



**Project title:**

**Planning an agricultural university**

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## اهداء

قال تعالى " يرفع الله الذين آمنوا منكم والذين أوتوا العلم نزهات الحمد الله الذي وفقنا لتثمين هذه

الخطوة في مسيرتنا الدراسية اهدي ثمرة جهدي ونجاحي إلى بسملة الحياة وسر الوجود وإلى

معنى الحب والحنان ابي وأمي حفظهما الله وأدامهما نوراً لدربي...

إلى من شاركوني لحظات السعادة و الضيق، إلى السند الأبدي، إلى أختي وأخواتي إلى من

كانوا يضيئون لنا الطريق ...

إلى من قضينا معهم أجمل لحظات العمر .. وإلى من كانوا في وقت ضيقنا ليترجموا معاني

الصدقة الحقيقية، إلى رفاق الدرب أصدقائي الأعزاء...

إلى كل من علمنا حرفاً في كل مراحل دراستنا الأساسية والجامعية ..... إلى معلماتنا و إلى

جميع دكاترتنا الكرام ممن لم يتوانوا في مد يد العون لنا...

إلى كل من وقف معنا ودعمنا و لو بكلمة خلال مسيرتنا الجامعية....

راجيين من الله تعالى أن يثبتنا ويقوينا في عهدنا لكي نبقى مخلصين وشاكرين...

إلى روح شهداء فلسطين، إلى أبطال الصمود في سجون الظلم....

إلى العيون العالمة بالوطن والدولة والهوية...

إلى كل من يتمنى لنا التقدم والسير من نجاح إلى نجاح نهديكم جميعاً هذا العمل المتواضع

ونسأل الله أن يجعله في ميزان حسناتنا والحمد لله رب العالمين

## الشكر والتقدير

(وَاللَّهُ أَخْرَجَكُمْ مِنْ بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْئًا وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ  
وَالْأَفْئِدَةَ لَعَلَّكُمْ تَشْكُرُونَ)

[النحل: 178]

أولا نشكر الله العلي القدير الذي أنعم علينا بنعمة العقل والدين ونحمده حمدا كثيرا يليق بجلاله  
وكمال صفاته الذي وفقنا وأعاننا على إتمام هذا البحث، ونصلي على من لا نبي بعده، معلم هذه  
الأمة ومرشدها.

كما لا يسعنا إلا أن تعض بأسمى عبارات الشكر والتقدير الدكتورة زهراء زواوي والدكتور علي  
عبد الحميد للذان أشرفا على هذا البحث وكان لهم نعمه الأثر في إعداد هذا البحث أدامكم الله.

بعد اما نشكر كل من جعل بيننا وبين المعرفة نسياء، وبين الصدق سبيبا، وأشعر قلبنا عز الحق،  
وطرد عنا ذل اليأس، وعرفنا ما في الباطل من الذلة، وما في الجهل من القلة

. . كما تقدم بالشكر الجزيل لكل من أسهم في تقديم يد العون لإنجاز هذا البحث وخص بالذكر  
المهندس صلاح شخشير والمهندسة الاء حبيبة والمهندس صالح قناز ع لما قدموه لنا من جهد  
ونصح ومعرفة طيلة انجاز هذا البحث.

والى أستاذة قسم التخطيط العمراني الكرام الذين ساهموا في إنجاز هذا البحث

إلى من قدموا لنا المساعدات والتسهيلات والمعلومات

لهم منا كل الشكر...

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distribution of services:**

## **1. Introduction**

University education is an important key element in supporting human development around the world. As the need to develop this sector increases, the concept of university cities has emerged. This section highlights some of the basic concepts relating to the origin and types of cities. The concept of a university city will be discussed in several respects and we will also analyze the stages of development of these cities and some concepts and theories relating to them.

## **2. The importance of university education for the individual**

### **1-Support for human development:**

University education is an important key element in supporting human development around the world. as it provides the individual with the basic skills needed for the labour market, It also provides necessary training for all individuals of different specialties where all individuals who have been trained can develop

and improve the analytical ART and ore ART, which would drive the local economy, support civil society, in addition to increasing the ability to make necessary decisions that affect the entire community.)

(الدليمي)Source: Importance of university education (Talal Mashaal .(

## **2-Job Creation and Income Increase:**

University education helps to get the individual more jobs compared to secondary, and his or her ability to Ed Ark how to do things, and he or she will always need no aerosol to succeed will evolve, which is priceless.) Source:

Importance of university education (Talal Mashaal.(

## **3-Enhancing self-esteem:**

The completion of one's university education not only prepares one to deal with the mental challenges of life, but also makes it more comfortable and helps university education increase one's self-confidence and add different social and practical experiences, as it will need to apply what he has learned in various matters of his life.

(الشيخ, 2019)

## **3. History and emergence of universities:**

Initially humankind was known as the umbrella in Greece, Persia, India and Egypt, and among the most famous Greek scholars of the 4th century BC was Plato and Aristotle. One of the first is known for and attributed to his academy. It is perhaps the first scientific society in the right sense, and it is also attributed to a place called "Academia" in the northwest of Athens, sold by Plato, where he has been dumping his students since 387 BC. It has included mathematics, dialects and political science.

The world's first modern university, the University of Villagers in Fez, Morocco, emerged in the ninth century and was followed by Al-Azhar University, founded by the Fatimids in Cairo, Egypt, which gained wider prominence. Constantinople College in the Byzantine Empire is the oldest higher education institution in history.

The oldest university in the modern concept of higher education is the University of Bologna. The university as an institution of higher education dates back to medieval universities so that universities are a Christian conquest, and historian Jeffrey Balini considers that the university has become a hallmark of Christian civilization.

The first universities associated with the Catholic Church began as a cathedral school or a monk school and then soon separated as the student population increased and from these universities was the University of Bologna University of Paris, University of Oxford, University of Modena, University of Valencia, University of Cambridge, University of Montpellier, University of Toulouse, University of New Orleans, University of Siena, etc. in which all subjects such as philosophy, law, medicine and natural sciences were taught. These universities were placed under the auspices of the Catholic Church following a papal document. Catholic-Protestant competition contributed to the construction of universities and educational institutions, leading to a recovery and upgrading in education, science and thought.

(الدمرداش، 1997)

#### **4. The role and relationship of universities in the development and development of society:**

Development is an essentially dynamic and constructive process that occurs as a result of human interaction with a wide range of environmental functional variables with a view to maximizing the investment of society's resources and components. Development depends on several factors, including:

Capital, natural resources, technical progress and political, social, cultural and economic conditions, and the degree of awareness of individuals on the human forces required by society. Development needs are not limited to the material requirements of projects;

Since all developed and developing countries strive to achieve their development goals and provide better services at all levels, no one will lose sight of the important role played by universities:

1. Provide the society's development needs and processes with specialists in various fields of development
2. They represent the basic center's of scientific and applied research without which it is difficult to make any real knowledge, economic or social progress.
3. Contributing to inclusive development with the potential and expertise of their communities for continuous education and training
4. Higher education that provides the methods by which contemporary intellectual trends are assessed.

5. Produces cadres that contribute to States' policymaking and also contribute to or criticize political decision-making

Source: Universities' role in community development/development. Sajid Sharq(.

In view of the fact that development projects depend to a large extent on the provision of their individual needs according to the required skill levels, effective real development is not limited to one aspect but to another.

The overall concept of development emphasizes that it is the combined process oriented towards transformations in economic and social construction and is intended for economic and social development, as defined by UN-Women:

(Growth and change in which all aspects of the 9 of economic and social activity are integrated, encompassing all actions, means and methods to increase production of available and adequate economic resources to raise the individual's and society's standard of living while organizing development processes in an efficient and equitable manner and making the best use of economic and human resources).

The progress in any of the economic and social spheres enhances opportunities for progress in the rest of the spheres and promotes opportunities for greater prospects and better standards of life. This demonstrates the importance of integrating economic, social, political and administrative development to ensure that the best different benefits of the development process are reaped in the light of available resources (Sadiq, 1406e)

Inclusive development and university education, such as those of human beings, meet as their focal points. University education addresses and integrates human personality in all its aspects.

and development addresses society in all its aspects and seeks to allow it to progress in return. Development plans affect the university system in order to be closely linked between university education and development on the one hand, Development plans need trained manpower capable of achieving development goals on the other hand. " Source: Extent to which university scientific research contributes to the promotion of local development.

The success of comprehensive development depends on the effectiveness of planning in the development of human resources, since its creativity is an essential factor in the development process as the first productive element, as confirmed by numerous studies conducted in the industrialized countries. (الشيخ, 2019)

## **5. Agriculture:**

### **A-Introduction**

Agriculture is one of the main economic activities contributing to the national economy food security is linked to national security, and food security depends primarily on the provision of food from local agricultural production The development of the agricultural sector contributes to the diversification of the economy, the alleviation of poverty and the improvement of the balance of trade. In other words, the development of the agricultural sector contributes to the fight against unemployment, the reduction of imports, the development and advancement of society and the strengthening of the national economy.

As well as being safer and more reassured about the health of the consumer than the importer The development of the agricultural sector has a positive impact on improving environmental realities.

## **B- importance of agriculture in development**

### **1-Concept of Agricultural Development**

Rural development is inherent in agricultural development, which focuses on agricultural extension as an essential means of developing the agricultural sector; Agricultural aspect is an integral part of the concept of rural development, which is based on the importance of the community's participation in its various segments. Agricultural development can be said to be the optimal exploitation of the unit of land while maximizing the return on its exploitation at the lowest possible cost. productivity ", i.e., reaching more than marginal productivity at the lowest cost per area, To this end, the crop composition suitable for the Earth's type and surrounding environmental conditions is no longer developed. production ", taking into account the social dimension, consumer taste so that there is a market for the disposal of products produced from the unit of the arena with production continuity and not being exposed to risk especially in the production process and the disposal of products.

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## **2. Concept of sustainable development:**

The term "sustainable development" has been used frequently in contemporary development literature. Sustainability is regarded as a rational and rational development pattern that deals with economic activities aimed at growth on the one hand and with actions to preserve the environment and natural resources on the other. The world is now convinced that sustainable development eradicates underdevelopment issues. The only way to ensure the viability of life in the present and future

(1995 FAO (Muschett, 2002)

Although the concept of sustainable development has been rapidly spreading since its inception, this concept remains ambiguous as a concept, philosophy and process. This concept is still interpreted in various ways by many. This concept was put forward through former Danish Environment Minister Brutland in 1987. Douglas has known sustainable development: is the process of development that meets the Amani and the needs of the present without jeopardizing the capacity of future generations for their needs

(Douglas, 2000).

### **c- Agriculture in Palestine**

The area of agricultural land is about 1,382,492 dunams. These agricultural areas are cultivated in all types of vegetables and field crops as well as in the orchards of fruitful trees. The livestock population varies from year to year and from season to season. Because of Palestine's distinctive location and the punishment of many human civilizations on its land, which has enriched them with biodiversity, where most species of natural plants and wildlife are found.

The sector is developing rapidly and exporting many products such as medical plants, as well as citrus, olives, tomatoes, spices and fruits. Agricultural products for roses and beans are important products for export especially for European countries where these products have undergone remarkable development.

According to the definitions of the Palestinian Ministry of Agriculture, Palestine is divided into five environmental agricultural zones:

The Sahel-Southern Governorates of Palestine: Stretching from north to south on the shores of the southeastern Mediterranean, it is called Palestine's "fish basket".

Sub-Coastal Zone - North West Region of West Bank: Includes Jenin, Tulkarm and Qalqilya governorates. This area receives the largest share of the annual rainfall rate.

High Middle Area: stretching from Jenin North to Hebron South.

Plain area: extends from East Jenin to the Dead Sea in the South and is considered a meadow.

El Ghawar (west of the Jordan Valley).

Results of the 2021 agricultural census:

94% of the area of agricultural holdings in Palestine is cultivated.

The area of agricultural holdings in Palestine amounted to about 1.21 million dunums as on 01/10/2021, of which 1.14 million dunums were cultivated in permanent crops (tree gardening), temporary crops (vegetables and field crops), temporary meadows, pastures, temporary towers, permanent meadows and pastures, accounting for 94.2% of the area of agricultural holdings. The area of uncultivated land was 70,671 dunums (buildings used for tenure, forest and forest trees, and other spaces such as parks, squares and corridors) and 82 dunums for fish farming. 19% of Palestine's total area is cultivated.

The total area cultivated in Palestine was 18.9%, 18.5% in the West Bank and 24.6% in the Gaza Strip. At the governorate level, the highest percentage of the total area of land cultivated in Jenin governorate was 49.4%, followed by Qalqilya governorate with 35.1%, followed by northern Gaza governorate and Tulkarm governorate with 34.4% and 34.0% respectively.

26% of the area under cultivation in Palestine is in Jenin Governorate.

The total area cultivated in Palestine during the 2020/2021 agricultural year was approximately 1,096.3 thousand dunums (including 89.4% in the West Bank and

10.6% in the Gaza Strip), compared to 911.6 thousand dunums during the agricultural year 2009/2010 an increase of 184.7 thousand dunums. At the governorate level, the highest area under cultivation is 281.2 thousand dunums, 25.6% of the total area under cultivation in Palestine, and the lowest percentage of area under cultivation is 10.3 thousand dunums, 0.9% in Jerusalem governorate, during the agricultural year 2020/202

) Statistics(2021 ‘

## **D- Agricultural education in Palestine**

Agricultural education in Palestine plays a crucial role in the development of the agricultural sector and the overall economy. It focuses on imparting knowledge and skills related to modern agricultural practices, sustainable farming methods, and agribusiness management. Here are some key aspects of agricultural education in Palestine:

1. **Institutions:** Several institutions in Palestine offer agricultural education and training programs. The main institution is the Faculty of Agriculture at An-Najah National University in Nablus. This faculty provides undergraduate and postgraduate programs in various agricultural disciplines.
2. **Curriculum:** The agricultural education curriculum in Palestine covers a wide range of subjects, including agronomy, horticulture, plant protection, animal science, agricultural engineering, soil science, agricultural economics, and rural development. The curriculum emphasizes both theoretical knowledge and practical skills.
3. **Practical Training:** Agricultural education in Palestine includes practical training components to ensure students gain hands-on experience. This practical training often takes place in the form of internships, field visits, and research projects. It helps students apply theoretical knowledge to real-life agricultural situations.
4. **Research and Innovation:** Agricultural education institutions in Palestine focus on promoting research and innovation in the agricultural sector. Faculty members and students conduct research projects to address local agricultural challenges, develop new technologies, and improve farming practices. This

research contributes to the overall knowledge base and supports the advancement of the agricultural sector.

5. **Extension Services:** Agricultural education institutions collaborate with governmental and non-governmental organizations to provide extension services to farmers and rural communities. These services include workshops, training programs, and advisory support aimed at improving agricultural practices, enhancing productivity, and promoting sustainable farming techniques.
6. **Partnerships and International Cooperation:** Agricultural education institutions in Palestine often engage in partnerships and collaborations with international organizations, universities, and research centers. These collaborations facilitate knowledge exchange, capacity building, and the adoption of best practices from around the world.
7. **Challenges:** Agricultural education in Palestine faces various challenges, including limited resources, political constraints, and restricted access to agricultural lands due to the Israeli occupation. These challenges can affect the ability to provide comprehensive agricultural education and hinder the development of the sector.

Despite these challenges, agricultural education in Palestine plays a vital role in training the next generation of agricultural professionals, promoting sustainable practices, and contributing to the overall development of the agricultural sector. It aims to enhance food security, improve livelihoods in rural areas, and create opportunities for economic growth and self-sufficiency in the Palestinian territories.

## **E -Constraints on Agricultural Production**

The loss of large stretches of agricultural land, after 1967, due to land confiscation and closures, and limitations on water supply and product markets, has led to a substantial decline in the production of this sector.

In 1967, Palestinian agricultural production was almost identical to Israel's: tomatoes, cucumbers and melons were roughly half of Israel's crop; plums and grape production

were equal to Israel's; and Palestinian production of olives, dates and almonds was higher. At that time, the West Bank exported 80% of the entire vegetable crop it produced, and 45% of total fruit production

(Hazboun, S., 1986).

The agricultural sector was hit hard after Israel occupied the West Bank and Gaza Strip. Thereafter the sector's contribution to Gross Domestic Product (GDP) in the Palestinian Occupied Territories declined. Between 1968/1970 and 1983/1985 the percentage of agricultural contribution to the overall GDP in the West Bank fell from 37.4-53.5% to 18.5-25.4% (UNCTAD, 1990). The labour force employed in this sector has also declined. Between 1969 and 1985, the agricultural labour force, as a percentage of the total labour force, fell from 46 to 27.4% .

(Kahan, D., 1987).

There has been a continuous decline in the Palestinian cultivated areas in the West Bank since 1967. In 1965, before the Israeli occupation, the actual cultivated area was estimated at 2,435 km<sup>2</sup> (Al-'Aloul, K., 1987). The total area fell to 1,951 km<sup>2</sup> in 1980. In 1985, the cultivated area reached 1,735 km<sup>2</sup>, and in 1989, it was 1,706 km<sup>2</sup> (UNCTAD, 1990). The average of actual cultivated land in the West Bank, between 1980 and 1994 was 1,707 km<sup>2</sup>, a reduction by 30% of the area cultivated in 1965.◆

Marketing of farm products and their distribution to local and external markets is one of the major obstacles facing Palestinian farmers. Throughout the occupation years, selling Palestinian agricultural products within Israel requires special permits to be issued by the Israeli authorities. Transporting products from north to south in the West Bank has become difficult as well, especially after Israel enforced a closure on East Jerusalem, the main road connecting northern with southern parts of the West Bank. Movement of agricultural products between the West Bank and Gaza Strip is also subject to Israeli control.

The Gulf War in 1991 has also severely affected Palestinian agriculture, since the bulk of exports were previously sent to Arab Gulf countries. Palestinian exports to the Gulf

States had previously accounted for approximately \$25.4 million per year. As a result of the war, Palestinian exports fell by 14%.

Israel has restricted Palestinian water usage and exploited Palestinian water resources after occupation. Presently, more than 85% of the Palestinian water from the West Bank aquifers is taken by Israel, accounting for 25.3% of Israel's water needs. Palestinians are also denied their right to utilize water resources from the Jordan and Yarmouk Rivers, to which both Israel and Palestine are riparian's. West Bank farmers historically used the waters of the Jordan River to irrigate their fields, but this source has become quite polluted as Israel is diverting saline water flows from around Lake Tiberias into the lower Jordan. Moreover, Israeli diversions from Lake Tiberias into the National Water Carrier have reduced the flow considerably, leaving Palestinians downstream with little water of low quality.

In Gaza, the coastal aquifer serves as its main water resource. Other Gazan water sources, such as runoff from the Hebron hills, have been diverted for Israeli purposes. The Gaza strip, which housed only 50,000 people before 1948 is now one of the most densely populated regions in the world. This is the result of the high levels of forced immigration following the 1948 and 1967 conflicts, and the high rate of natural population increase. Gaza's coastal aquifer is now suffering from severe saltwater intrusion.

With regard to total water consumption, an Israeli uses 1959 cubic meters per year (CM/year), compared to an average Palestinian use of 238 CM/year.

Israeli restrictions have drastically limited the irrigation of Palestinian land so that today only 6% of the West Bank land cultivated by Palestinians is under irrigation, the same proportion as in 1967. By contrast, about 70% of the area cultivated by Jewish settlers is irrigated.

**6.**

## **7. University**

The planning and management of a university's campus are tied to the city's urban context. Knowledge cities, on the other hand, provide the necessary physical and social infrastructure to support the development of university campuses. Due to these conditions, today's university campuses can establish a unique relationship with the city.

The first condition is that the university's activities are accommodated in a large spatial area. This condition allows the campus to be regarded as a real estate object that can be divided into two levels.

According to [De Jonge, Arkesteijn, Heijer, De Vries, and Putte, in 2007](#), the university campus can be regarded as a real estate object because it is situated in an urban area. Also, it forms part of a larger urban context.

[\(De Jonge, Arkesteijn, Den Heijer, Vande Putte, & De Vries, 2007\)](#)

The design, function, and quality of the university's physical settlement are some of the factors that can influence its relationship with the city. Its management also plays a significant role in the university's relationship with the city.

The second condition is the increasing role of universities in the development of the knowledge economy. Due to their educational mission, they are becoming more involved in the development of the knowledge economy than traditional place-based

institutions. According to Perry, Wiewel, and Menendez, in 2009, universities are becoming more focused on providing a comprehensive view of the world's complex knowledge. This is evidenced by the increasing number of research studies that show how the interaction between private and public sectors is becoming more important.

(Perry, Wiewel, & Menendez, 2009)

(Etzkowitz, 2008; Fernández-Esquinas, Merchán-Hernández, Ramos-Vielba, & Martínez-Fernández, 2010; Martínez-Fernández, Soosay, Vennu Venkata, Turpin, & Bjorkli, 2005)

This section aims to provide a comprehensive analysis of the various factors that can influence the strategic orientation of the university campus. It also explores the impact of urban context on campus development.

The section provides a framework for universities and cities to develop knowledge-based urban areas. It also explores the multiple actors that are involved in the development of such areas. This allows them to identify potential conflicts of interests and synergies among their stakeholders.

The selection of case studies from different socio-economic backgrounds supports the idea that the development of knowledge-based urban areas can be influenced by the varying conditions in different countries.

### ***Positioning Universities in Cities***

The literature review on university campuses in urban context has identified five main roles that universities play in these areas. These roles are influenced by various factors that can affect the planning and management of the campus.

The role of universities in the city's economic growth is outlined. According to De Jonge and Heijer, as the economy shifts from industrial and agricultural to knowledge and services, cities are in need of new strategies to attract and retain corporations.

In addition to being able to provide a variety of services, universities also play a vital role in the city's economic growth by supporting R&D and education.

In 2004, Russo and Van den Berg noted that education plays a vital role in the city's economic development due to the various factors that affect its impact on the local economy. These include the availability of human capital and the direct interaction between knowledge centers and private firms. The latter is related to the exchange of information between knowledge centers and private firms in order to facilitate the dissemination of knowledge.

The presence of research and education facilities in cities is also associated with the intangible effect of education on the local economy. In 1983, Noyelle and Stanback noted that universities can stimulate the economy during times of recession. This makes universities an important part of the economic regeneration strategies of regions in transition.

## **❖ University City Design Standards**

### **Patterns of University Town Planning :**

There are many general conditions in the planning and design of universities that must be taken into consideration, and the following are some of them:

1. Develop an accurate and detailed program for the internal and external spaces at the university.
2. Knowing the exact detailed area of the buildings in the university.
3. The careful use and exploitation of buildings in the university.

### ❖ **Universities Planning Models :**

(قتلو، سويطي، و محمد، 2011) (Building World Magazine)

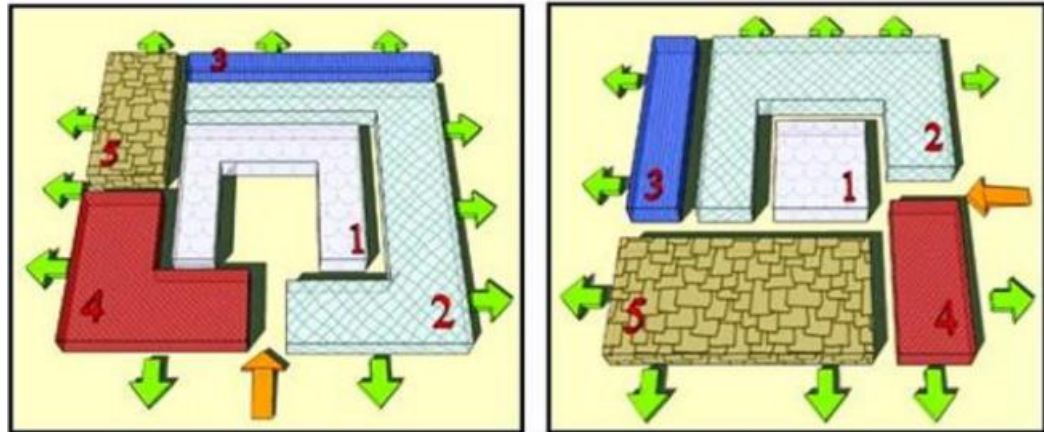
1. Central diffusion This system is characterized by low density growth with the spread of single buildings.

Public services are assembled in one location around which blocks and buildings are gathered, and all departments are accessed through the central area, with no more than 5,000 students in this system.

Universities with this system are usually designed outside cities.

Due to the closed composition of the central system, it does not allow for the possibility of future expansion. This method allows for the extension of the network from the middle to the outside, while maintaining the number of students below 5000. This increases the number of services provided by the university after the Main Service Center is established.

(Building World Magazine)



When the middle is as the main gathering space, and from it it is possible to distribute to the different sections

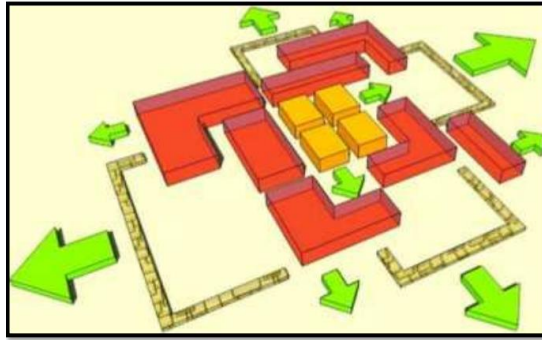
When the center is general services and joint teaching departments, and other specialized departments branch out from it

**2. separate design;**

This concept involves the buildings being divided into groups.

Each group has its own center, and there are various services and faculties that are required in each center. These services include laboratories, libraries, and restaurants.

This concept allows universities to be designed with the necessary facilities and easily communicate with their students. The buildings are connected by gardens, and the university center is separated from the others. This system can accommodate up to 10,000 students.



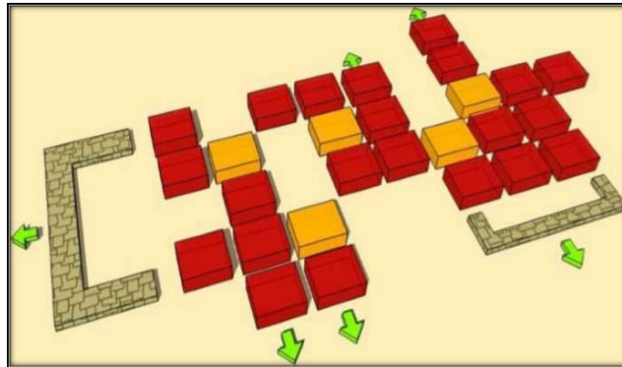
(Building World Magazine)

### **3-network planning:**

The concept of this system is that the various voids that are connected with each other are represented by a network of traffic paths that intersect each other in the four directions. This allows the project to extend its scope of operation more freely. In addition, this system does not take into account the central location of the public services.

This type of design is commonly used for educational projects, as it allows for the extension of the network used in planning, as well as for the establishment of a university in stages. Although the growth of the project is not defined, each stage of its development can be controlled and implemented according to the general system.

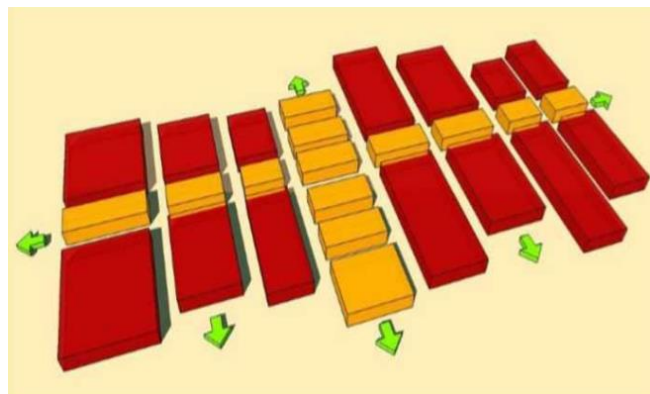
(Building World Magazine)



(Building World Magazine)

#### **4-Cross planning**

This system is used when the site is along a public street, in which the various public services are gathered in a center with the general line, from which buildings and blocks radiate from the center, and future growth and expansion takes place in the same direction in depth, and the site may be between two perpendicular streets, and in which the right angle is the center. From them, the rays that include the masses emanate. All public services, the central library, and the students' club are confined to the general line, from which the educational departments, workshops and research departments, sports departments, and all departments branch out.



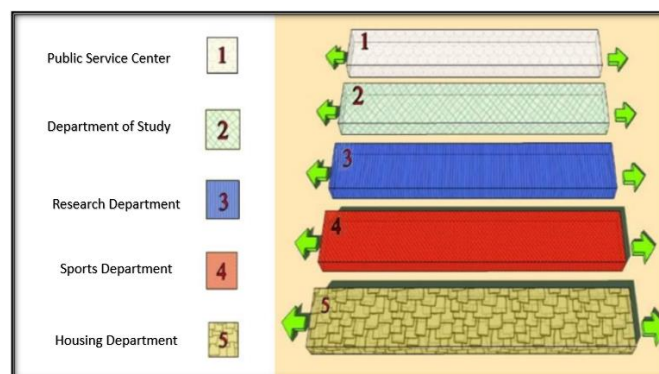
(Building World Magazine)

## 5-Longitudinal planning

This system is characterized by the high density of the extended buildings in one direction and is characterized by the existence of one main movement trajectory which is oriented longitudinal or broken, directly connecting with the university departments and branches, each containing its own secondary lines, and the public services are grouped straight in the middle, intersecting with the main movement trajectory.

This system is usually used to follow contouring lines and to highlight a particular view or to follow the basic structure of the city.

This system is easily accessible to all university procedures, with public services surrounded by building blocks either on one side or on both sides of the road.



(Building World Magazine)

## University Elements:

The educational environment consists of key elements associated with influencing the student's personality and buildings from the scientific curriculum, faculty and universities at all levels, support, and positive interaction between universities and students, students who skip the scientific, sporting and recreational activities that are supposed to be carried out at the university, prayer, restaurants, restaurants, Riyadh and the community.

The various components of a university city are designed to meet the needs of each country's scientific needs. They vary depending on the region where they are located and the requirements of the disciplines and sciences that are required to operate , **These components**

**include:**

(Al , Dulaimi)

### **First: Main Building**

It usually includes:

The university's building is the central hub of operations. It includes the university's administration, reception areas, and registration and enrollment facilities.

### **Secondly: administrative buildings for Different Colleges**

It is considered the most important component of a university. Its design can vary depending on the requirements of the disciplines it serves.

### **Third: Laboratory buildings and scientific research**

Numerous research facilities and laboratories are located in the city, and these allow scientists to conduct practical experiments. These facilities are also equipped with the necessary information to enhance the global development of their disciplines.

### **Fourth: Administrative buildings and conference rooms**

The university's administrative buildings and other facilities are also important components of the project's success. They play a vital role in coordinating the various activities of the university. They are designed to provide a conducive environment for the proper operation of the project.

### **Fifth: Service buildings**

In addition to these, the convicts also provide various services to the university's facilities. These include the establishment of restaurants, sports facilities, and spare electricity generators.

### **Sixth: student accommodation:**

This accommodation is for students who are studying in the university's city. It also provides them with the necessary services and accommodations.

## **Criteria for the establishment of campus**

### **university cities:**

(Killer, Sweti, and Mohammed, 2011))

#### **1) Site Selection:**

- 1.** The location of the University City project is very important to ensure that it will be successful. It is also important to consider the various factors that affect the project's success, such as the demographics of the population and the need for the project.
- 2.** The site is far from the noise of factories, workshops and traffic congestion.
- 3.** In addition to these, the University City project should also have a water supply and sanitation system, as well as a telecommunications network.
- 4.** The University City project's site is in line with the General National Plan. This ensures that the project will not contradict the archaeological and historical buildings in the area.
- 5.** The site area should also be commensurate with the project's design and planning requirements.

#### **3. Realizing movement requirements:**

The University City project has various access routes and axes of movement. These routes and axes are designed to accommodate different types of movement.

1-The project's secondary and main sieves should also be provided so that they do not interfere with the movement of students and other project elements.

2-establish central areas where all the project's components can gather to facilitate communication and movement

3-In addition to the usual requirements for mobility, such as from the elevators and slopes at the entrance to the building, the project should consider the needs of individuals with disabilities who have mobility problems at different levels.

#### **4. Parking**

When designing situations they must be planned to include the right number of cars in a way that fits the space and exploits it correctly

The number, nature and planning of car parks are properly studied by taking into account the direction of cars, pedestrian walkways and parking lots for persons with special needs.

#### **5. Scalability and flexibility in design**

The university city's planning should accommodate the needs of its growing community by allowing for the expansion of existing buildings or the addition of new

ones. This can be done through the use of flexible spaces. One of the most important factors that planners should consider is the flexibility of the buildings' design.

- A. **The design of the building should allow the extensions to be either anchored or horizontal. This can be done through a structural system that allows for flexibility in terms of both vertical and horizontal extension.**
- B. College buildings in the city should be designed with flexible construction methods to accommodate future expansion. This method can be used to change the internal spaces to accommodate different activities.
- C. One of the most important factors that planners should consider when it comes to designing a building is the reduction of barriers between the various departments. This can allow them to participate in certain areas.
- D. One of the most important factors that planners should consider is the orientation of the buildings and their intersection. This can allow for flexibility and future movement.

## **6. Study the functional relationships of project components:**

The functional relationships of the project components are studied by taking into account all functional aspects of the study, entertainment and promotion of the necessary complementarity between them

- a. The University City should create an integrated unit that includes colleges, service buildings, and recreational facilities. This will help harmonize the various elements of the campus.
- b. To facilitate access, the buildings should have strong functional relationships and be designed with similar functions. College buildings should also have varying educational functions, with the main focus being on the scientific atmosphere.

### **7. Lighting & Ventilation:**

Work to ensure that these features are available in all facilities and buildings of the University City by :

- studying the directions of buildings and distributing spaces.
- Not less than 20% of the classroom area.
- The window openings must be as opposite in the venue as possible.

### **8. Security and Public Safety:**

- 1- Provide Out of adequate safety, easy access and visibility
2. Use of sound and non-hazardous building materials
3. Provide all fire protection precautions and use building materials for fire prevention.

### **9. Green areas:**

Planning of green areas with no less than 10% of the campus area and ensuring that they are distributed in line with the built areas and the population's need.

- **Design criteria for university cities:**

The Ministry of Education in the Palestinians has established various standards and considerations when it comes to the planning and design of educational institutions. These standards are designed to ensure that the universities are designed to meet the needs of the country's educational and cultural environment.

**Organizing and Building Provisions for Colleges According to Palestinian Law:**

**1 .Land area:** The total land area on which the project is located shall not be less than 25 dunums.

**2-Regulations in accordance with Palestinian law:**

A. Percentage permitted for construction - 36% of land area

B. Upper floor ratio = 216%.

**3-University facilities and equipment:**

The number of students in each division should not exceed 43,The teaching hall should also be at least 48.

**1. Public rooms:** The College provides at least one public hall at least 150m<sup>2</sup>.

**2. Laboratories:** The laboratory area shall be at least 60m<sup>2</sup> at the rate of 3 m<sup>2</sup> per student and the number of students shall not exceed one division.

3. **Workplaces:** The operating area is at least 60m<sup>2</sup> at a rate of: 2 per student.
4. **Restaurant:** The allocated rooms are at least 150 and accommodate at least 10% of the total amount of students at the same time for the period.
5. **Stadiums:** Basketball, Football Stadium, Volleyball Court, Table Ball Hall, all as available.
6. **Medical clinic:** Allocate a room with appropriate space so that part of it is cut for the purposes of examination and inspection.
7. **Sanitation facilities:** 60 bathrooms for males, 60 bathrooms for females and toilets for the college's technical and administrative staff.
8. **Water Services:**Source of drinking at the rate of tap per 35 students and laundry per 10 students.
9. **Parking:** One car park for every 50 construction space.
10. **Bus stop:** One bus stop per 500m<sup>2</sup> of construction area.

**spaces used in University City Colleges:** (قتلو، سويطي، و محمد، 2011)

1. The stands have different spaces.
2. Teaching halls of all kinds (teaching halls, applied business halls, informatics halls)
3. University administration.
4. Sports towers.
5. University accommodation.
6. Surgical rooms in medical schools.
7. Service towers (restaurants, leisure premises, heating storage of cannula supplies).

## 8. Library

### **Site Selection Requirements:**

The University City's plot of land should be selected carefully. There are several factors to consider when it comes to choosing a suitable location, these is the most important criteria:

1. One of the most important factors that should be considered is the site's proximity to the transportation network. This will allow the project to be easily accessible from various parts of the West Bank.
2. Site space and future expansion: The site's size should also be considered to accommodate the project's various requirements.
3. The site's environmental impact should also be considered in order to avoid areas affected by harmful chemicals and other environmental elements.
4. Infrastructure so that on-site infrastructure of power lines, water and sewage systems is available
5. Natural ingredients The site should be natural ingredients such as topography, green flats and other year which earns the site a structural and formative value
6. It is also important that the land be subject to rental or permanent ownership. This will allow the project to be established on a scarce resource.

(Qatlo, Sweti, and Mohammed, 2011)

## **Case studies**

### **1. American University of Cairo**

Established in 1919, the American University in Cairo is a not-for-profit institution that provides specialized and free education. It aims to establish a framework that values the values and cultures of the Arab world. It offers postgraduate and bachelor's programs in various fields.

The university has continued to resist the development of its previous scheme, which led to it becoming a city with several specializations.

Through an architectural competition, the university was able to get the participation of various engineering firms. They were then tasked with developing the campus' general plan.

In 2001, the American University completed the master plan for the new campus.

Development of the old master plan won by Boston Design

#### **1-Public site:**

The site is located in the Eastern plateau of Cairo, which is part of the Moquattam range. This region rises from the Cairo shape and continues up to Suez Road. Its composition has a simple regression and is characterized by structural integration. It is also part of a variety of geologically integrated territories.

Although it's not a deep groove, the Akhnaoud's peak and bottom are different up to 8 meters. This region's climate is typical of the desert climate. The temperature difference between this area and Cairo, which is a nearby city, is also significant.



## **2-Design Thought**

One of the University's main objectives is that the design of the University be a pioneering experience for the development of the Sahara and that it serve as an example in the urban development of the city of New Cairo. It is in this spirit that a set of key design objectives has been developed.

## **3-Water Saving**

This is an important element affecting the design of green areas in the space available the American University project and represents an important determinant of the quality and intensity of the plants selected. In terms of a strategy, three basic sources of irrigation water supply have been identified, including treated wastewater and groundwater through wells drilled on site and finally the drinking water available from the city.

## **4-land scape**

The integrated role of girls at the site in view of the scarcity of water at the desert site in general in the use of water in the provision of open green areas must have multiple forces

Use of native plants

A booklet containing the preferred plants was created, and it was used on the site, with around 120 of them. A study was conducted on the religions involved to determine the flowers and leaves' color and shape.

Sensory and visual aspects

Besides the various forms of trees, shrubs, and climbers on the site, the use of smelly plants was also taken into account. These were mainly used in areas near the seating yards and the corset trails.

## **5-The transportation**

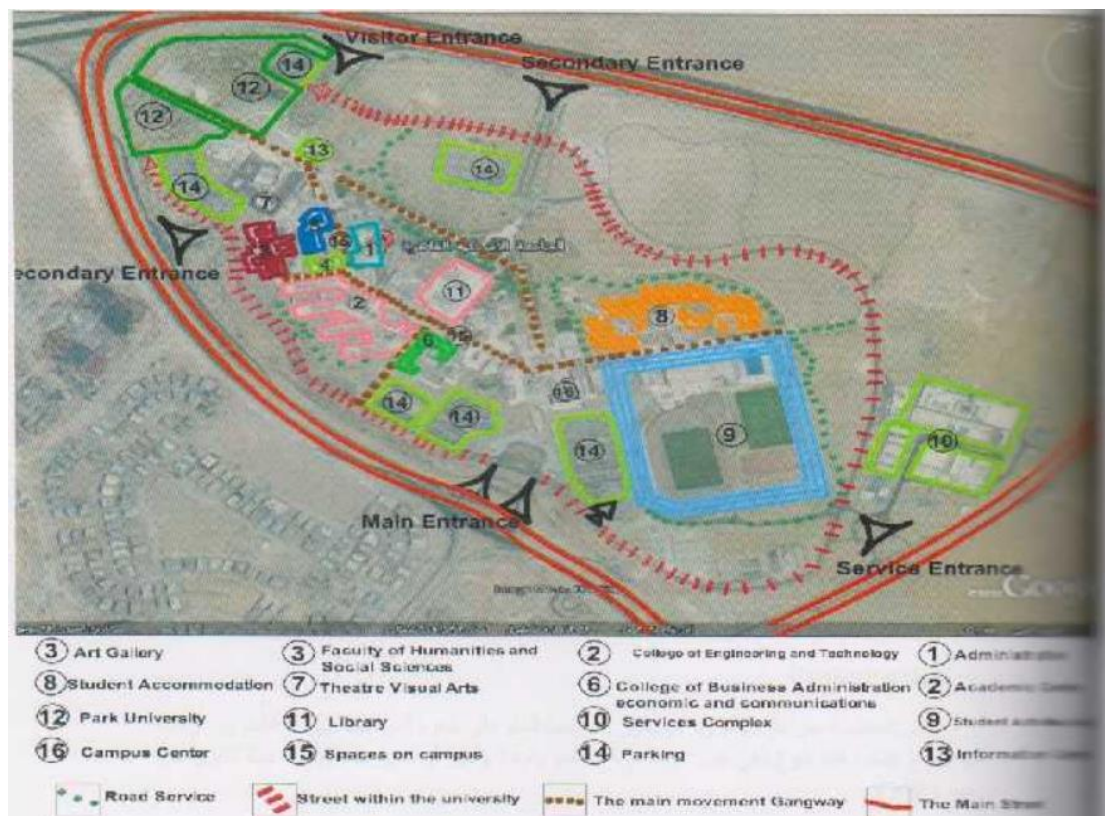
The transportation subscription is available to the university, as it is as follows:

Metro - bus – train

## 6-Project outline:

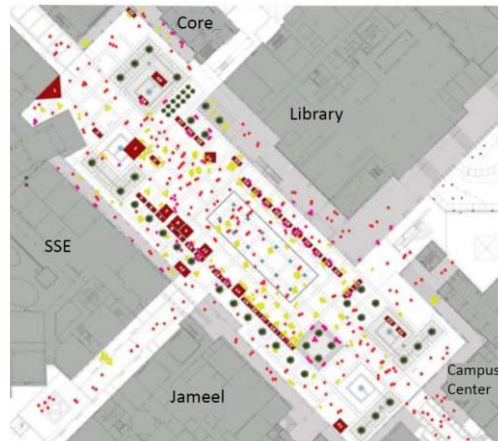
The university's new outline allows it to move its activities from its downtown location to the new campus. The project will provide the university with the necessary facilities for its various academic departments and programs. Some of these include the Public Library, the Research Center for Engineering and Sciences, the Library of Humanities, the Student Activity Center, the Meeting Rooms, and the Grand Ballroom.

The university has various facilities such as lecture halls, laboratories, student accommodations, and printing facilities.



## 7-Access and Mobility

The New Cairo campus has five entry gates whose access is restricted to AUC community or invited guests, with the exception of Gate 1, the visitors' gate, which provides public (yet monitored) access to the Admissions Office, the Sharjah Art Gallery, the Malak Gabr Theatre, and the Allam Amphitheatre, which holds several musical events during the academic year. The main five gates allow vehicular and pedestrian access to the university's parking facilities. Another security layer supplements this; eight pedestrian entry gates that enable access from the parking lots to the university's buildings, facilities,



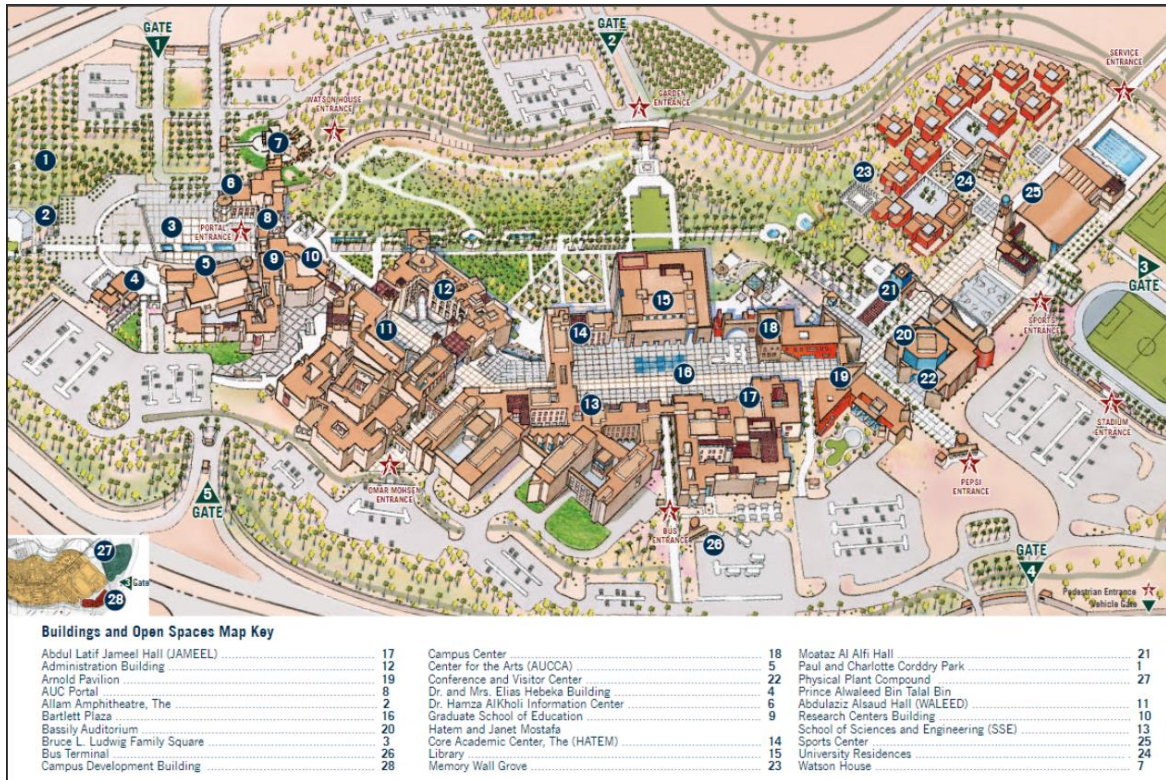
## **8-Students housing**

The student housing units include two parts, a part for males and a part for females, with a total area of 15,000 square meters distributed over three floors and in several models, which is similar to the small units found in small tourist villages. And within each unit its services necessary for daily living .

The main idea of student housing revolves around another concept that is far from being a mere hotel for students to stay in separate or grouped farms, but rather it is a group of small houses distributed in urban formations.

## **9-The spaces**

the Campus has only one open-air congregation space ,The plaza. The plaza connects the different buildings and facilities in the campus, namely the new and the old Falaki buildings, and the cafeteria. The seating area is heavily used by all campus users, particularly during the times of the day they are shaded. Users are either studying, socializing, eating or just waiting for their classes, individually and in small groups.



## 2. A Case Study of Duzce University Konuralp Campus

### 1- The location

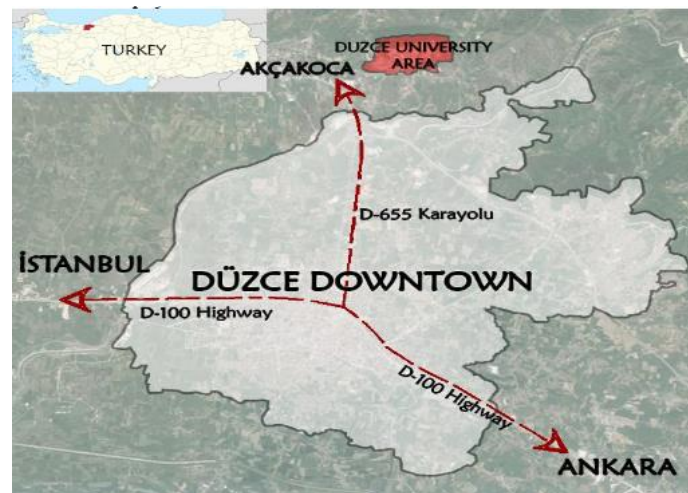


Figure 1. The location of Duzce and Duzce University area.

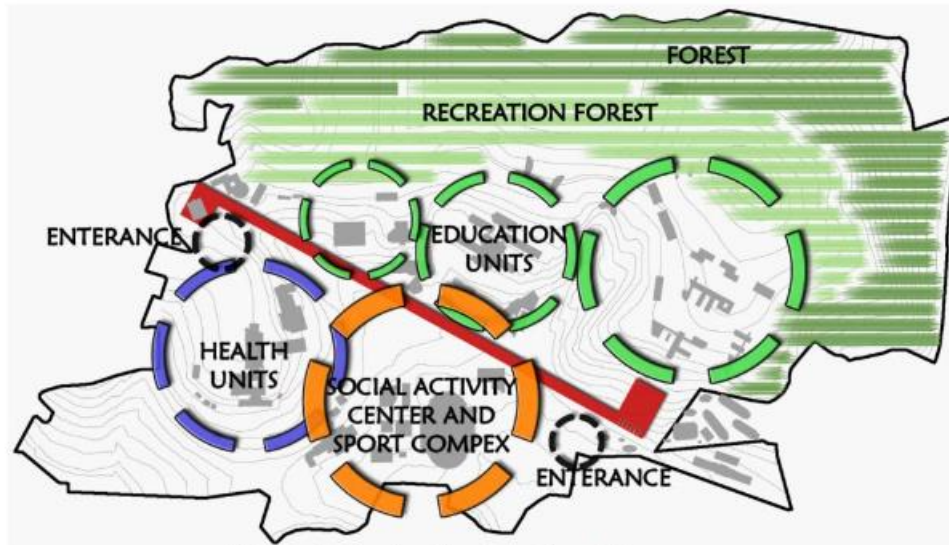


Figure 3. The locational zoning of the campus.

## 2-Locational Zoning

The utilized areas in the campus are evaluated under five titles. These are the followings; health units (hospital and other related units), education units (faculties, classrooms, labs), social activity centers and sport units (amphitheatre, library, square, ceremonial ground, campus path, students center and sport complex), recreation forestry and forest. The locational zoning of the campus and the land uses. It seems that as stated by Talon[ in order for university campuses to be self-sufficient, there should be other usable areas such as health, sports, library activities and outdoor use areas located in the study area.

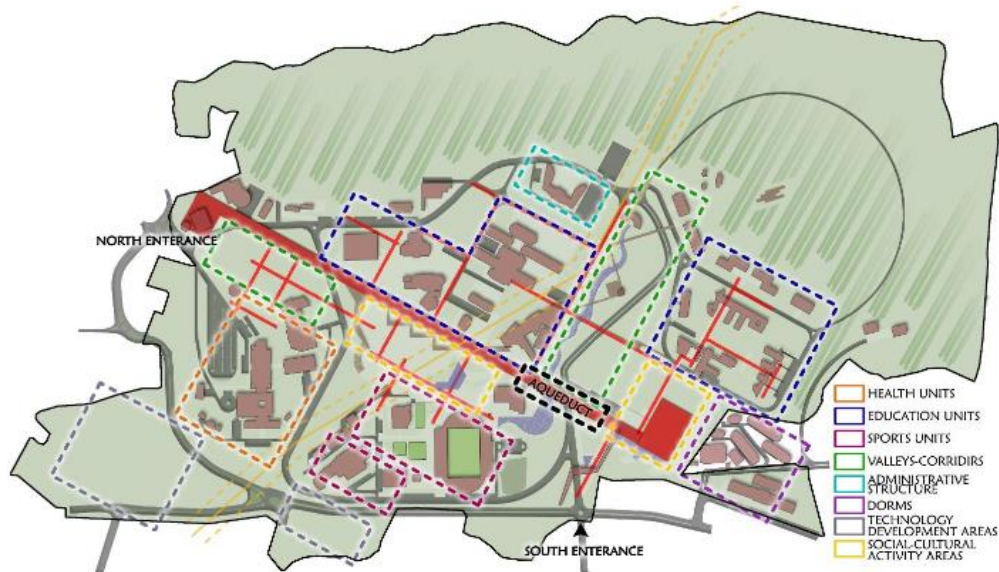


Figure 4. The land uses of the campus.

It is provided that all user groups have relations directly with main pedestrian axel (arched path). All the proposed education units are located on the north of arched path and square, students center, shops and library are located on the south of arched path.

### 3. Design Axels

The origin points which direct to design are the present positions of valley systems which are under protection and wind corridors and structural bodies. The orientations of these parameters have created base for axels and axels were integrated with main carrier spine (arched path). This spine became the main pedestrian axel due to its position (location) and functions. Closed, open and semi open locations are also created. The design axels was shown

### 4. Transportation :

The present entry on the south of campus area was protected and its construct was empowered. The basic origin in transportation creates a campus that has a dominant prior pedestrian transportation web. The transportation vehicles (car, bus, lorry, etc.) are blocked to enter the campus square and students' center. The faculties and other units are

reached from their surroundings. For this purpose a ring fed by southern and western entries of campus is routed. On the arched path where at vehicle and pedestrian traffics intersect, subways and overpass were designed. Thus pedestrian traffic is not prevented. On the other hand the accessibility of disabled, old people and children are supported. While determining the bus stop points for public transport the distance between bus stops are set 400 meter which is not more than five minutes on foot. The transportation idea.

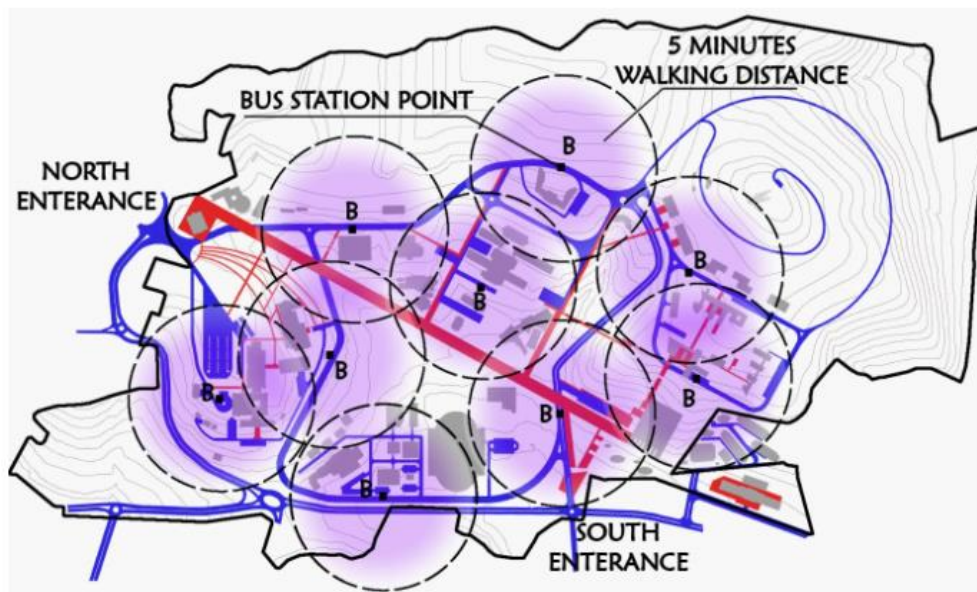


Figure 6. The transportation.

## 5. The concept:

Some researchers described the campuses as small cities. However, they have their own physical characteristics that are different from cities or towns.

A researcher stated that landscape is a major factor in defining the campus experience. It embodies cultural as well as aesthetic values. Designers and planners are challenged with identifying the spaces

that embody the essence of the campus, the “places of memory” that create emotional ties, and to preserve them for future generations. But the character of a campus is also defined by many less visible, and also highly valued spaces Matloob at all.

stated that, in terms of the comfort when using walkways, design qualities included walkway width, the potential of walking away from street, paving quality, separating pavement from street by plants and the protection from weather effects were resulted as significant factors. The origin point of design setup is the concern about planning the traffic by pedestrian paths. For this reason the priority of pedestrian was set as the main target. The capillary pedestrian path on vertical direction was integrated with arched path (horizontal main pedestrian axel).

The arched path is 25 meters width and cuts the campus on the axis of northwest and southeast. It is a sustainable, living pedestrian area.

The arched path starts from culture center and ends at the complex of the faculty of theology. It combines the culture center, education units, health bodies, sport complex and centers of art, business and social activity each other. The environmental design was created i.n the consideration that concerts and ceremonies would be held in this area.

There are also open, closed and semi closed social activity areas for concerts, ceremonies and festivals. While the whole social activity center becomes a big scene during a concert, the arched path serves as balcony since it is higher than social activity center.

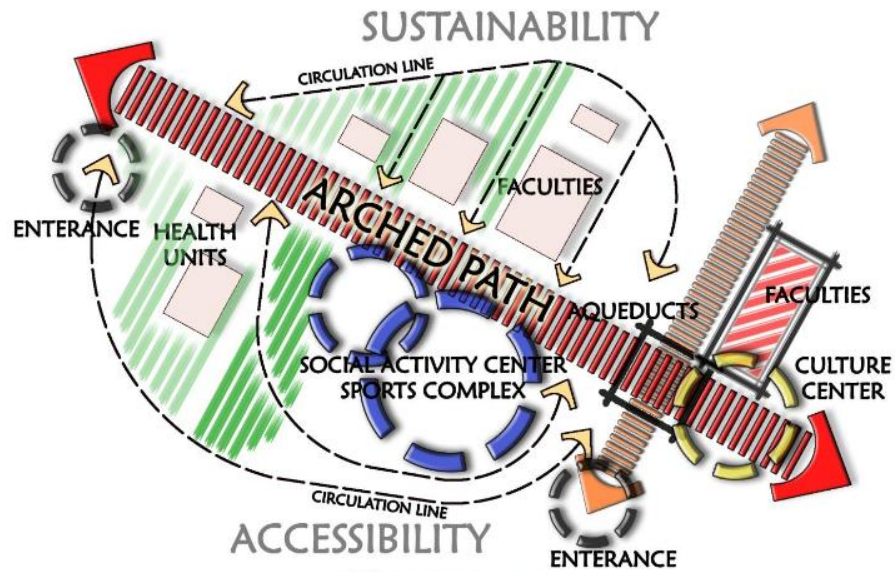


Figure 7. The concept plan.

It also has functions such as providing water float and traffic for vehicles and pedestrians under itself as well. On the social activity square amphitheatre was designed. Innovative and sustainable approaches were exhibited on the new products in the light of modern art perspective rather than representing history. The arched path and the amphitheatre were shown at Fig. 10. The images of social activity and student center with the arched path

## **Chapter 4:**

### **1. Introduction**

**The main objective of this chapter is to diagnose and analyze the realities of agriculture and universities in the study area. The chapter will begin by identifying the location and the justification for its selection. Diagnosis and spatial analysis of agriculture's various realities and impacts are then carried out in the West Bank, leading to the most important possibilities and opportunities for agriculture and the problems that need to be addressed. Finishing the classification of these areas, then identifying the best places to build on to choose the best location for the university.**

### **2. Project justification**

**Because of the increasing numbers of students and the associated various problems, the number of students in schools in the northern West Bank area reaches 297,732. According to the statistics of the Ministry of Education and 20017-2018, also because there are no agricultural colleges and universities except for a branch of Al-Najah University, there are no student colleges in the region and after universities in cities for students, In addition to the problem of transport between the surrounding cities and towns, as well as the lack of educational services, This is due, inter alia, to the region's political and financial situation. Parents can teach their children at lower costs, as well as the steady increase in the number of students enrolled in university. In 2023, the number of students is projected to reach 301,222, compared to the current number of 236,756, according to statistics from the Institution of Higher Education in the Homeland, West Bank and Gaza Strip. and therefore there is a need for more universities to receive new students and it has been proposed to establish an agricultural university, due to the shortage of institutions and colleges that support agriculture. in order to promote society, this project was therefore proposed.**

### **3. Study area:**

**This study will be conducted in Jenin Governorate with an area of 583 km<sup>2</sup> and constitutes a 09.% of the West Bank and Nablus Governorate, which is located in the north of the West Bank and has an area of 605 square kilometres and forms 10% of the West Bank. Specifically, I will specialize in the Central Ghawar area to choose the best location for the establishment of an agricultural university, which includes:**

**Al-Nasriyah - Al-Qarabaniyah - Beit Hassan - Ain Shibli**

**The Central Marshlands are regarded as important strategic and economic areas, containing fertile agricultural land and rich groundwater. It is also part of the West Bank's "Agwar" area, which represents the Jordan Valley, a low-lying area along the border with Jordan.**

**The region is a political focus, representing part of the disputed Palestinian areas of the Israeli-Palestinian conflict. There are Israeli settlements in this area, facing challenges related to Palestinian rights, economic development and Israeli settlement.**

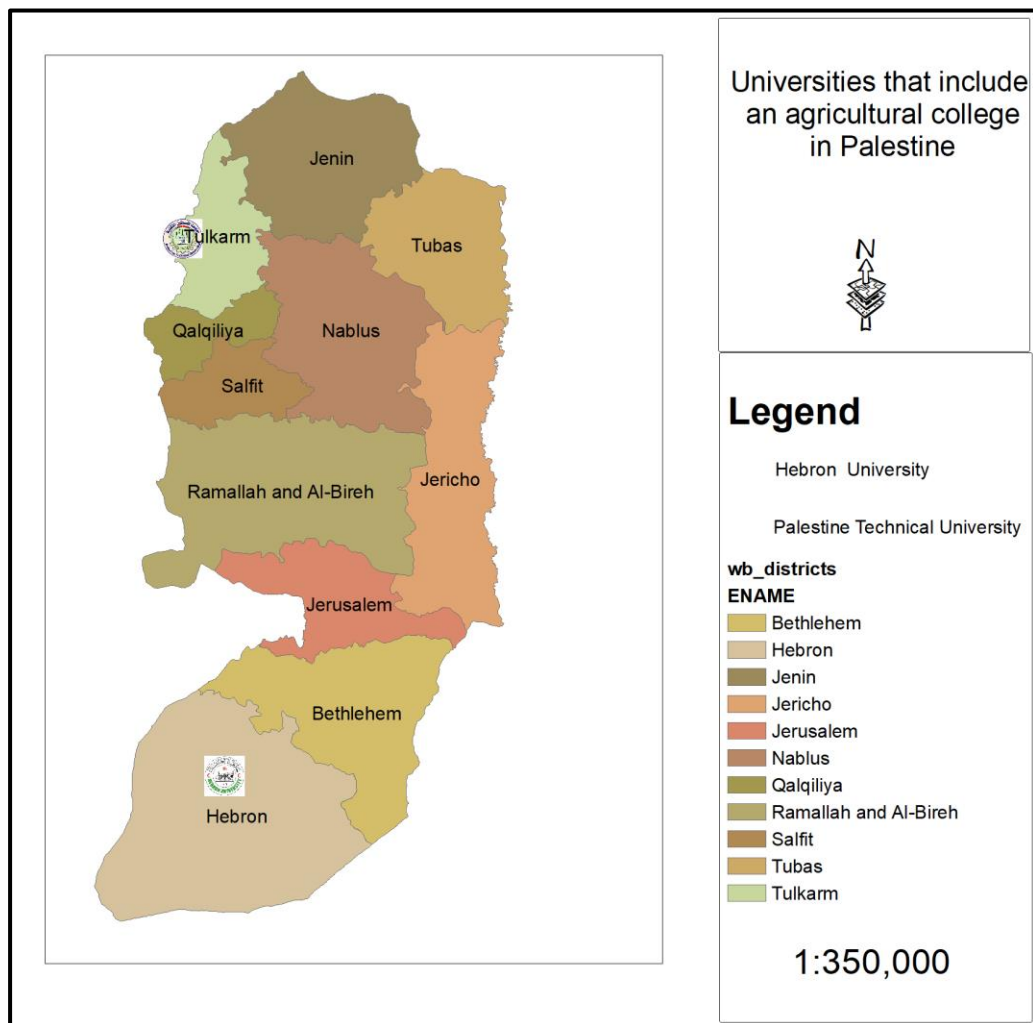
### **4. Justification for site selection:**

#### **a. Criteria for selecting the site at the regional level.**

**To choose the most suitable location for the campus at the governorate level, the criteria are as follows:**

- 1. number of educational institutions related to agriculture.**

The aim of the number of educational institutions is to find the governorate that suffers from a shortage of these institutions. The number of educational institutions at the bank level, whether university, college, school or even training centre, has been analysed, and then an assessment has been made to find the governorate that suffers from a shortage of these institutions. The following table shows the distribution of vocational education institutions at the bank level:



## 2. Number of students in education.

Knowledge of the number of students is an indicator of the proportion of students attending education in each governorate. The number of students is determined from the general secondary to the university stages of each governorate to determine the direction of students in each governorate. The following table shows the number of students per governorate.

Jericho	Tubas	Salfit	Qalqilya	Tukaram	Bethlehem	Jenin	Ramallah	Nablus	Jerusalem	Hebron	
4268	8371	10855	12846	28780	28834	41406	49457	56692	46272	73523	Number of students
1729	3886	4797	6046	13504	12538	21497	21391	25510	19798	33996	males
2539	4485	6058	6800	15276	16296	19909	28066	31182	26474	39527	Females

**Hebron, Nablus, Ram Hilla and Jenin had the largest share in the student population.**

### **3. Unemployment rate**

**The vocational university contributes to reducing the unemployment rate in society by providing the community with a professional cadre in various specializations.**

**The following table shows unemployment rates in the Bank's governorates:**

Jericho	Tubas	Salfit	Qalqilya	Tukaram	Bethlehem	Jenin	Ramallah	Nablus	Jerusalem	Hebron	
10.4	11.9	14.4	14.1	15	13.5	13.6	8.5	11.9	15	15.8	Unemployment rate

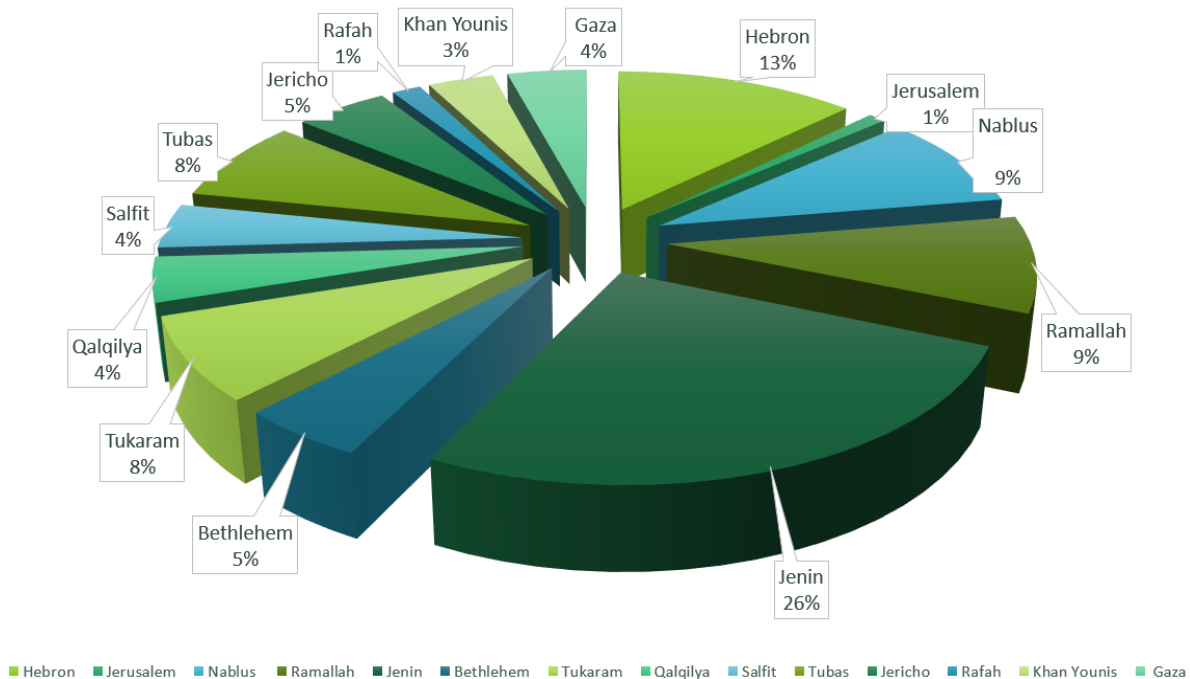
**After finding out the unemployment rates, an assessment was made to determine the governorate with a high unemployment rate in order for the university to contribute to reducing this rate in the future.**

**This shows that Hebron, Qalqilya, Salfit and Jenin governorate have the largest proportion.**

### **4. Availability of agricultural area**

**This criterion is aimed primarily at measuring the amount of space allocated for agricultural uses in the structural schemes of each governorate, which is thus evidence of the importance attached to this sector in each governorate.**

The following figure shows the area allocated to agricultural areas in each governorate:



This shows that Hebron, Nablus, Ramallah and Jenin governorate have the largest proportion.

The governorates of Jenin and Nablus are best suited to the establishment of an agricultural university based on the criteria previously mentioned.

b. Criteria for selection of location at the governorate level. Basic criteria have been established for determining the appropriate location of the campus in Jenin Governorate:

1. high-value agricultural land.
2. Topography and Milan.
3. Services and infrastructure.
4. Distance from sources of pollution
5. Land use and ownership.
6. Far from settlements.
7. Be away from built-up areas

**Second: topography and inclination**

**the main objective of this criterion is to create areas where the ratio of two miles varies between (5-10) in Jenin governorate, based on the universities' design manual.**

**Third: Services and infrastructure.**

**The main objective of this criterion is to have the campus site connected to an easy connecting network in addition to infrastructure services such as water, electricity and sanitation.**

**Fourthly: Distance from sources of pollution.**

**the main objective of this criterion is to find a site for the campus in Jenin governorate away from the sources of pollution, mainly in the flower dump and stone crushers, which are the main source of pollution .**

**Fifth: Land use and ownership.**

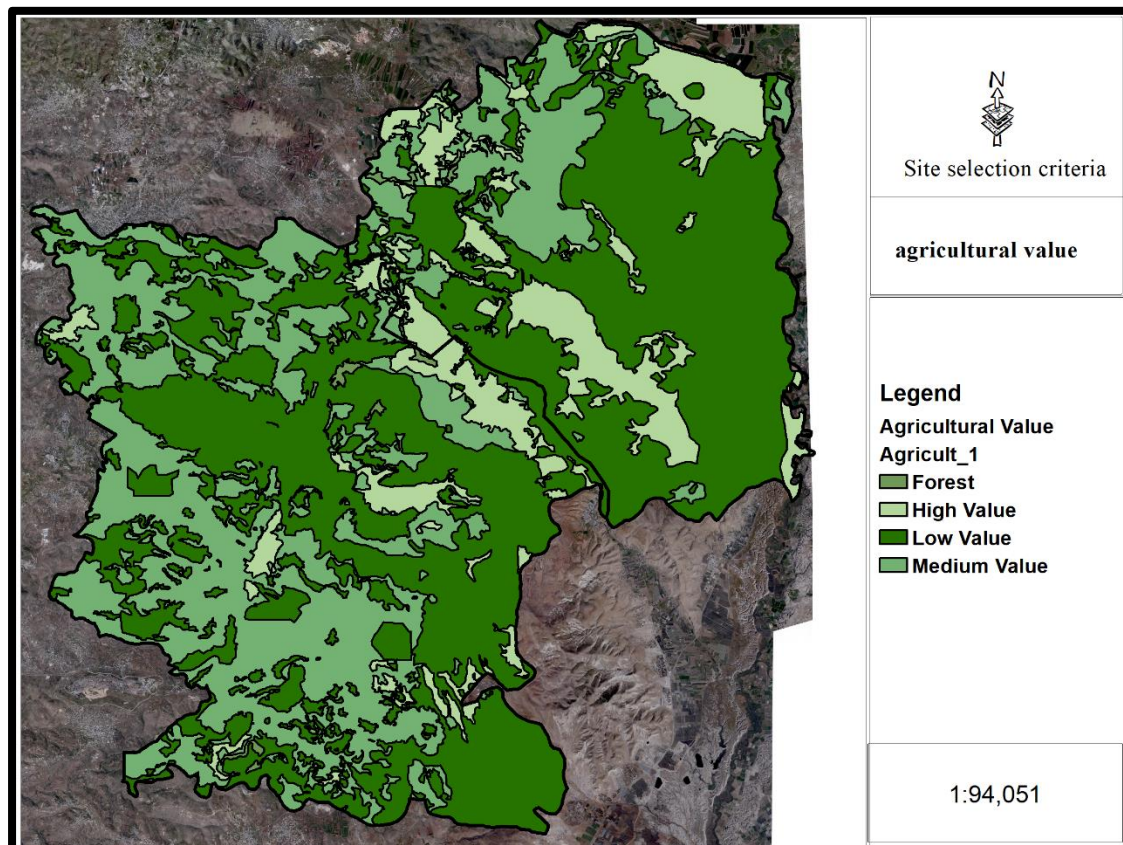
**The aim of this criterion is to try to find a campus site in state-owned land if there are no impediments.**

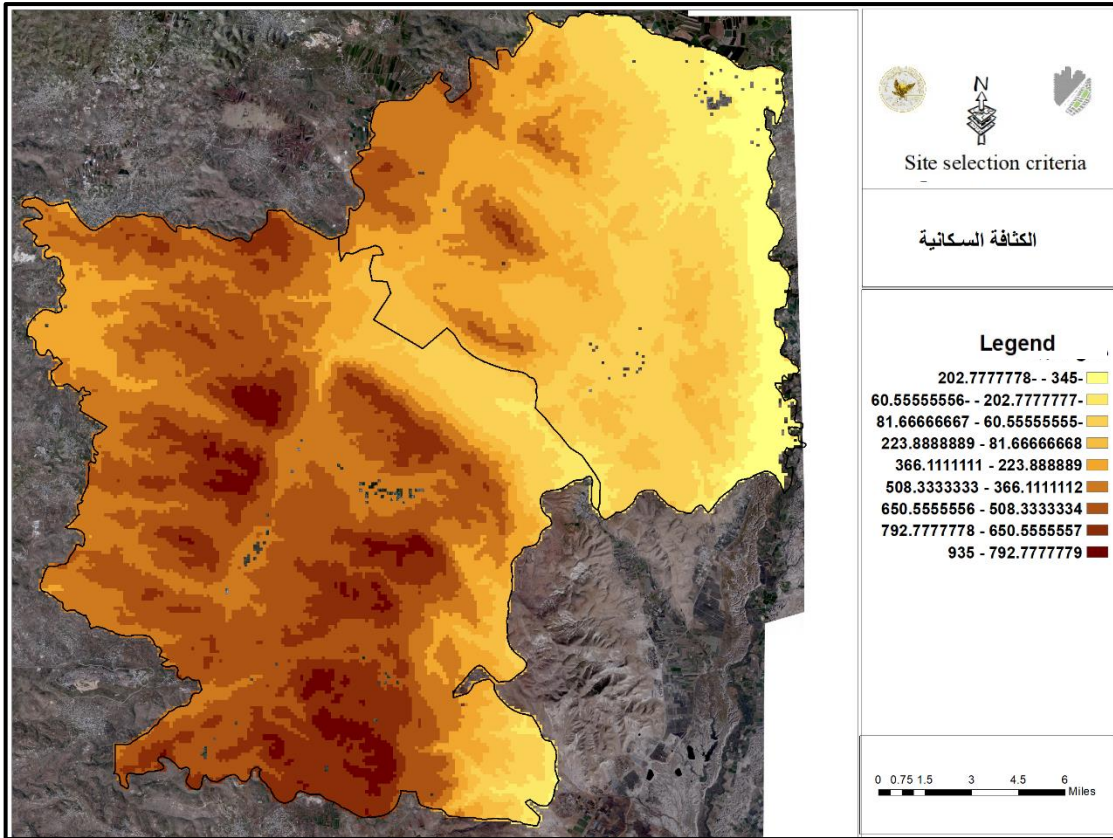
**VII: Distance from settlements.**

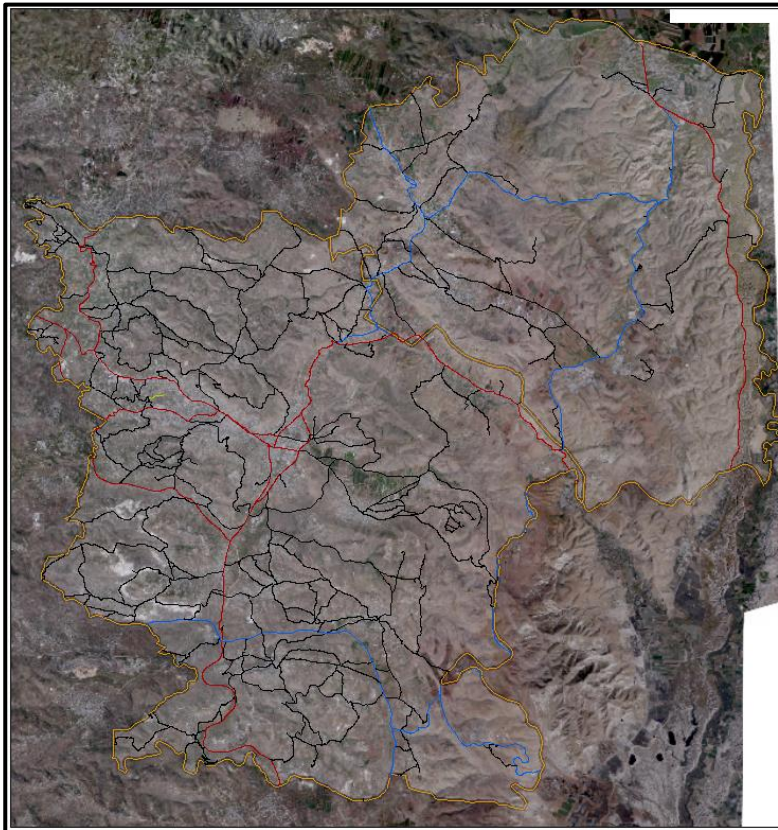
**The objective of this criterion is to find a campus site far from the concentrated settlements in the north-western part of Jenin governorate.**

**8. Be away from built-up areas**

**The following maps describe the criteria previously mentioned spatially:**







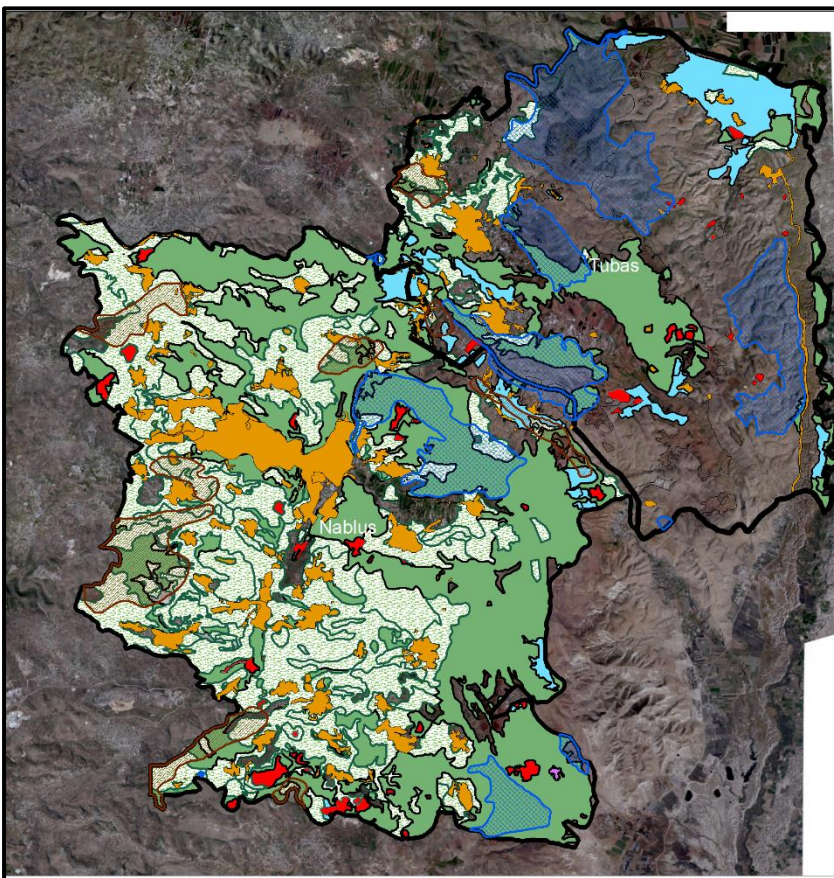
Site selection criteria

### Street Network

### Legend

#### RoadType

- Agricultural
- Local
- Main
- Regional



Site selection criteria

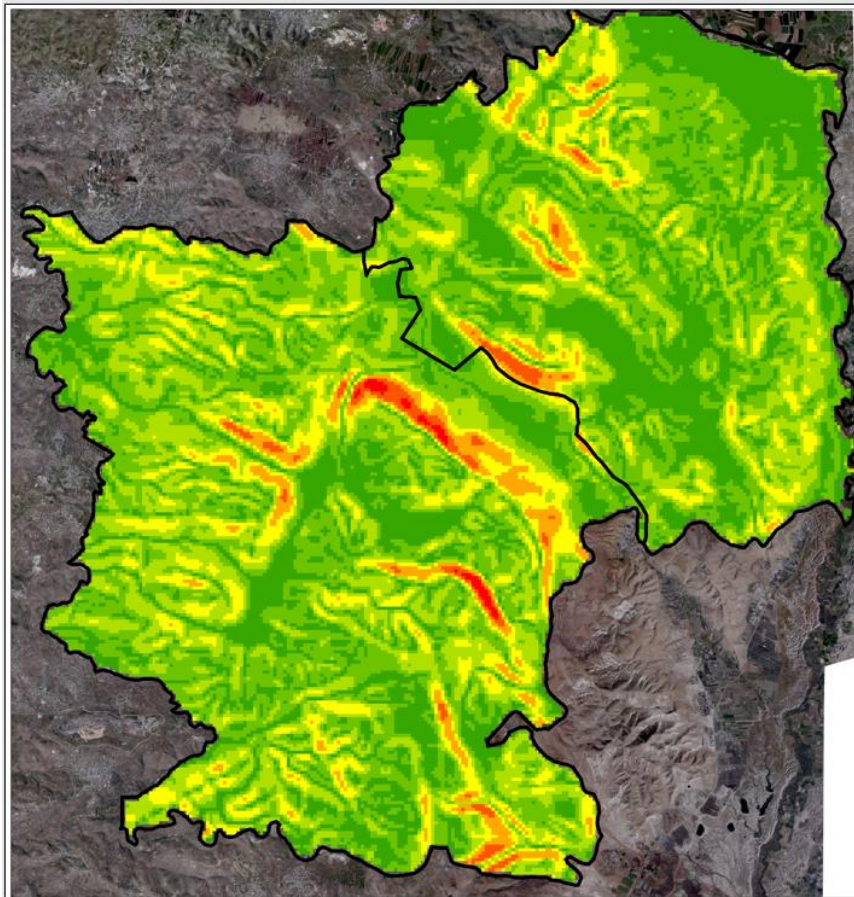


(land cover)

### Legend

- Biodiversity
- Natural\_Reserves
- landcover
- LandCoverV
- agricultural areas
- Open/empty areas
- green areas
- built-up areas
- irrigated farming areas
- settlements area
- Industrial or commercial

1:97,703

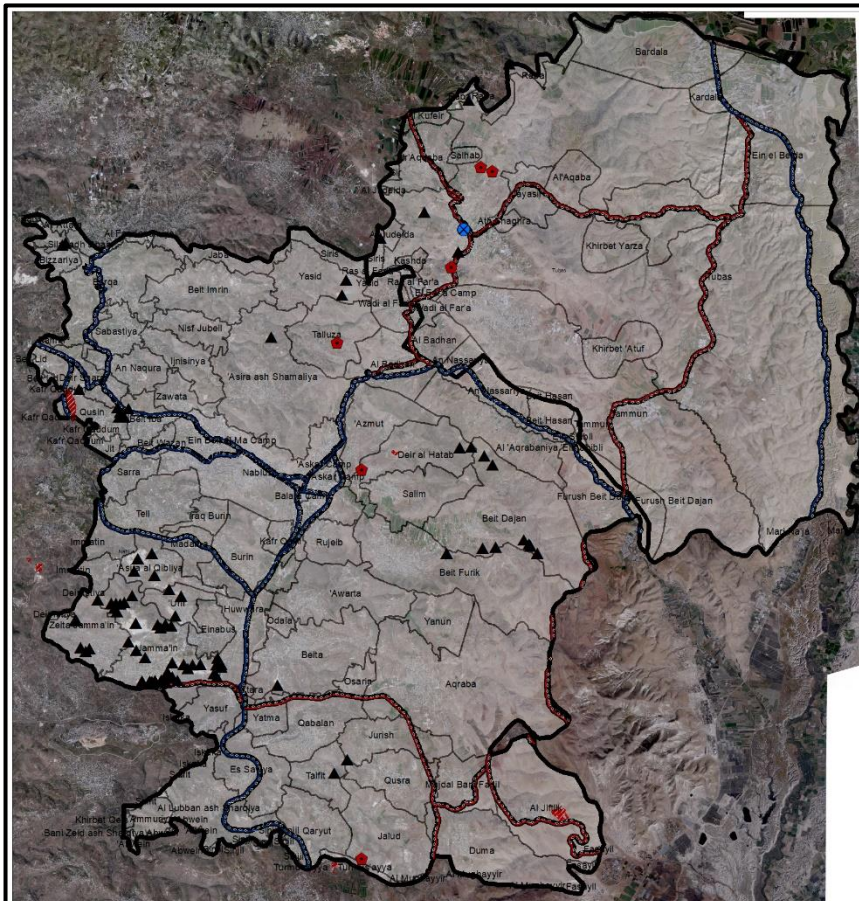
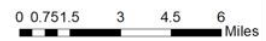


Site selection criteria

slope

**Legend**

- 4.029714703 - 0.004747529
- 8.054681877 - 4.029714704
- 12.07964905 - 8.054681878
- 16.10461622 - 12.07964906
- 20.1295834 - 16.10461623
- 24.15455057 - 20.12958341
- 28.17951775 - 24.15455058



Site selection criteria

pollution map

**Legend**

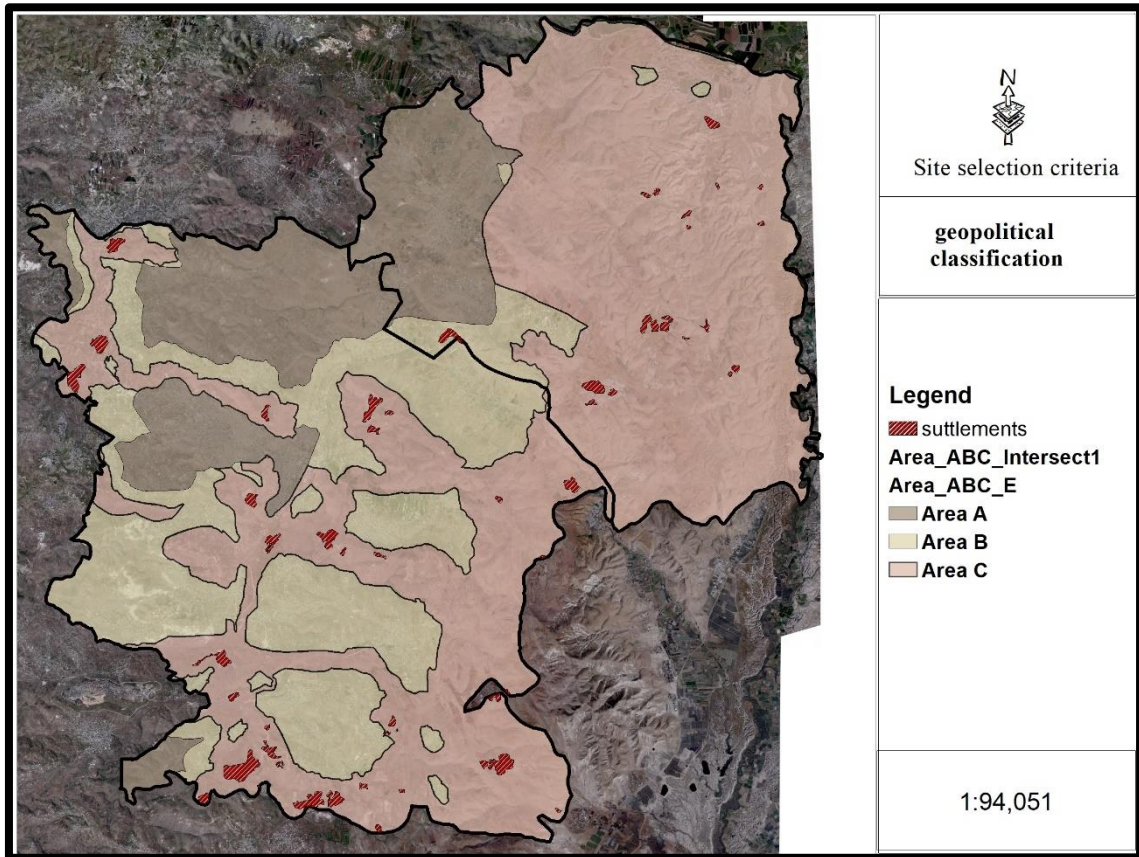
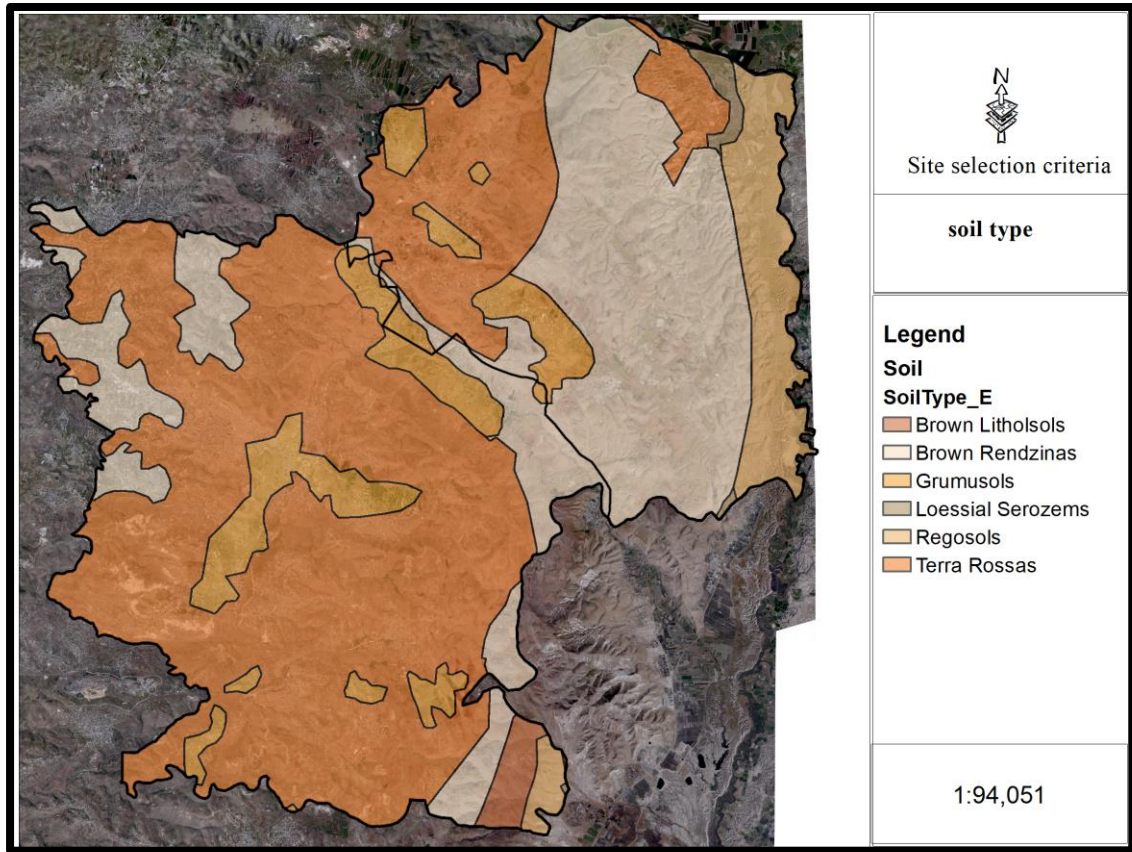
- ▲ Quarries
- Construction\_Waste
- ◆ dumpsites

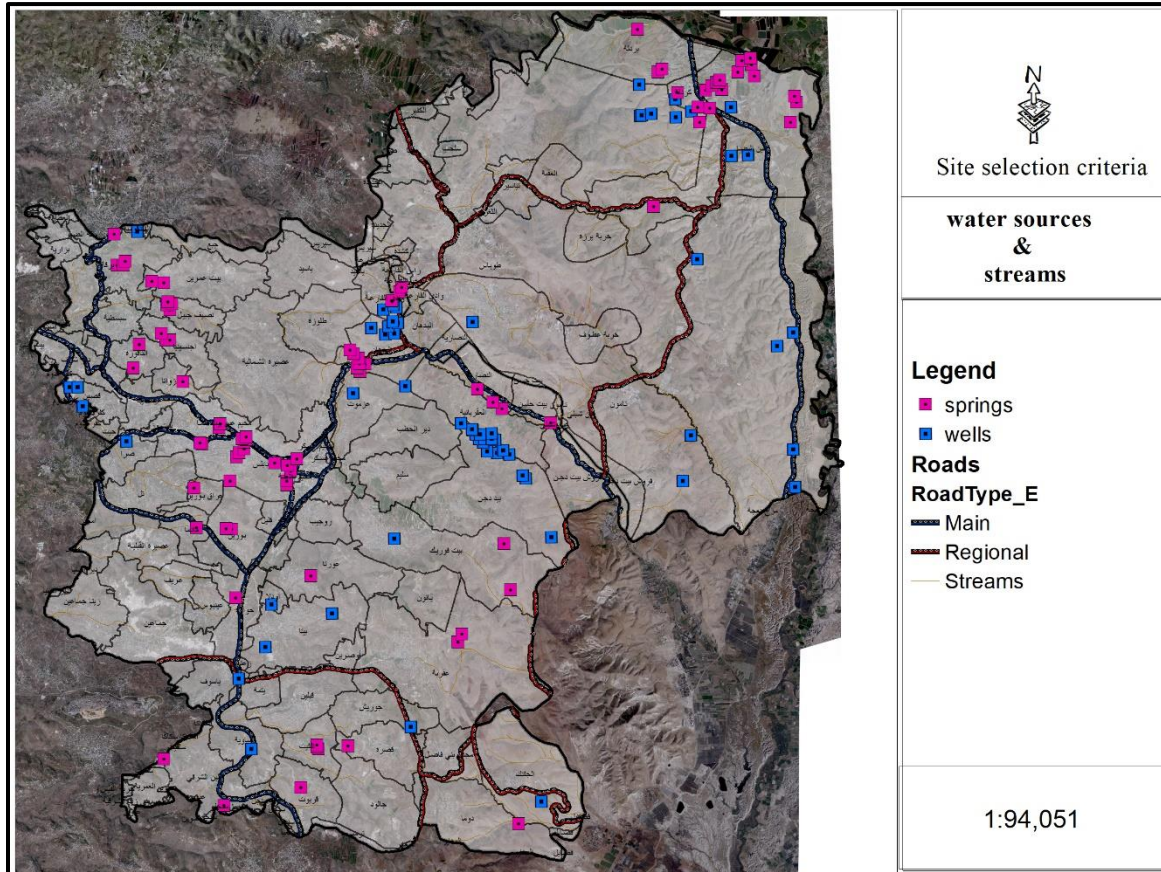
**Roads**

**RoadType\_E**

- Main
- Regional
- ▨ Industrial\_area







### C. Location selection criteria.

1. Basic criteria have been established to make a trade-off between the former signatories.
2. Topography and Milan.
3. Accessibility.
4. Classification of agricultural land.
5. Use of surrounding buildings.
6. Potential for future expansion.

**First: topography and inclination where the choice of location that has the percentage of Milan is traded and the location of the Harthi torrent was the best location.**

**Second, both sites had quick and easy access, so both sites were assessed to the same degree.**

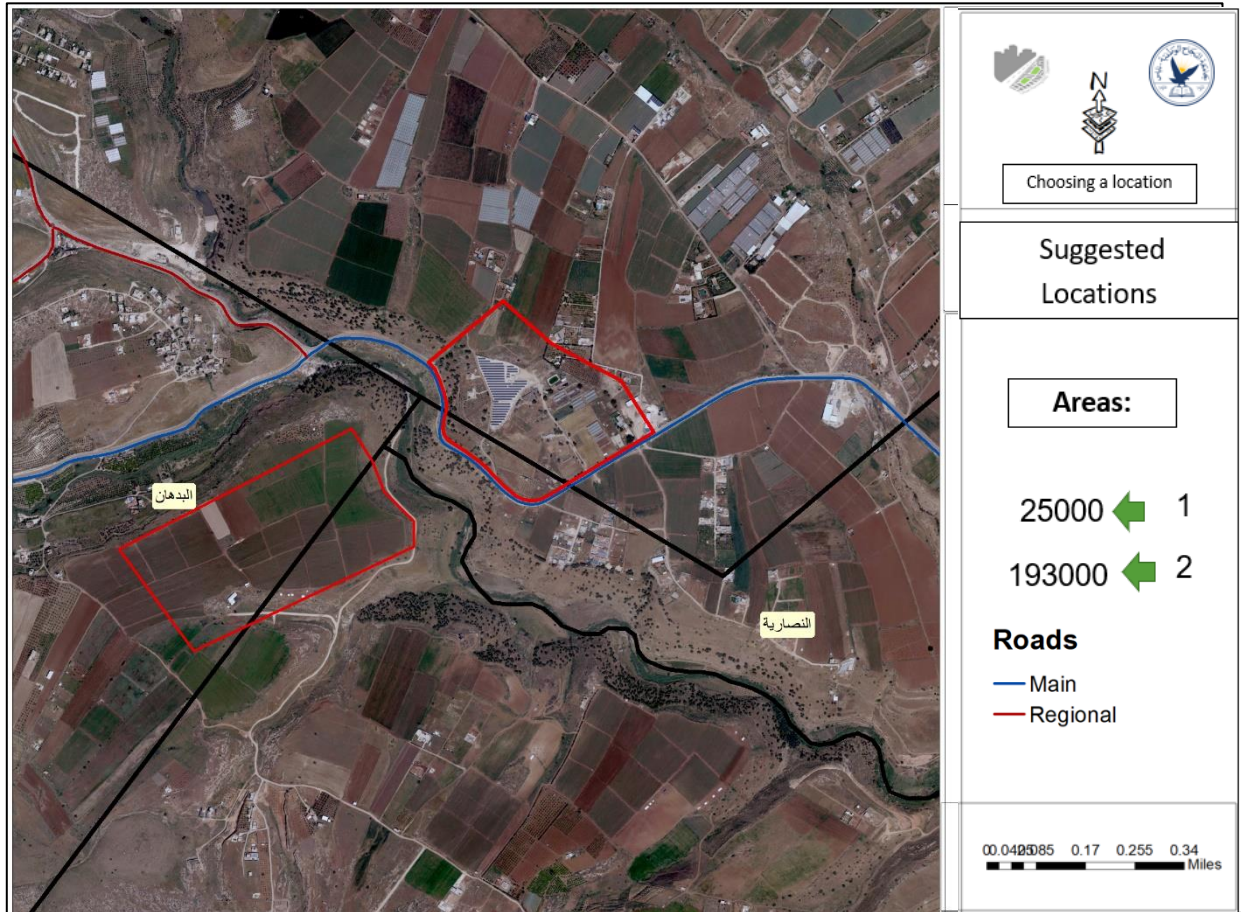
**Third: classification of agricultural land. Both sites are classified as High and Medium Agricultural Value Land, so both sites were assessed to the same degree.**

**IV. Use of surrounding buildings. Both sites do not have a high density of buildings in their surroundings where existing buildings have residential use, so both sites have been evaluated to the same degree.**

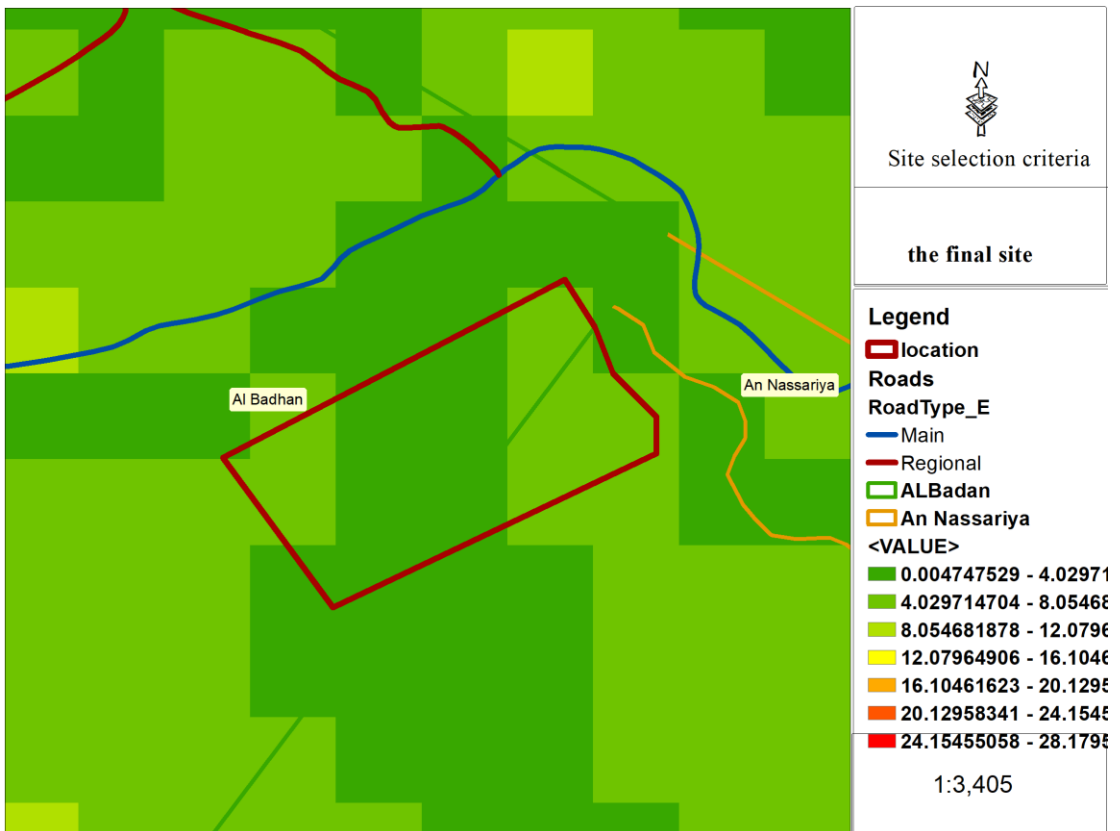
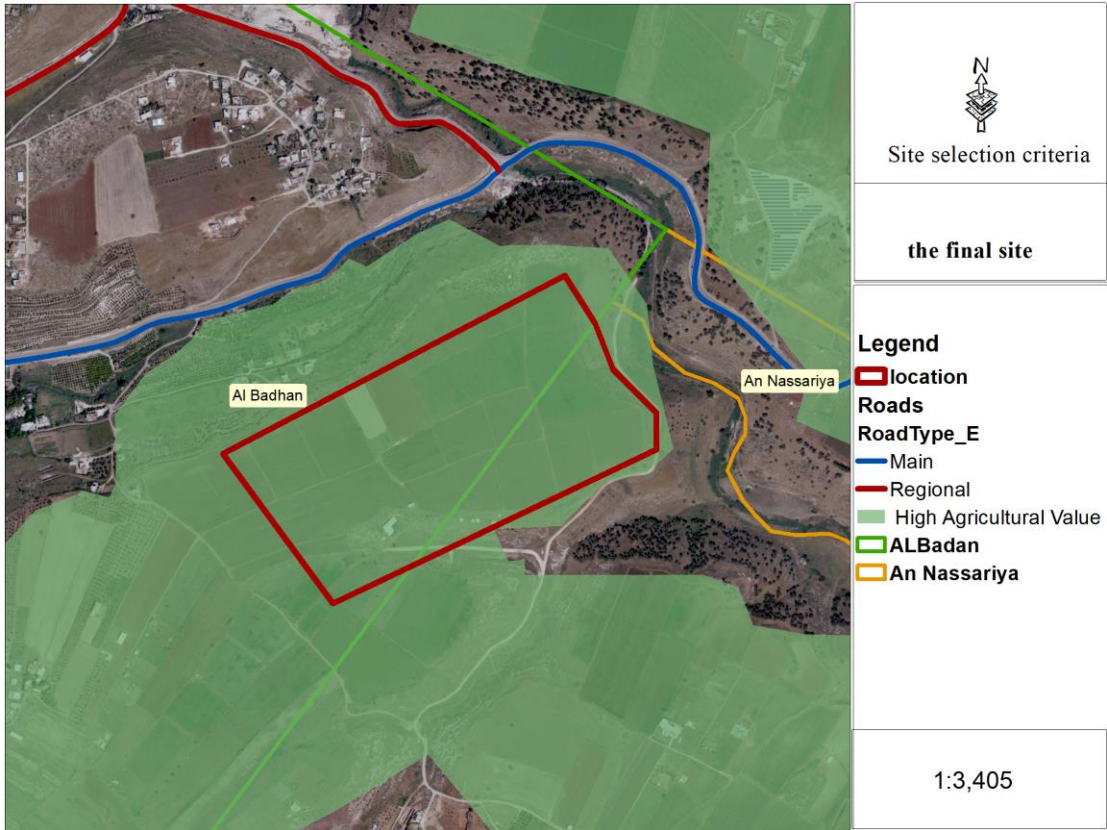
**V: Possible future expansion. One of the signatories has a high potential for future expansion so it has been evaluated higher.**

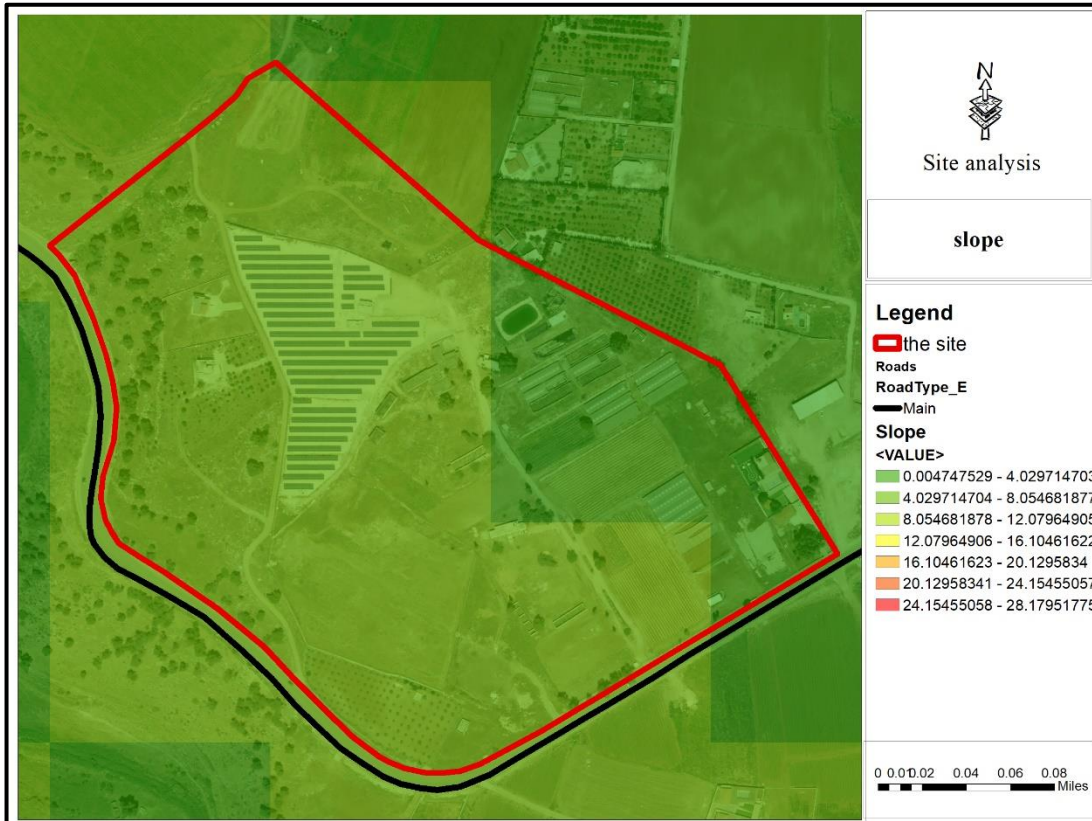
		Weight	Sub-criteria	Main criteria
9	1000	15	Be close to an area with biodiversity	Environmental Standards %60
7	2000			
3	+3000			
9	%10	20	Topographic and degree of inclination of the Earth	
7	%20			
5	+%30			
9	high	25	Agricultural value	
7	Medium			
5	Low			
9	1000	15	To be close to water availability areas (wells and eyes)	
7	2000			
3	+3000			
9	Terra Rossa's	10	Soil type	
7	Grumusols			
5	Brown Rendzinas			
3	-1000	15	To be away from pollution areas	
6	1000			
9	+1000			
9	A	Geopolitical Land Classification	geopolitical classification %10	
7	B			
4	C			
5	500-0	To be close to the main streets	Streets %15	
4	1000-500			
3	1500-1000			
2	2000-1500			
1	+2000			
3	-1000	To be away from builtup areas	Demographic %15	
7	3000-1000			
9	+3000			

The following maps describe the criteria previously mentioned spatially:

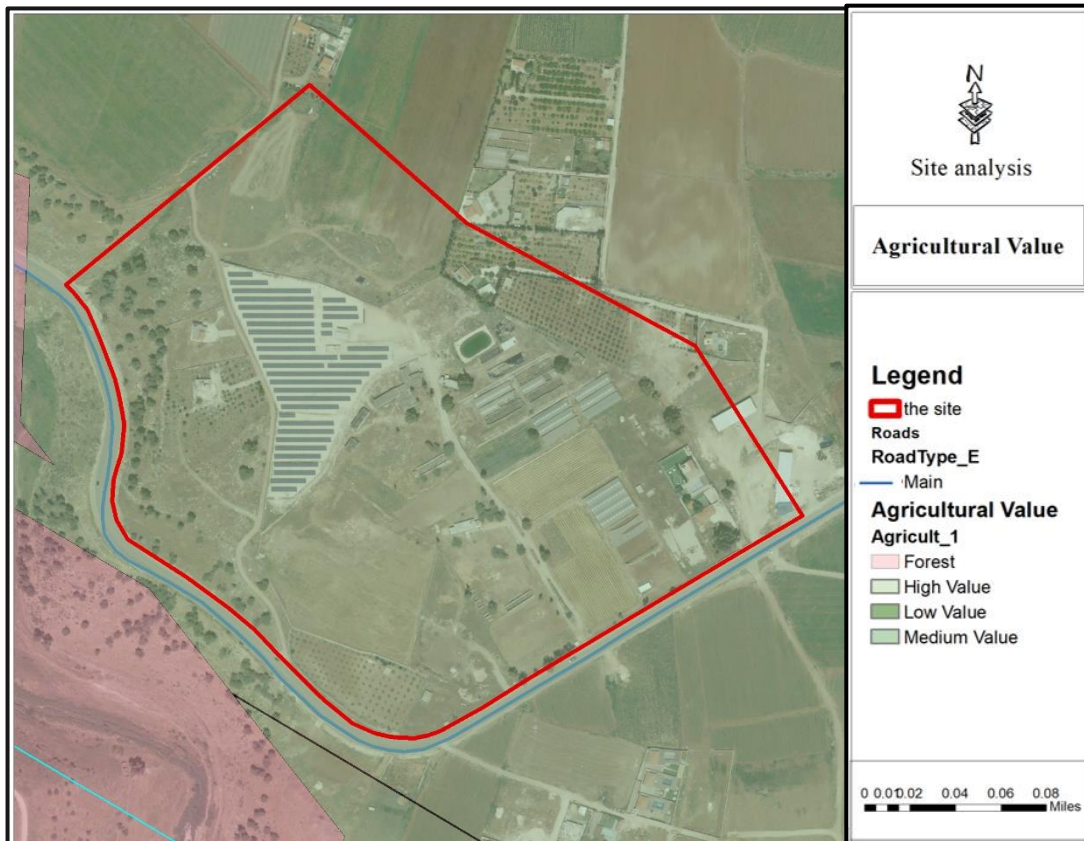


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**Jkmuk50;02**

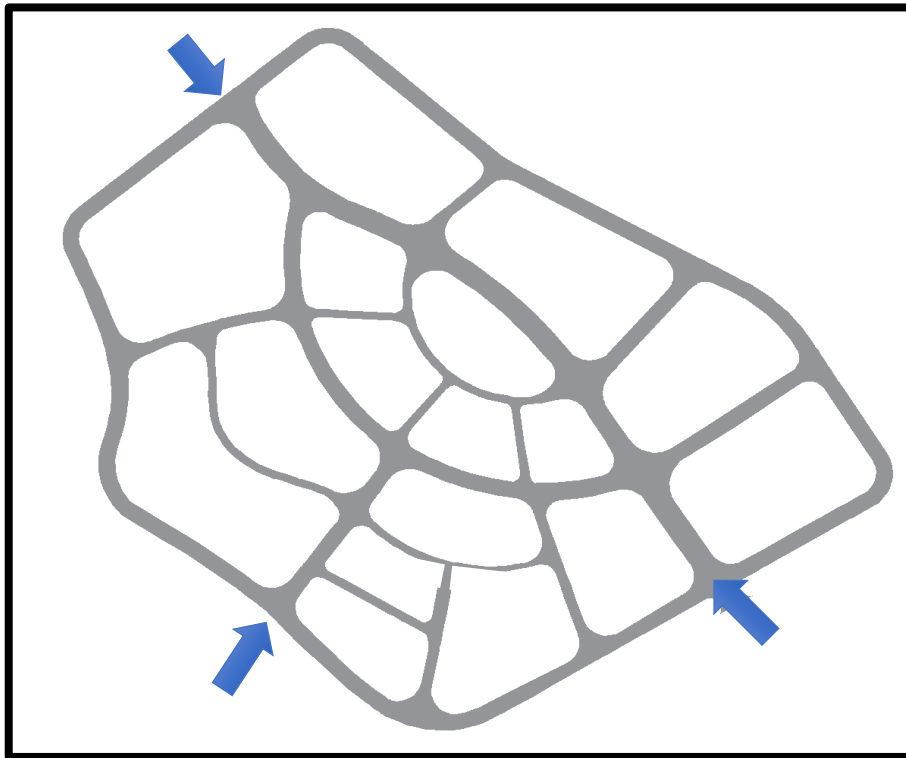


## Chapter 5: Project Proposal

### 5.1 Project concept:

The concept of the project consists of the main street (Al-Badan Street) that the site built on it, and I am increasing its width so that this street forms one of the project's streets and also the main street of the site (see picture 5), and there is an entrance to the site, so I emphasize it and consider it the main entrance to the college 3

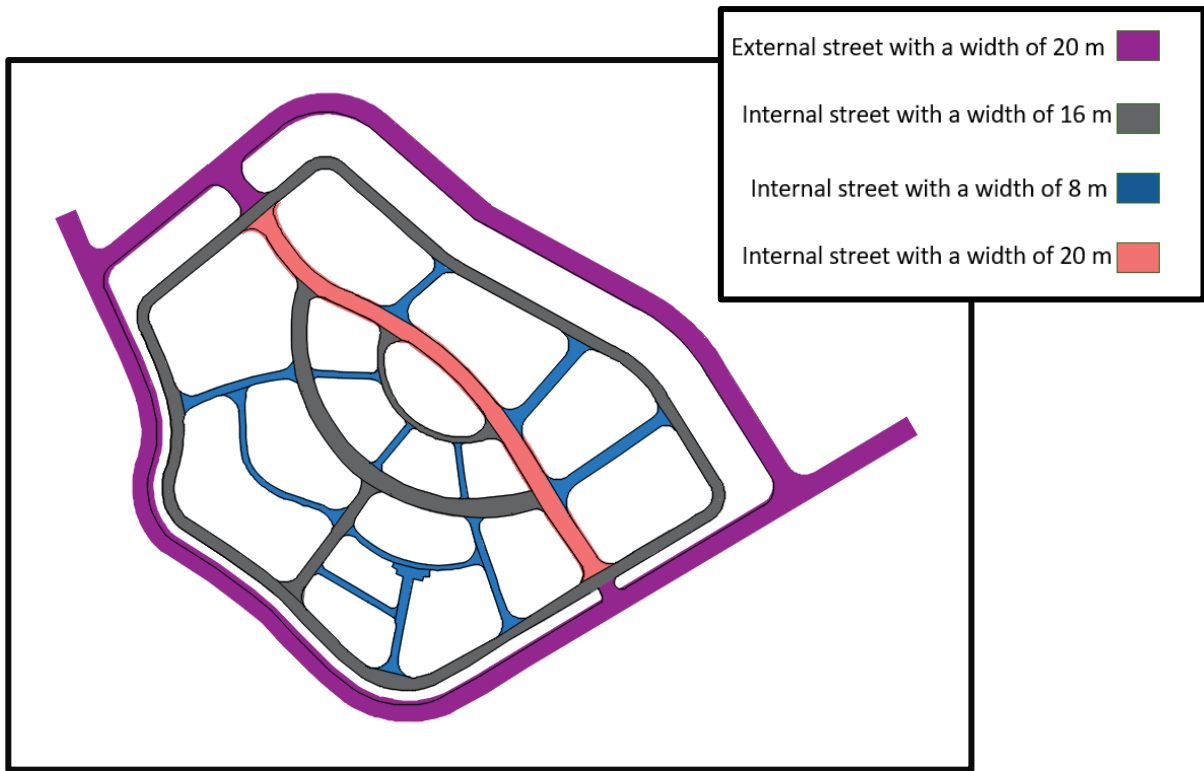




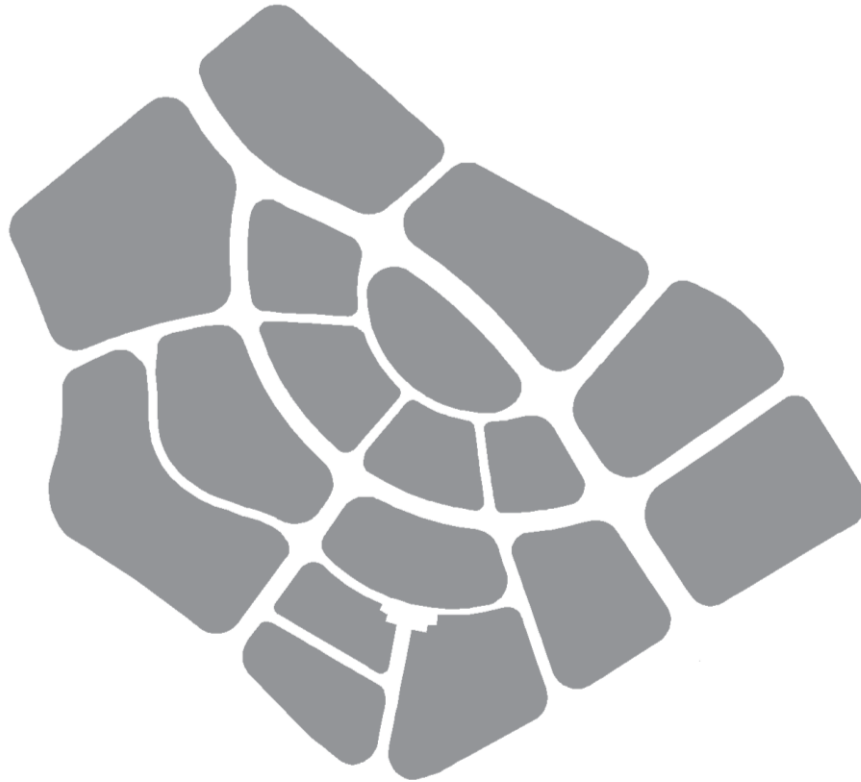
### University Entrances



The basic idea of the project is to create an integrated and interconnected system that connects all parts of the university through a vertical external loop on the horizontal zoom surrounded by the city, which connects all colleges through indoor-oriented axes. In addition to a head axis that penetrates the site, we create a visual axis that connects to the main distributed arena, from which it gradually moves to all parts of the site with the surrounding blocks according to the users' need and the resulting function but an architectural block.



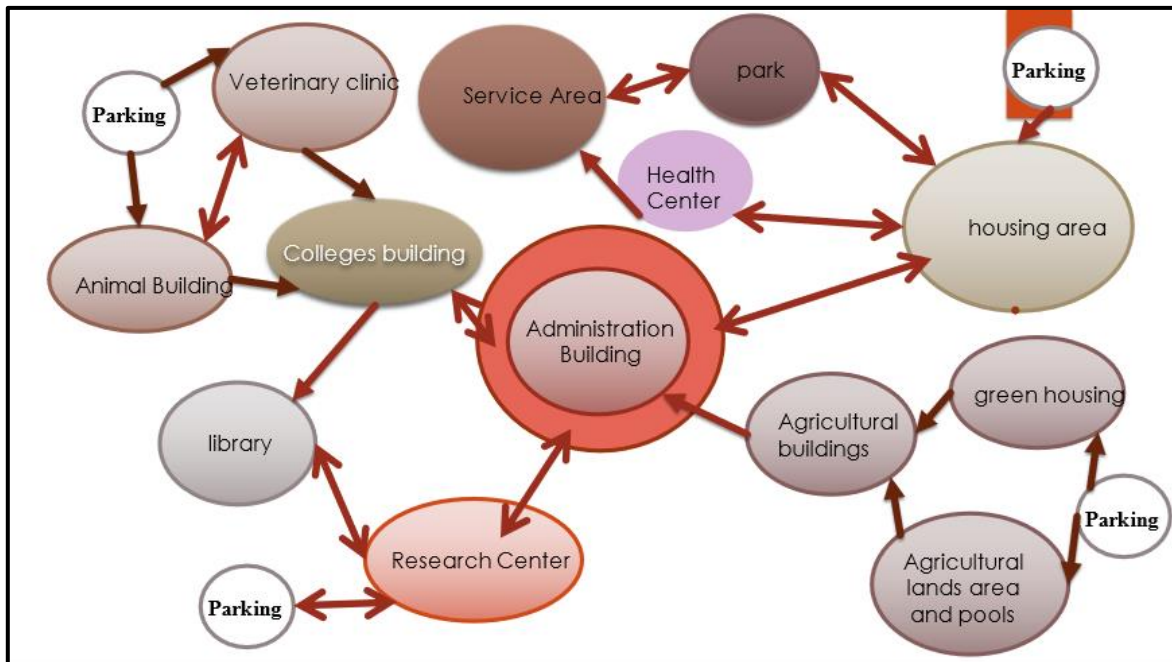
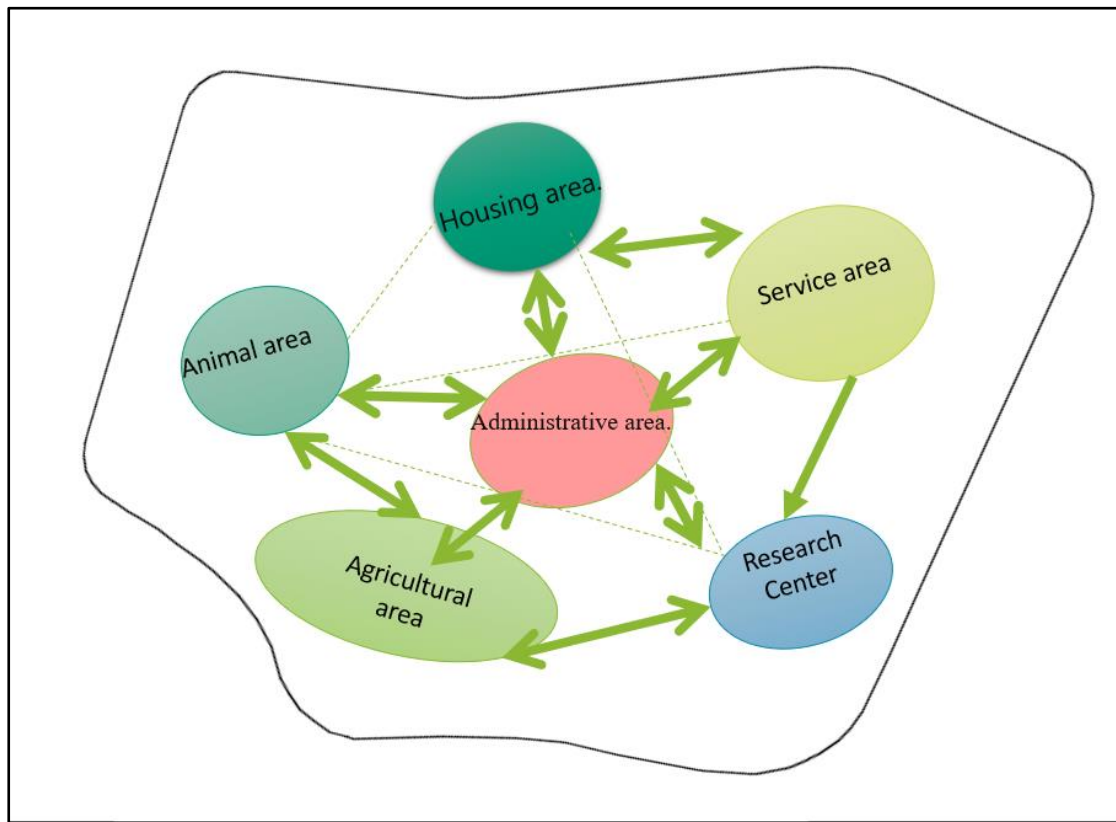
We show in (photo ---)the street width classification is in descending order from the high width (20 m) and the main entrance to the college center, then the ring road (16 m) ,and finally (8m).



**6. the zones that I need it in the agricultural college are:**

- ❖ Services area (contain mosque, services building, library and park).
- ❖ Agricultural areas (contain agricultural college building, green houses and pools area and agricultural lands for crops).
- ❖ Areas for animals (contain agricultural college building, green houses and pools area and agricultural lands for crops).
- ❖ Housing area.
- ❖ Administrative area.
- ❖ Research Area.

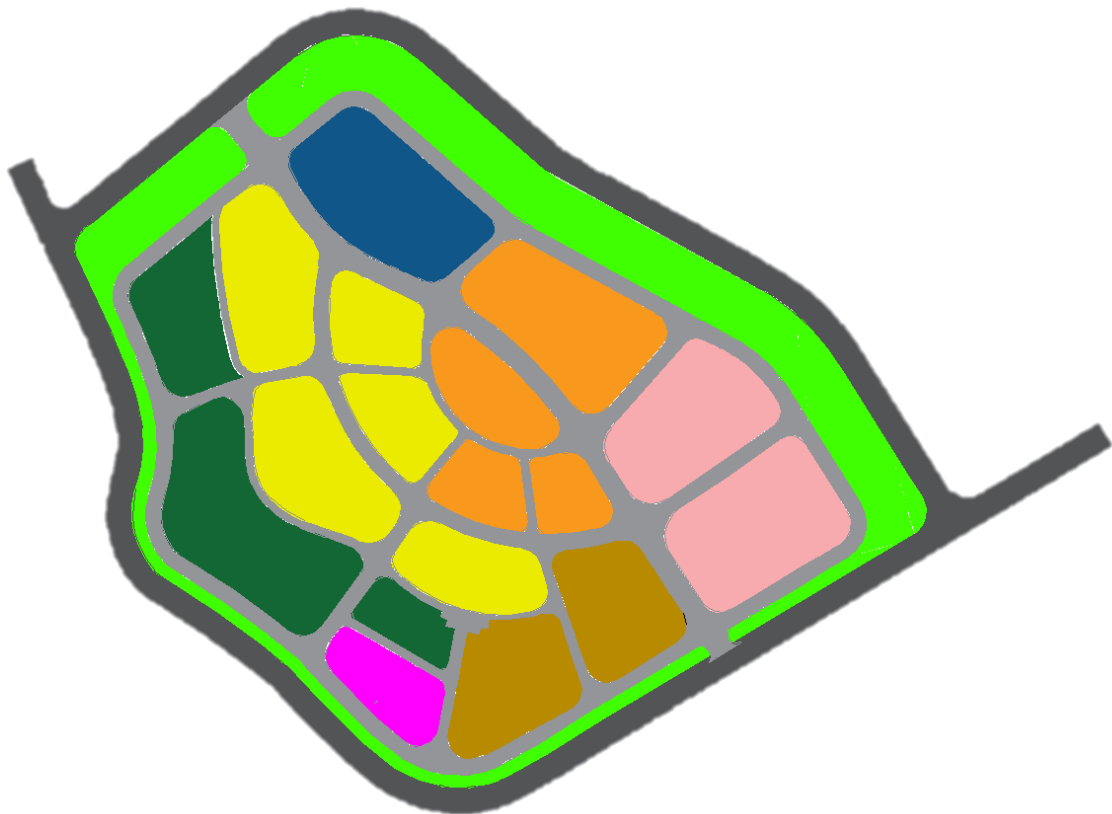
5.3 The relationship between the elements of the site and the distribution of services:



## Project Elements

- ▶ Research Center
- ▶ Power Generation Area
- ▶ theater
- ▶ Strips
- ▶ Colleges
- ▶ Streets Network
- ▶ Central area
- ▶ park
- ▶ Service towers (restaurants, entertainment venues, storage)
- ▶ University administration.
- ▶ Sports towers.
- ▶ Campus.
- ▶ Stables & Animal Houses
- ▶ Agricultural areas
- ▶ Colleges
- ▶ Cafeteria
- ▶ clinic
- ▶ Commercial area
- ▶ Recreational area
- ▶ library

- |                 |   |   |                  |   |                                    |
|-----------------|---|---|------------------|---|------------------------------------|
| External street |    |    | Animal area      |    | Colleges and educational districts |
| Housing area.   |   |   | Agricultural are |   | Internal street                    |
| services        |  |  | Green belt       |  | Administrative areas.              |
|                 |   |   |                  |  | Research Center                    |



Description of the campus project idea:

Use	Content
University Administration & Services	Public Park, Theater, Gym
General uses	Public Library, Cafeteria, Bank & Services, Mosque
Streets inside the university	Streets inside the university with a width of 8 m
Green belt	
Use of Education	Agricultural College
Use of Education	Veterinary College
Use of Education	Engendering college
Use of Education	Economy college

### **How to calculate the size of the Colleges ?**

The number of students in the College has been determined based on the number of disciplines in the College, the number of students in each major and batch, and compared with the number of students in the Faculties at other universities of the country. The College was proposed to join nine specializations in each class, specializing between 30 and 35 students. (Number of students in Al-Shafah "Number of years of study for specialization Number of disciplines = Output Number of college students). (35-30) 5-year-old student 9,1500 students.

The number of professors and technicians in the college according to the schedule (3-1) every 30 students needs a professor and every 20 students needs a technician. Every 16 students need a trainer and every 60 students need a bathroom. According to table (3-2), each student needs 175 square meters of classrooms (number of students 1500 \* The amount needed by the student 1.75 resulting 2625 square meters).





	the area	%	uses
1	12570	8%	housing
2	11856	6%	Recreational & Sporting
3	10550	6%	Administrative
4	11980	1.00%	Theatres and halls
5	5750	3%	services
6	4630	3%	library
7	4900	3%	college
8	3870	3%	clinic
9	3250	2%	Student Center
10	7650	5%	Research center
11	6140	4%	college
12	8280	5%	Research center
13	3100	2%	Agricultural areas
14	2600	2%	Animal Houses
14	1870	1%	Animal Houses
15	14300	9%	Agricultural areas
16	9500	6%	college
17	9000	6%	college
18	7000	5%	Agricultural areas
19	138796	20%	streets
sum	193000	100%	

The university campus was designed so that the perimeter of the plot of land included the educational use, in which the faculties are distributed, in addition to | To the university center, which includes the public park and service buildings, where the campus was designed to accommodate approximately | 1000-8000 male and female students, and the student's share of the total area in the university is 12.5 meters per student and share | The student of the green and open spaces is 7.6 meters for each student, in addition to that, the percentage of buildings from the total area of the university campus was 18.5%, and the university was designed taking into account the design of open and green spaces and the distribution of trees in it, in addition to the distribution of parking lots according to the required standards.

