three month.
3.	Better transportation to Rban-Hrmz church on mountain.	By building Teleféric system to reach to Rban-Hrmz and build a restaurant nearby.	Public Private Partnership (PPP's) between public and private sectors to implement this project including transportation ministry of Nineveh governorate, and local government	Make visitors see the whole town on the mountain and give the area better picture. Also, to attract visitors across the region.	Short term.	Project should be monitored by investors who build the system by twice a year.
4.	Enhance attraction and access to Alquash	By Finishing Duhok International Airport.	Kurdistan Region Government (KRG)	People from different countries can visit Alquash easily especially those with religious valuations believes.	Long term.	Kurdistan Region Government (KRG) should monitor sustainability of the airport during construction and establishment continually.
5.	Increase work labor	By Making agricultural land to provide job opportunities	Local people, local government, private sectors	Decrease immigration of residents to other areas.	long term.	Local government and private sectors involved should monitor sustainability of the hotels by three times a year.

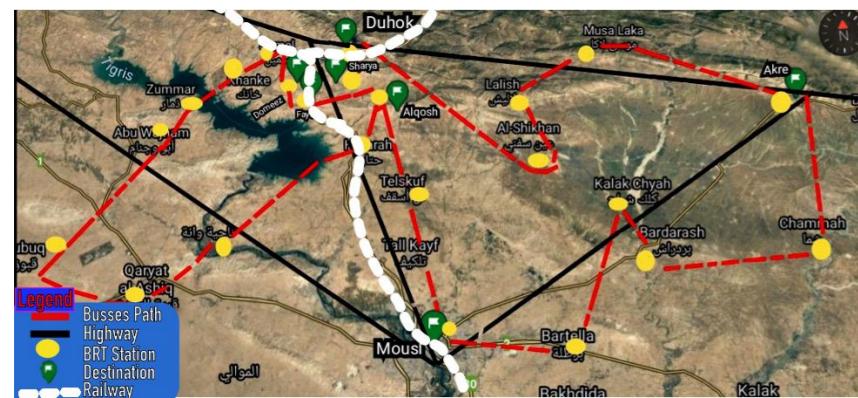


Figure 28, Buss Rapid Transit and Railway
Source, by group members.



Figure 29, A Teleferic transport system
Source, <https://pin.it/1743mMs>



Figure 30, Duhok International Airport
purposed plan
Source, Duhok International Official page
<https://ar.facebook.com/DuhokInternationalAirport/photos/pb.275257695924048.-2207520000./553553001427848/?type=3&theater>

B. Socio cultural sector (mixed of radical and conservative changes):

Bellow table shows sequence of steps with describing how and by whom applying these steps. Also, the benefits and linkages improvements for the region along the time needed with actors who monitors and keep an eye on the implementation of steps during and after applying these sequences of steps. In addition, the number of times for monitoring the steps of implementation.

No.	Sequence of steps	How	Actors	Benefits and linkages improvements for the region	Time	Monitoring
1.	Make people preserve the importance of the towns valuable areas, places, environment, etc.	Public awareness programs	Local government, social media, TV programs, school programs, people from public, and NGO's	Alqush residents preserve and improve their town which can enhance attraction of tourists and different areas residents.	Short term	Local government will monitor public awareness programs throughout the town continuously.
2.	Take care of local and tourists people health care	Build two health centers.	Local government, Nineveh governorate and Head of Elites	Provide healthcare facilities that cover local and tourists needs.	Short term	Ministry of health will monitor the sustainability of health centers every month by a monitor employer in health centers.
3.	Teach local citizens the importance of the area	Educational institution	local government and Ministries of education of Nineveh governorate	Improve Alqush residents understanding to build up Alqush and attract more people of different areas to visit Alqush	Short term.	Ministry of education will monitor programs of education for every year.
4.	Show history and culture of Alqush	By Building cultural museum	local people, private sector, or local government.	Tourists and local residents can recognize Alqush more which engage them to the town more.	Short term	Investors involved will monitor the culture building twice a year.



Figure 32, A health center

Source, <https://www.bannerhealth.com/locations/maricopa/banner-health-center-maricopa>



Figure 33, A cultural museum.

Source, <https://www.inspirock.com/india/silvassa/tribal-cultural-museum-a1123097733>

C. Environment sector (conservative changes):

Bellow table shows sequence of steps with describing how and by whom applying these steps. Also, the benefits and linkages improvements for the region along the time needed with actors who monitors and keep an eye on the implementation of steps during and after applying these sequence of steps. In addition, the number of times for monitoring the steps of implementation.

No.	Sequence of steps	How	Actors	Benefits and linkages improvements for the region	Time	Monitoring
1.	Provide restrictive and convince guidelines for preserving the environment.	Making policies and public awareness program	Local government, social media, TV programs, school programs, people from public, and NGO's	Enhance environment of the town to make the area livable and entertain tourists of different areas of the region.	Short term	Regional and local government will monitor policies applications throughout the year by some environmental employees of checking policies status in the town
2.	Build walkable town	By Building perfect sidewalks design.	Local government, PPP between private and public sector, Ministry of Transportation	Provide another option for transportation and make visitors walk around the town peacefully.	Long term	Ministry of Transportation and local government should monitor sidewalks design during construction and twice a year after implementation.
3.	Build accessible city with different transportation options	Designing an accessible city by providing bicycles lines	local government and Nineveh government and NGO	Provide better, cheaper, and healthier option of transportation in the town.	Short term	Local government would monitor bicycles line during construction and twice a year after implementation
4.	Creating a greener town	by planting more trees, green roofs of buildings, parks, etc.	local people, local government, NGO, private sectors	Provide aesthetics views to tourists across the region and make town even more healthier.	Long term	Investors involved should monitor and maintain green areas health and sustainability.



Figure 34, Sidewalks of street.

Source, <https://nacto.org/publication/urban-street-design-guide/street-design-elements/sidewalks/>



Figure 35, Bicycles road site on street.

Source, <https://newsroom.ucla.edu/stories/13-improvements-that-make-ucla-a-bicycle-friendly-university>



Figure 36, Green building of a green city.

Source, <https://newsroom.ucla.edu/stories/13-improvements-that-make-ucla-a-bicycle-friendly-university>

D. Demographic sector (conservative changes):

Bellow table shows sequence of steps with describing how and by whom applying these steps. Also, the benefits and linkages improvements for the region along the time needed with actors who monitors and keep an eye on the implementation of steps during and after applying these sequence of steps. In addition, the number of times for monitoring the steps of implementation.

No.	Sequence of steps	How	Actors	Benefits and linkages improvements for the region	Time	Monitoring
1.	clarify age group, sex ratio, labor age analysis, etc.	Studying the demography of the area	government institutions.	Better planning and investment for the town economical, environmental, and socio-cultural needs. Which then would help to engage other areas across the region to Alqush town.	Short term	Government institutions should monitor the study and repeat once for every 2 year.
2.	Gender equality	Through awareness of equity and equality between both genders	Policies, Media, school programs, organizations assessments, TV programs, etc.	Better living for both genders in the town to increase productivity of improving the area.	Long term	All actors need to monitor gender equality based on their abilities which demands public participation.

Master plan of implementing alternatives:

The Figure 37 and 38 shows most of alternatives implementation visually for Alqush on a map.

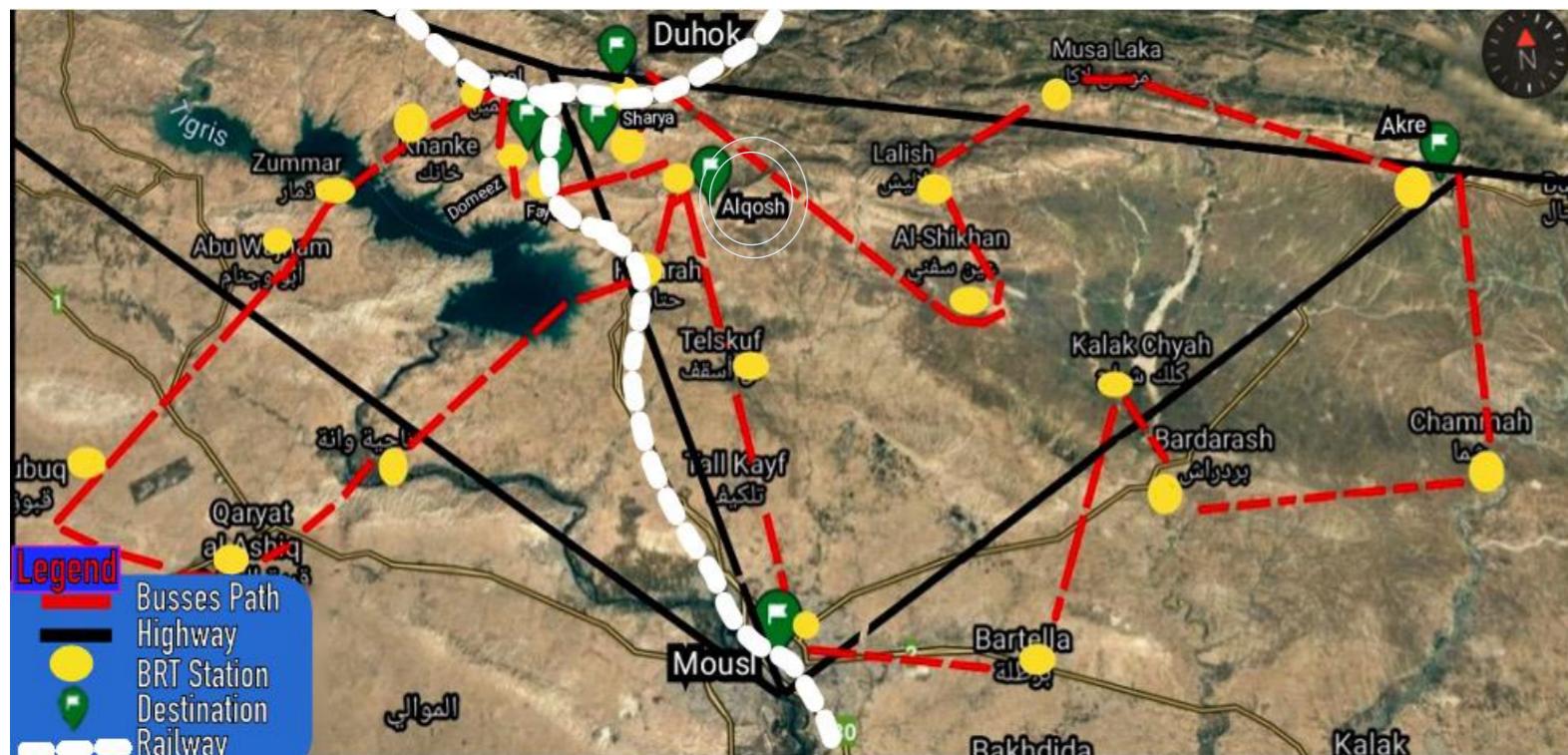


Figure 37, Buss Rapid Transit and Railway system of transportation

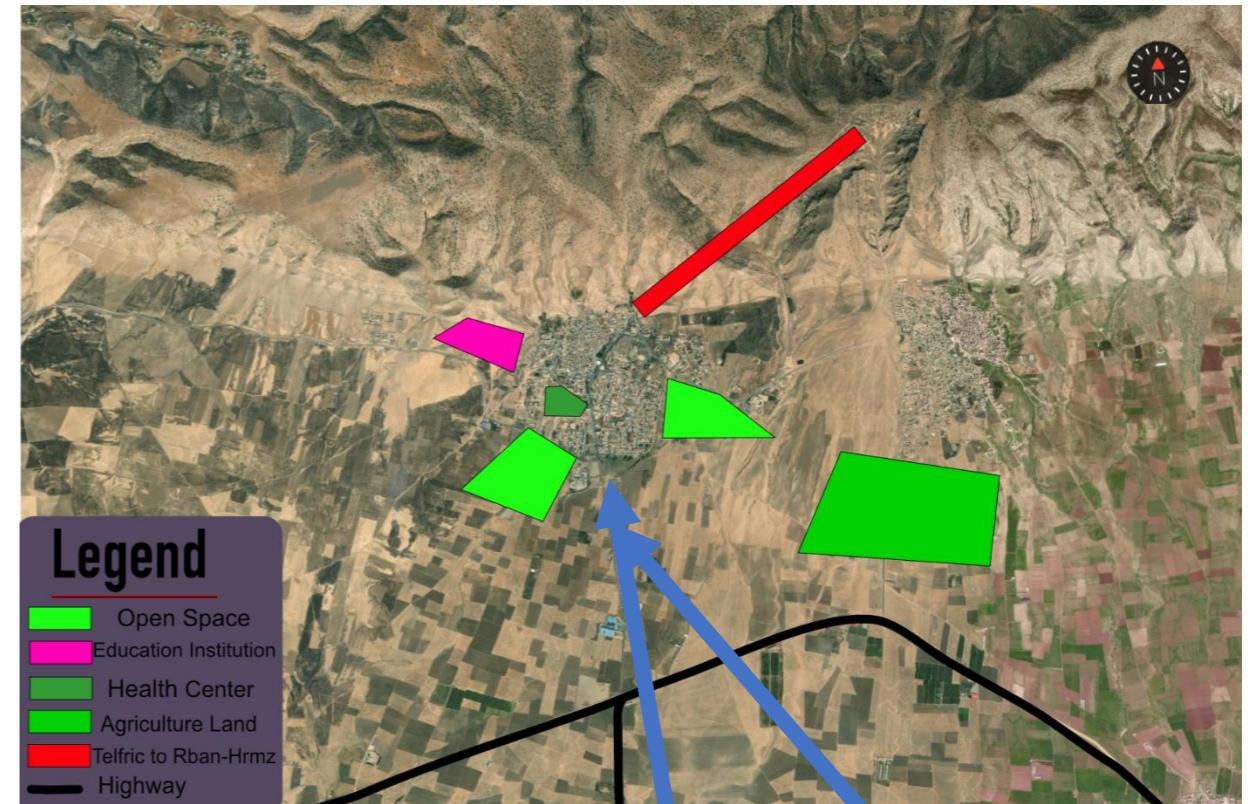


Figure 38, Alternatives implementations on map
Source, by group members



Figure 39, A buss in buss station
Source, <https://pin.it/aHvnzQU>



Figure 40, Railway station
Source, <https://pin.it/1Dat7oQ>



Figure 41, Plaza as open space
Source, https://commons.wikimedia.org/wiki/File:Plaza_Cruz.JPG



Figure 44, A Teleferic transport system
Source, <https://pin.it/1743mMs>



Figure 42, Bicycles road site on street.
Source, <https://newsroom.ucla.edu/stories/13-improvements-that-make-ucla-a-bicycle-friendly-university>



Figure 43, Sidewalks of street.
Source, <https://nacto.org/publication/urban-street-design-guide/street-design-elements/sidewalks/>

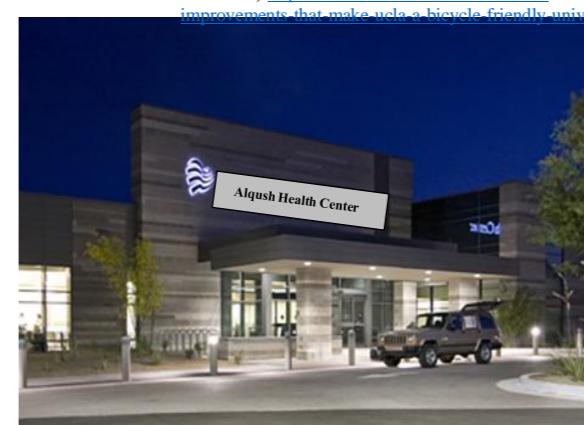


Figure 45, A health center
Source, <https://www.bannerhealth.com/locations/maricopa/banner-health-center-maricopa>

Conclusion:

Alqush is a village in Nineveh governorate of northern Iraq as a sub-district of Tel kaif district. Alqush has many different problems including lack of jobs, information about the area, neglected tourism places, deficiency in healthcare system, and some other problems. This research sit different goals and evaluate different alternatives to improve the livability, economic conditions, socio-cultural issues, environmental problems, and demography of the area. Also, this research recommended improving the area by boosting economic conditions by protecting religious valuations areas, make BRT and railway for transportation, making small hotels, and some other suggestions. Also, improving social cultural life by public awareness programs, build health centers, education institutions, and cultural museum. In addition, improving environment of the area by policies, perfect sidewalks, bicycles lines, and planting more trees. Finally, studying demography of the area to make better decisions for economy, environment, and socio-cultural life.

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