



عنوان المشروع:

تخطيط جامعة للتدريب المهني و التقني

Planning Technical and Vocational Training and Education Campus

إعداد الطالبة:

نور نبيل نعيم سرکجي

تحت إشراف:

الدكتور علي عبد الحميد

الدكتورة زهراء زواوي

تم تقديم هذا البحث كأحد متطلبات التخرج بقسم هندسة التخطيط العمراني، كلية
الهندسة وتكنولوجيا المعلومات، جامعة النجاح الوطنية، نابلس

أيار، 2017

الإهداء:

إلى صاحب الفضل الاول و الأخير إلى الهادي سواء السبيل .. الله عزوجل

إلى قدوتي الاولى , ونبراسي الذي ينير دربي , إلى من أعطاني ولم يزل يعطيني , إلى من رفعت رأسي عالياً افتخاراً به .. إلى أبي أدامه الله ذخراً دائماً لي ..

إلى التي راني قلبها قبل عينيها , وحضنتني احشائها قبل يديها , إلى التي عرفتني عندما لم أعرف نفسي , إلى الظل الذي أوي إليه في كل حين .. إلى أمي الحبيبة حفظها الله و رعاها ..

إلى الشموع التي تنير لي الطريق .. إخوتينعيم و محمد و عرين و سجود و سيرين ..
الذين ساندوني وواصلوا العطاء بلا مقابل ..

إلى روح جدي و جدتي رحمهما الله ..

إلى كل الأصدقاء , ومن كانوا برفقتي و مصاحبتي أثناء دراستي في الجامعة ..

و إلى كل من لم يدخر جهداً في مساعدتي ..

الشكر و التقدير :

الحمد لله رب العالمين الذي وفقني في انجاز مشروعي هذا , احمده حمدا كثيرا طيبا مباركا فيه , قال رسول الله صلى الله عليه وسلم : "من لا يشكر الناس لا يشكر الله".

اتقدم بالشكر في هذا الصدد الى اساتذتي العزيزين الدكتور علي عبد الحميد و الدكتورة زهراء زواوي و الدكتور رائد يعيش و الاستاذ صلاح الشخشير اللذين مدوا لي العون ولم يبخلو علي باي نصيحة او توجيه .

كما اتقدم بالشكر الجزيل الى دكاترة قسمي العزيز على عطاءهم المبذول طيلة لخمس سنوات , و الى كل من ساهم في تلقيني ولو بحرف في حياتي الدراسية.

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Abstract:

This study aims to explain what's the technical and vocational training and education, and why it's important to our society and what are the types of institutions that take the responsible of this kind of education.

Also the study tries to solve problems that facing the technical and vocational training and education sector in west-bank by planning anew campus which specialized in this type of education.

Technical and vocational training and education is one of the most important tools to develop human resources and facilitate the transition to a more sustainable world, accompanied with social skills in order to build harmonious societies.

In addition, the research plan based on three main framework that are: informational, analytic and theoretical framework.

And finally, the recommended said that there is an important need to planning new campus in the chosen site.

ملخص البحث

الدراسة تهدف الى تعريف التعليم المهني و التقني الذي يجهله كثير من الناس ,
اضافة لتعريفهم بأهميته في بناء حضارات الامم و النهوض بمجتمعاتهم و ارشادهم
الى المؤسسات التي تعنى بتقديم هذه الخدمة ,اضافة للسعي لحل مشاكل هذا القطاع
من غياب الوعي المجتمعي بأهميته و تخليصه من النظرة الدونية .

اطارات العمل في هذا المشروع اعتمدت على الاطار المعلوماتي و النظري و
التحليلي التي من خلالها توصلنا الى ضرورة انشاء جامعة للتدريب المهني والتقني.

CHAPTER III: CASE STUDIES

CONTENTS:

3.1 INTERNATIONAL CASE STUDY (San Luis Obispo university)

3.2 REGIONAL CASE STUDY (Jordan University of Science and Technology (JUST)).

3.3 LOCAL CASE STUDY (Palestine Polytechnic University)

3.1 San Luis Obispo University

San Luis Obispo it's a public university located in San Luis Obispo, California, United States. Founded in 1901 as a vocational high school, it is currently one of only two polytechnic universities in the 23-member California State University system. Located halfway between San Francisco and Los Angeles.(San Luis Obispo, California 93407).



Figure (5):(San Luis Obispo, California 93407).

The founding of California Polytechnic State University, with its “learn–by–doing” philosophy, began when local journalist Myron Angel gathered a group of citizens in 1894 to lobby for a state school in San Luis Obispo. On March 8, 1901, Governor Gage signed legislation to establish the California Polytechnic School. On a visit to San Luis Obispo on May 9, 1903, President Theodore Roosevelt praised the citizens for their support of the state school. The first classes met October 1, 1903. California State Polytechnic College provides occupational education at the collegiate level in agriculture, architecture, engineering, the arts and sciences. Its arts and sciences instruction also

emphasizes the preparation of secondary school teachers. General education courses and participation in campus activities are combined with the college's specialized instruction to prepare graduates for citizenship and leadership.

The basic purpose of California State Polytechnic College is to prepare young men and women for managerial, technical, and teaching occupations by training the hands as well as the head, by adding "know-how" to "know-why." The training is specific and practical. Each year of study is planned to prepare the student for additional jobs in the training area of his major department. Requirements of the occupation as well as those of professional graduate schools, determine the educational experiences offered to each student. Practical laboratory work under actual conditions is emphasized. Students learn by doing.

To prepare a long range master plan for the development of the California State Polytechnic College, San Luis Obispo, planning for an orderly growth and expansion to 12,000 full time equivalent enrollment by 1974.

- To aid in lending distinction and a feeling of continuity and unity to the campus.
- To establish a vocabulary of construction and planting to develop this continuity.
- To coordinate the planning of the campus with the planning of the surrounding area taking into account local problems of zoning, peripheral development and circulation of traffic. To work with architects and engineers assigned to individual projects on the campus and to coordinate their efforts into the orderly development of the campus.

Design criteria:

1. The campus is to be planned for 12,000 F.T.E.
2. Access to the campus must be considered with regard to future plans for the surrounding area.

3. Building expansion must occur in areas adjacent to similar facilities. This will apply to expansion of the following.

- Applied Sciences
- Applied Art
- Engineering
- Agriculture
- Architecture
- College Union
- Residence Halls
- Physical Education

4. Maximum separation between vehicular and pedestrian traffic must be provided.

5. Service access to individual buildings must be adequate.

6. Consideration must be given to the problems of handicapped persons using the campus.

7. It is anticipated that 15% of the students will be married and that housing will have to be provided for 25% of the remainder, approximately

3,000 students. (Several suitable sites are available for married student housing.)

8. Parking is to be supplied for 50% of the ultimate F.T.E. or 6,000 cars.

9. Parking must be located adjacent to the main entrance of the campus and outside the academic centre.

10. Parking areas must be designed so that they do not destroy the appearance of the campus.

11. Implementation of the master plan must be possible without disruption of the academic function of the college and must allow for any sequence of construction.

The California State Polytechnic College at San Luis Obispo is already largely developed. Any master plan for its future growth must accept what exists and allow for a growth whose physical elements and time schedule are not fixed. Therefore, this master plan intends to set a flexible framework within which the college can grow so that when the ultimate expansion has taken place, a physical entity will exist which will have its own special character, unity and beauty.

The basis of the master plan is that California State Polytechnic College at San Luis Obispo become a "walking campus." The master plan shows the cars removed from the academic campus and plans for the parking area to be so graded and landscaped that the automobiles become concealed as much as possible; the design of the ground scape will allow for service vehicles to have necessary access to the buildings and would allow use by vehicles for handicapped persons.

F THE CALIFORNIA
,CALIFORNIA,1961)

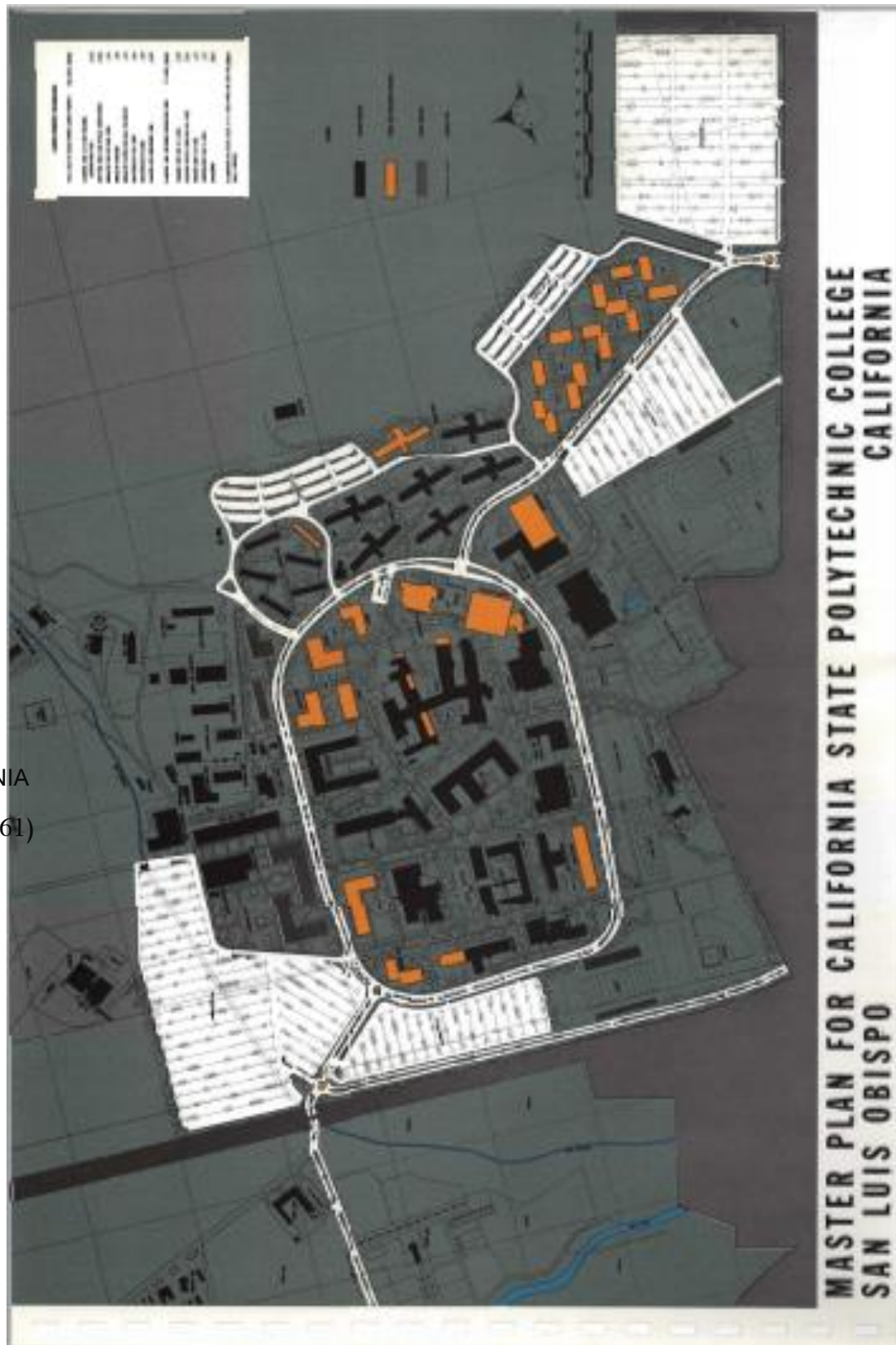


FIGURE (7) : (MASTER PLAN FOR PHYSICAL DEVELOPMENT OF THE CALIFORNIA STATE, POLYTICHICAL COLLEGE CAMPUS, SAN LUIS OBISPO, CALIFORNIA, 1961)

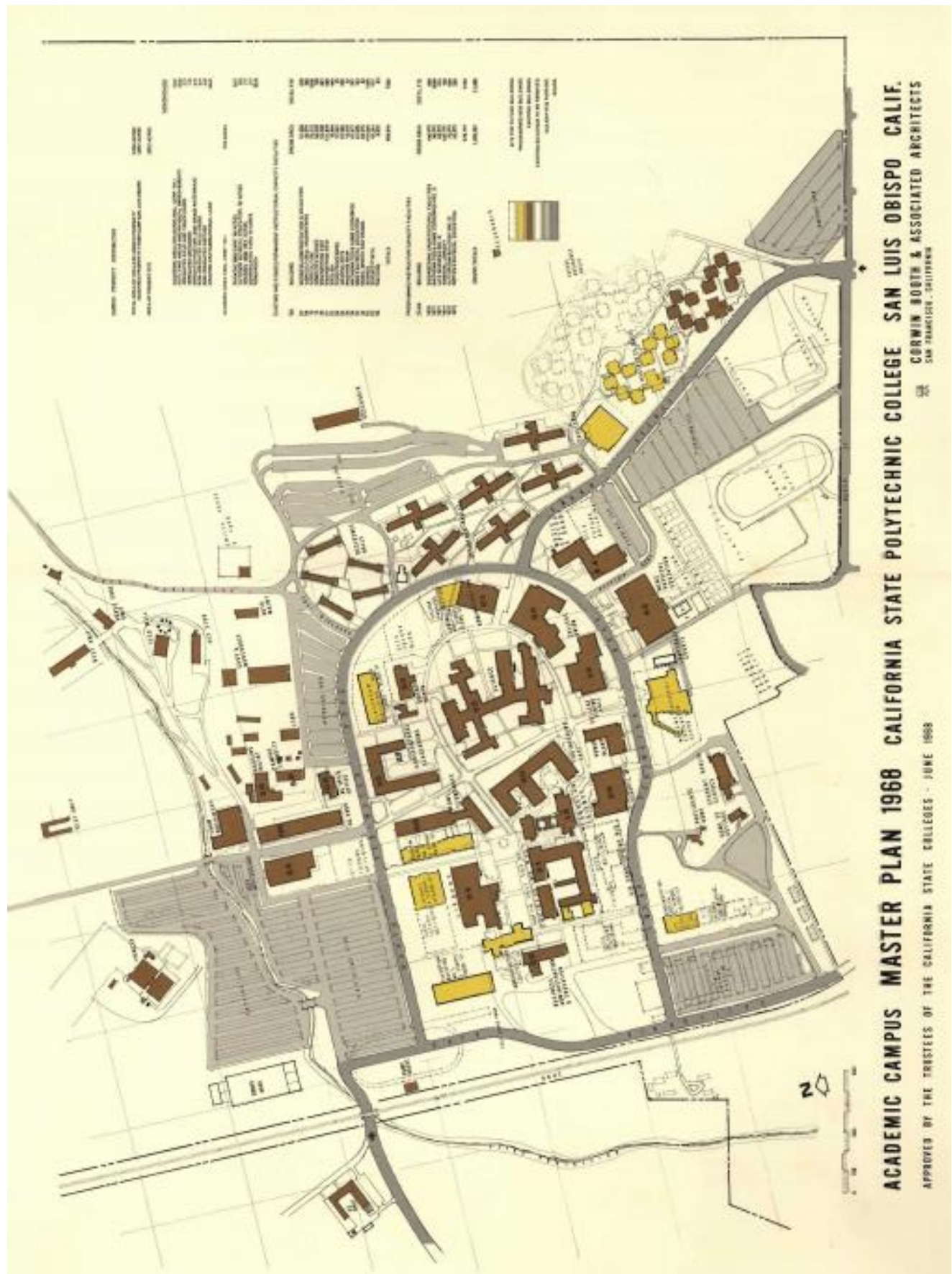


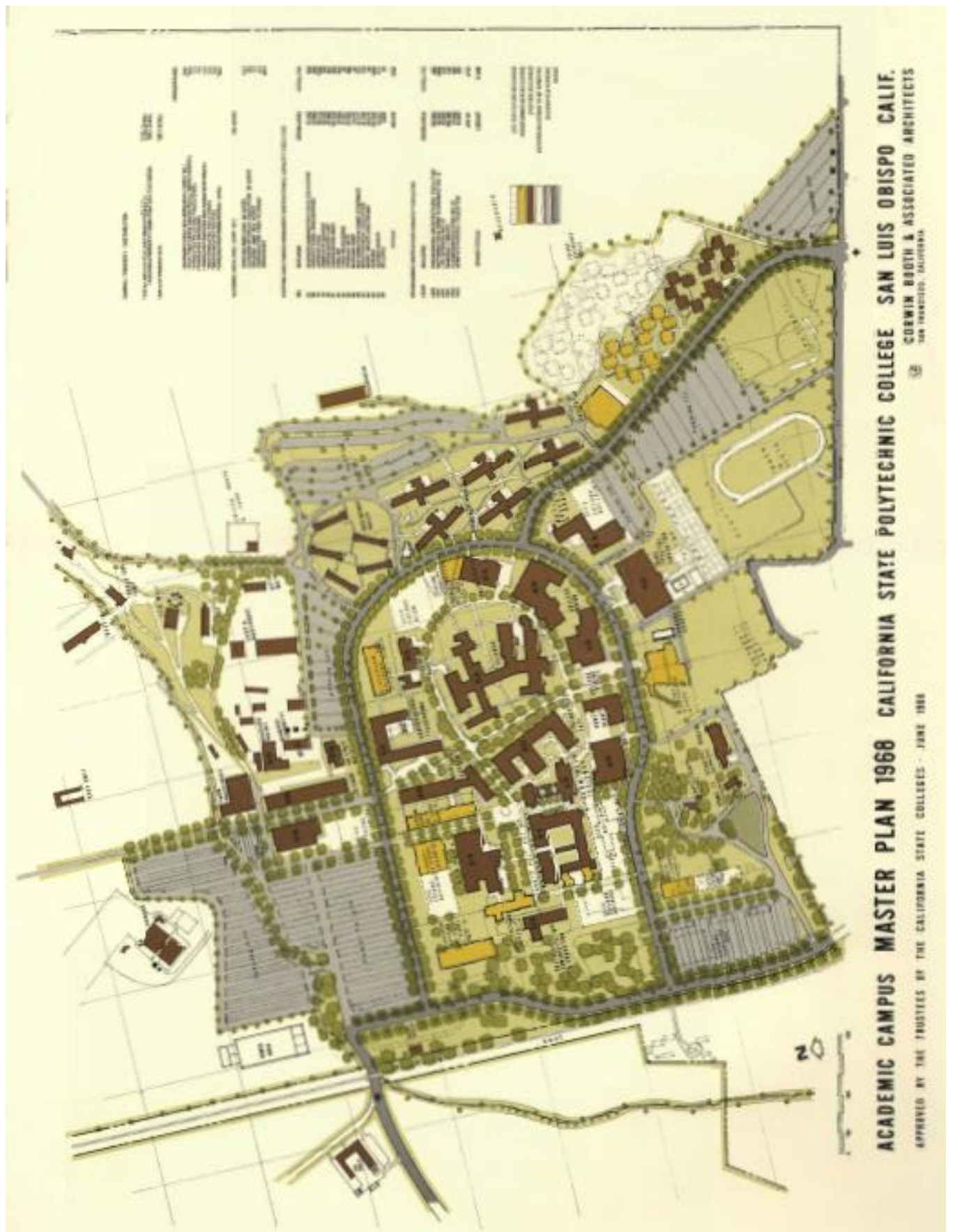
FIGURE (8) ©MASTER PLAN FO PHYSICAL DEVELOPMENT, CALIFORNIANA STATE

AREA OF PRESENT SITE		2812 ACRES	
			<u>PRESENT SITE PERCENTAGES</u>
	ACADEMIC AREA (374 ACRES INCL. CORP. YD.)		13.2
	OUTLYING AREAS AND PHYSICAL IMPROVEMENTS		15.8
	IRRIGATED FIELD AND TRUCK CROPS		2.3
	IRRIGATED ORCHARDS		1.0
	IRRIGATED PASTURE AND GRASS WATERWAYS		2.4
	NON-IRRIGATED FIELD CROPS		6.4
	NON-IRRIGATED PASTURE		4.9
	GRAZING AND SUBMARGINAL LAND		54.0
ACADEMIC AREA (INCL. CORP. YD.)		374 ACRES	
	PARKING 6000 CARS 48 ACRES		14.7
	OUTDOOR PHYSICAL EDUCATION 30 ACRES		8.0
	HOUSING 4000 28.9 ACRES		7.7
	CORPORATION YARD 10 ACRES		2.7
	REMAINDER		66.9
EXISTING AND FUNDED PERMANENT INSTRUCTIONAL CAPACITY FACILITIES			
<u>NO.</u>	<u>BUILDING</u>	<u>GROSS AREA</u>	<u>TOTAL FTE</u>
02	BUSINESS ADMINISTRATION & EDUCATION	51,658	628
08	AGRICULTURAL ENGINEERING	43,856	360
10	AGRICULTURE	55,312	1036
15	COMPUTER SCIENCE	50,029	708
20	ENGINEERING EAST	52,000	481
21	ENGINEERING WEST	121,878	580
22	ENGLISH	15,844	444
24	FOOD PROCESSING	31,661	59
26	GRAPHIC ARTS	67,045	266
36	MACHINE SHOP	13,270	32
38	MATHEMATICS & HOME ECONOMICS	47,477	767
42	MEN'S PHYSICAL EDUCATION	61,635	143
44	MUSIC, SPEECH AND DRAMA	63,475	83
52	SCIENCE	107,645	1235
53	SCIENCE NORTH	43,241	471
58	WELDING	9,850	43
	TOTALS	835,876	7336
PROGRAMMED INSTRUCTION CAPACITY FACILITIES			
<u>YEAR</u>	<u>BUILDING</u>	<u>GROSS AREA</u>	<u>TOTAL FTE</u>
1970	ENGINEERING ARCHITECTURAL FACILITIES	100,000	660
1971	MATHEMATICS & HOME ECONOMICS (NO. 3)	96,000	2068
1971	LIFE SCIENCES (NO. 4)	63,000	474
1971	REMODEL LIBRARY	106,386	100
1972	CLASSROOM BUILDING (NO. 5)	70,000	600
1972	WOMEN'S PHYSICAL EDUCATION	42,805	250
		478,191	4152
	<u>GRAND TOTALS</u>	<u>1,389,067</u>	<u>11,488</u>

FIGURE (9) : MASTER PLAN FO PHYSICAL DEVELOPMENT
,CALIFORNIANA STATE POLYTICHNICS COLLEGE SAN LUIS OBISPO₂₆



FIGURE (10) ©MASTER PLAN FO PHYSICAL DEVELOPMENT ,CALIFORNIANA STATE





"WALKING CAMPUS"



COURTYARD

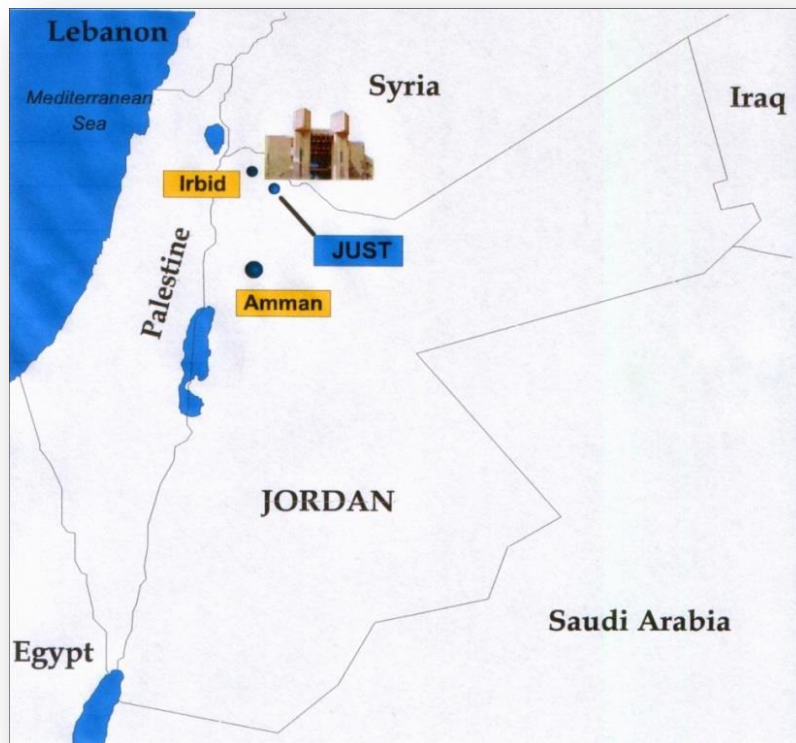


BOULEVARD

Figures (12) : MASTER PLAN FO PHYSICAL DEVELOPMENT
,CALIFORNIANA STATE POLYTICHNICS COLLEGE SAN LUIS OBISPO

3.2 Jordan University of Science and Technology (JUST)

It's one of the biggest in region. It covers more than 100 hectares,
Located in Irbid city, in the northern part of Jordan.



Towards a world-class university distinguished in high quality teaching and research to have gained ground among the top 500 international universities, JUST hosts about 26,000 students Distributed on :
38 B.Sc. Programs and 67 M.Sc.

JUST has 11 facilities offering undergraduate and graduate programs:
(Jordan University of Science and Technology, Computer and Information Centre, 2016)

1. Faculty of Engineering.
2. Faculty of Computer & Information Technology.
3. Faculty of Medicine.

4. Faculty of Applied Medical Sciences.
5. Faculty of Dentistry.
6. Faculty of Pharmacy.
7. Faculty of Nursing.
8. Faculty of Science and Art.
9. Faculty of Agriculture.
10. Faculty of Veterinary Medicine.
11. Faculty of Architecture & Design

Faculty of Engineering

Graduated courses	Master courses
Civil Engineering	Geotechnical Engineering
	Structural Engineering
	Transportation Engineering
	Water Resources & Environment
Industrial Engineering	Industrial Engineering
Electrical Engineering	Wireless Communications
	Electronics
	Power & Control
Biomedical Engineering	
Nuclear Engineering	
Aeronautical Engineering	
Mechanical Engineering	Mechanical Engineering
	Mechatronics
Chemical Engineering	Chemical Engineering

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Table (3)

Faculty of Architecture

Graduated courses	Master courses
Architectural	Architectural Engineering
Urban Planning and Studies	Urban Planning and Studies

Table (4)

Faculty of Faculty of Computer Information Technology

Department	Specialization
Computer information system	
Network engineering and security	
Software engineering	
Computer Engineering	Computer Engineering
Computer Science	Computer Science

Table (5)

Faculty of Medicine

Graduated course	Master courses
Public Health	Health Care Administration
	Health Education
	Occupational Health
	Epidemiology
	Maternal and Child Health
Physiology	Physiology
Pharmacology	Pharmacology
Internal medicine	
Neuroscience	
Obstetrics and gynaecology	
Pathology and microbiology	
Paediatrics, adolescents medicine and neonatology	
Special surgery	
Anaesthesia	
Diagnostic and interventional radiology and nuclear medicine	
Family medicine and emergency medicine	
General , urology and paediatric surgery	
Health management and policy	
Anatomy	Anatomy
Biochemistry and Molecular Biology	Biochemistry and Molecular Biology
Legal Medicine, Toxicology and Forensic Science	Toxicology and Forensic Science

Table (6)

Faculty of Medicine– Higher Specialty

department	Specialization
Higher Specialty	Neurology
	Diagnostics Radiology
	Dermatology
	Psychiatry
	Anaesthesia
	General Surgery
	Internal Medicine
	Legal Medicine
	Obstetrics and Gynecology
	Neurosurgery
	Orthopaedic Surgery
	Urology
	Family Medicine
	Paediatrics
	Emergency Medicine
	Ear, Nose, Throat Surgery
	Ophthalmology
	Pathology

Table (7)

Faculty of Applied Medical Sciences–master degree

department	Specialization
Medical Laboratory Sciences	Clinical Microbiology and Immunology
	Diagnostic Molecular Biology and Human Genetics
	Clinical Biochemistry
	Hematology and Blood Banking

Table (8)

Faculty of Pharmacy

Graduated course	Master courses
Clinical Pharmacy	Clinical Pharmacy
Medicinal Chemistry and Pharmacognosy	* Medicinal Chemistry
	* Phramcognosy
Pharmaceutical Technology	* Pharmaceutical Technology
	* Quality Control

Table (9)

Faculty of Veterinary Medicine–master degree

Department	Specialization
Veterinary Pathology and Public Health	Food Safety
	Veterinary Epidemiology
	Veterinary Pathology

	Poultry Diseases
Clinical Veterinary Medical sciences	Theriogenology and Artificial insemination
	Veterinary Surgery
	Internal Medicine
Basic Veterinary Medical sciences	Veterinary Anatomy and Histology
	Microbiology
	Pharmacology and Physiology

Table (11)

Faculty of Agriculture

Graduated course	Master courses
Animal Production	Animal Production
Plant Production	Horticulture
	Plant Protection
Nutrition and Food Technology	Food Science and Technology
	Nutrition
Natural Resources	Soil, Water and Environment

Table (12)

Faculty of Science and Arts

Graduated course	Master courses
Applied Chemical Sciences	Chemistry
Applied Biological Sciences	Biology

Applied Physical Sciences	Physics
Mathematics and Statistics	Mathematics
English for Applied Studies	Linguistics
Biotechnology and Genetic Eng.	
Humanities	
Forensic science	

Table (13)

Faculty of Nursing

Department	Specialization
Master Programs	Advanced Community Health Nursing
	Maternal and Newborn Nursing
	Nursing Services Administration

	Adult Acute Care Nursing
Higher Diploma	Higher Diploma in Midwifery
Undergraduate	Community and mental health nursing
	Adult health nursing
	Midwifery
	Maternal and Newborn Nursing

Table (14)

Faculty of Dentistry

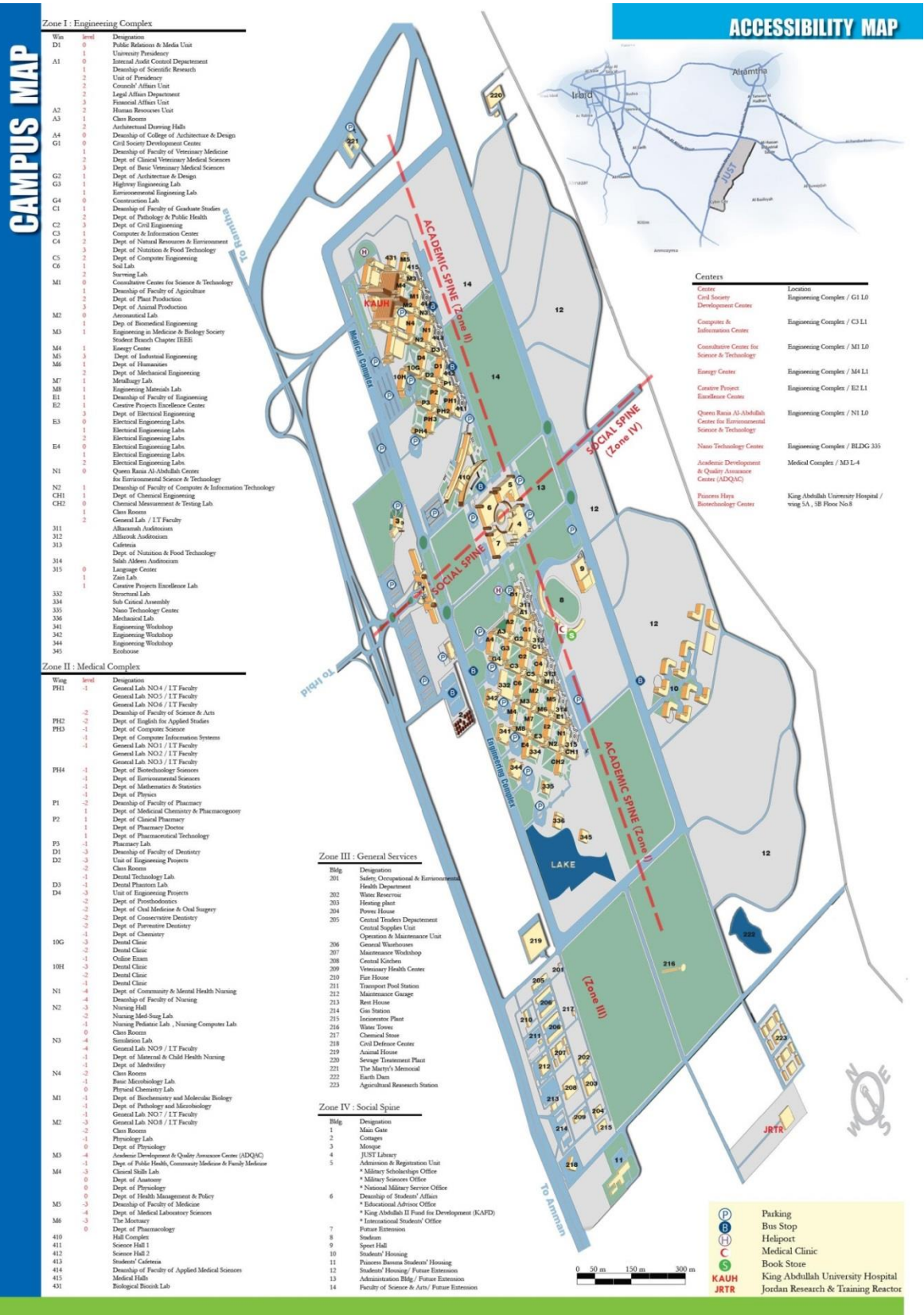
Graduated course	Master courses
Department of Preventive Dentistry	Periodontics
	Orthodontics
	Pediatric Dentistry
Department of Oral	Oral Medicine and Pathology

Medicine and Oral Surgery	
Department of Conservative Surgery	Endodontics
Department of Prosthodontics	Prosthodontics

Table (15)

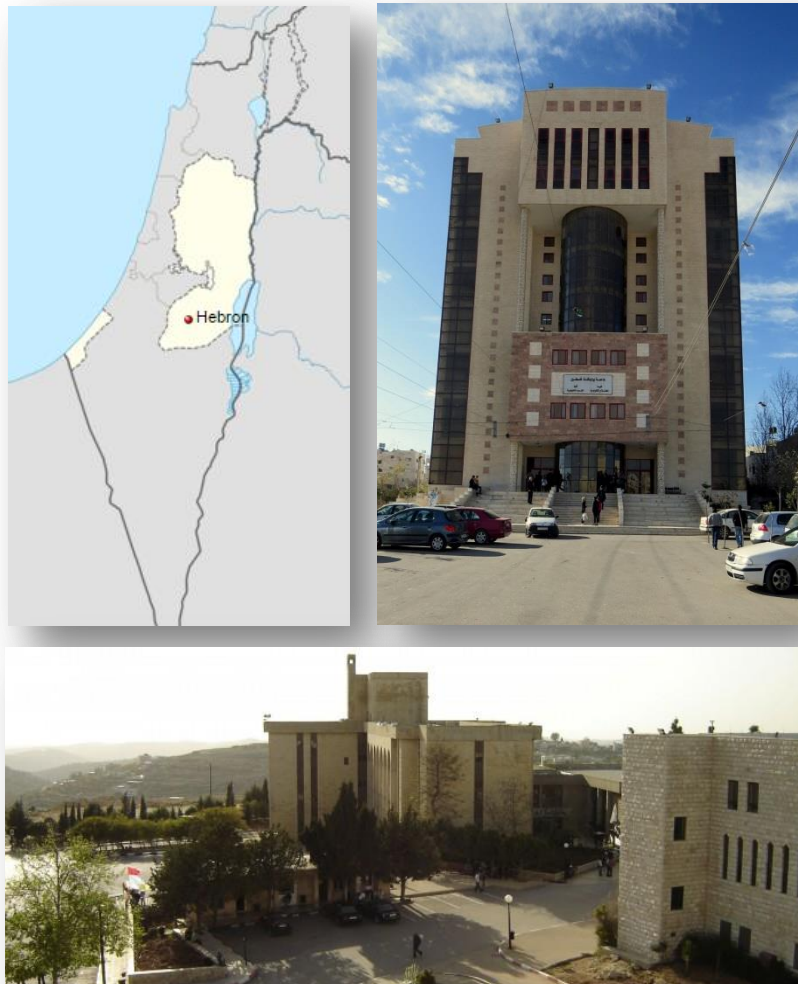


FIGURE (13) : Jordan University of Science and Technology (Jordan University of Science and Technology, Computer and Information Centre, 2016)



3.3 Palestine Polytechnic University, Hebron

Palestine Polytechnic University (PPU) is a university located in Hebron. The school was founded in 1978 by the University Graduates Union (UGU), a non-profit organization in Hebron. PPU has five colleges: College of Engineering, College of Information Technology and Computer Engineering, College of Applied Science, College of Administrative Science and Informatics and The College of Applied Professions. It offers a master's degree in Mechatronics, Mathematics, Biotechnology, and Informatics. It offers two-year diploma degrees, and since 1990 has been offering a Bachelor of Science degree in engineering.



Figures (15): Palestine Polytechnic University

The PPU has argued that it is well placed to provide leadership for the other members of the VET–NGO League. Given the needs of the TVET Centres described in this Action Plan, there is logic in the League and PPU working together closely for mapping out the quality improvement process for all of the League centres. The PPU itself may be in a strong position to provide the professional training of centre teachers and instructors, which must be a league priority. The capacity of the PPU to award teaching education qualifications, in conjunction with other universities, needs to be explored. There is also a role for the PPU to help the League define and set teaching standards consistent with those being developed for formal secondary school education. (Palestine Market Gap, Economic and Industry Cluster and Private Sector Linkages, February 2011)

League goals:

In order to embody the vision and achieve its mission the university seeks to achieve its objectives in accordance with the anus of Rtejah axes next:

1. Develop a rate of faculty members from academic and research point of view.
2. Promote education, vocational and technical training.
3. Quality assurance in the administrative aspects
4. Achieving stability and fiscal balance
5. Promote scientific research

6. Enhance the university experience for students strengthening the relationship between the university and local community institutions.
7. Enhance the international standing of the University
8. The development of entrepreneurial culture in the university
9. Improving the learning environment and learning
10. Action Items Palestine Market Gap, Economic and Industry Cluster and Private Sector Linkages, February 2011

Profile summary	
Year program was first offered	1978 BA 1990
Number of applicants per year	Over 5000
Programs offered	Computer and Information Technology Administration and Banking Engineering Professions In addition to other short courses in different topics
Length of the programs	PPU offers two-year diploma degrees in addition to short courses, and has been offering a Bachelor of Science degree in a number of engineering programs since 1990.

Total student enrollment	5000
Total female student enrollment	30–40%
Total number of graduates per year	Around 4500
Student fees per year	Depends on the program
Date curriculum was last updated	2009
Average age of textbooks	5 years
Is field work or field study a required part of the curriculum	Yes
Percentage of time students spend in practicums/work attachments	80%
Ministry	Ministry of Labor (for the continuous education short courses) Ministry of Education (for the two year programs offered by the College of Applied Professions at the PPU)
Diploma	A certificate for continuous education for the short courses

	A diploma for the two year programs
--	-------------------------------------

TABLE (16) Action Items Palestine Market Gap, Economic and Industry Cluster and Private Sector Linkages, February 2011

Chapter I: GENERALINTRODUCTION

1.1 General Introduction

Education is one of the most important things in life, because it gives people the skills and tools they need to navigate the world. Without education, people would not be able to read, write, calculate or communicate; they would also not be able to perform jobs competently, accurately and safely. Education also teaches people about the world in which they live, including information about history, philosophy and culture. It is essential for nearly every type of job or career, and in many cases, education makes the difference between being able to perform a job safely and accurately and being unable to perform a job at all.

Also education is one of a human right for both sexes without discrimination, which is an essential tool for achieving sustainable development. It has become undeniable; it is a vital engine for various businesses, it became necessary to develop our life in different sectors such as economic and social vitality.

Technical /vocational training and education is an educational and training process adopted by educational institutions to increase the effectiveness of the individual in all life sectors; social and economic s, thus increasing Scientific and technological development in many fields. It seeks to give individuals the technical and behavioural skills to meet

the needs of the labour market, thereby helping to counter the structural efficiency between supply and demand in the Labour markets. Education and vocational and technical training not only leads to increase productivity but leads to Increase self-confidence and improve job satisfaction.

It is one of the most powerful instruments for enabling all members of the community to face new challenges and to find their roles as productive members of society. It is an effective tool for achieving social cohesion, integration and self-esteem (UNESCO, 1999).

it plays a fundamental role in preparing work force to deal with modern technology and facing the fast changing and its impact on the labour market needed .that's encouraged the countries; especially the developed ones to inter a radical reforms in this sector through the integration of vocational technical education programs bridged with higher education and linked it with the needs of labour markets and ensuring responsiveness to the scientific, cultural, social and economic changes. there were many reasons that led these countries to carry out a radical reforms in the Education and vocational training and these reasons are: the increasing rate in dropout of educational levels especially Secondary education, the reluctance of students for enrolment in vocational and technical secondary education programs, and the entering of those who have not completed their university education to the labour market without any Experience, professional or artisanal skills.

Technical /Vocational training and education

The term definition of it in general and includes every form of education that aims to the acquirement of qualifications related to a certain profession, art or employment or that provides the necessary training and the appropriate skills as well as technical knowledge, so that students are able to exercise a profession, art or activity, independently of their age and their training level, even if the training program contains also elements of general education. (Kostis's, 2007)

Technical /Vocational training and education is generally defined as the part of vocational education that provides the specialized professional knowledge and skills, which attribute professional adequacy to the trainee and are the focus of every vocational training program.

Vocational training can be seen as an activity or a set of activities designed in order to transmit theoretical knowledge and also professional skills that are required for certain types of jobs, As an educational policy, it refers to the initial vocational training, whose aims are connected to the given offer and demand of specialties, as they are

formed by the structural characteristics of each county's economy.
(Efstratoglou & Nikolopoulou, 2011)

The 2001 UNESCO and ILO's General Conference on Technical and Vocational Education and Training referred to TVET as "those aspects of the educational process involving, in addition to General education, the study of technologies and related sciences, and the acquisition of practical Skills, attitudes, understanding and knowledge related to occupations in various sectors of economic and social life." (UNESCO and ILO, 2002). In recent years, the term 'skills development' has emerged in the development world for a concept that is synonymous with this broad definition of TVET. In these definitions, TVET – sometimes also known as Vocational Education and Training (VET) or Career and Technical Education (CTE) – can be regarded as a means of preparing for occupational fields and effective participation in the world of work. It also implies lifelong learning and preparation for responsible citizenship. In its broadest definition, TVET includes technical education, vocational education, vocational training, and on-the-job training.

Technical education mainly refers to theoretical vocational preparation of students for jobs involving Applied science and modern technology. It emphasizes the understanding of basic principles of Science and mathematics and their practical applications, rather than the actual attainment of Proficiency in manual skills as is the case with vocational education. The goal of technical education

Is to prepare graduates for occupations that are classified above the skilled crafts but below the Scientific or engineering professions. (UNESCO and ILO, 2002).

Vocational education and training prepares learners for jobs that are based in manual or practical Activities, traditionally non-theoretical and totally related to a specific trade, occupation or vocation, Hence the term, in which the learner participates. Vocational education is usually considered part of The formal education system, and usually falls under the responsibility of the Ministry of Education. On the other hand, vocational training is better linked to the labour market and employment Development system, and usually falls under the responsibility of the Ministry of Labour and Social Affairs. TVET is often offered at secondary and post-secondary levels. (UNESCO and ILO, 2002)

The industrialised world invests more in vocational schooling than the developing world. The UNESCO Institute of Statistics (UIS) finds a simple correlation between the two, as 'the greater a country's Gross Domestic Product per capita, the greater its secondary Percentage of Technical/Vocational Enrolment, However, surprisingly, there is little in the relevant literature to support the link between VET and development. With a few exceptions, the standard conclusion is that it is wiser for governments to invest in general education than in VET. (UIS, 2006) There is a definition of three critical dimensions which can make VET cost-effective as a strategy: (The authors (ibid))

- ✓ When it is focused on improving productivity, when jobs are available, and when it produces workers with needed skills of acceptable quality.
- ✓ Understanding the economic context in which training is delivered is therefore critical to the development of effective training policies and programs.
- ✓ And when we talk about Technical and Vocational Training Campus we talk about several colleges in different specialist such as : electrical works , textile , wood , information and telecommunication technology , administrative and management , mechanical works , metal works , construction works , arts , sanitary installation, hotels and health ; For both gender, with a different programme for the student whom pass Tawjehi exam/ not pass it .

Situation in Palestine

There are approximately 300 institutions in the West Bank and Gaza, providing short, medium and long-term vocational education and training programs. They include: (a) vocational secondary schools, (b) vocational training centers, (c) community and cultural centers for training, (d) societies and charitable organizations concerned with education and training, (e) agricultural and economic development centers, and (f) Community Colleges providing post-secondary education.² Some universities offer TVET courses at the diploma level as well. For the purposes of this study, the range of vocational centers, colleges and universities providing instructional programs in vocational

skills development that are largely private and not-for-profit are grouped together as TVET Centers of which the core group is constituted by the VET-NGO League. (Palestine Market Gap, Economic and Industry Cluster and Private Sector Linkage, April, 2011)

In secondary vocational education the situation is somewhat worse owing to the poor social image of TVET and the low value placed on vocational education and training. Enrolment in public secondary vocational schools is low with only 5% of students in the secondary education cycle attending these TVET schools and colleges. Across the entire national education system only 12% of educational institutions are privately owned and operated. The percentage of private providers in TVET is limited and has not resulted in additional funding to the sub-sector or the diversification of funding sources. Most privately owned TVET Centres are not-for profit educational institutions that struggle to meet the cost of providing education and training. (INFORMATION TECHNOLOGY HUMAN RESOURCE IN PALESTINE, 2001).

1.2 Research problems:

Vocational training in Palestine is facing from the absence of organized training centres which are in need of a good planning, this major problem is also with many minor problems, and those problems are:

- Poor internal and external collaboration (among TVET Centres and key agencies and employers central to the performance of the TVET sub-sector).
- Outdated education and training programs.
- Limited employability skill training.
- Limited staff preparation and qualifications.
- A lack of program resources.
- A lack of financial resource.
- The lack of attractiveness.
- The existing institutions are largely unsystematic and much too small in their scope and capacity.
- The equipment is outdated.
- In most cases also the buildings are in a bad shape.

1.3 The importance of the study:

The significance of the study comes from:

- The absence of studies, researches and projects about vocational training system.
- The needs of organizing training sector in Palestine.
- Provide a data and information base.
- Submit a proposal for planning vocational training system and centres.

1.4 Objectives:

The main objectives in the research:

- Diagnose the current situation.
- Determining the problems that facing technical/ vocational education in the Palestine
- Provide proposals and solutions that's develop this type of education , in order to have an organized vocational education system and centres , which are efficient, effective and flexible, linked to the needs of the market, sustainable and able to meet its obligations towards the Palestinian society.

Research Questions:

- What are the strengths and weaknesses of the current TVET?
- What recommendations can be made to TVET organizations to help
Society move towards the success?
- What are the best solution /proposal to improve
technical/vocational centres?

Why did I choose this project?

At the present, there is no unified system for Technical and Vocational Education and Training. This stream is carried out in separate types of institutions that are run by respectively the Ministry of Education & Higher Education (Vocational Secondary Schools and Technical Colleges), the Ministry of Labour (Vocational Training Centres), private

institutions as well as NGOs .The existing institutions are largely unsystematic and much too small in their scope and capacity, the equipment is outdated and in most cases the buildings are also in a bad shape. This fragmentation leads to a biased training policy, making it difficult also for employers to interact with the training system on the work place whether local, regional or national level.

About 81.3% of the employees aged 15 Years and Above in West-Bank (according to the PCBS labour Force Survey 2015) choose to work in in a specific career, my aim is to a good ,organized and efficient training and vocational centres which are fit with the markets in Palestine.

1.5 Research plan:

The research plan will be based on the following framework:

The first frame: Theoretical framework:

This framework consists of two aspects, one relating to the theoretical aspect of the relevant subject to the research subject (such as the definition of vocational education, technical education and vocational training), and also it will includes History for vocational and technical education and training in Palestine, while the other aspect is to having case studies that's relevant to the research subject.

The second frame: Informational framework

This framework consist all the information and data that will use in the research Such as statics data (number of technical/vocational colleges and schools, number of the student, un/employment rate...) ,taking a public opinion by questionnaire , and describe the current situation of education Vocational and technical training centres in Palestine .

The third frame: Analytical and deductive framework

This framework consist a merging between Theoretical and Informational framework, analysing the current situation of vocational training system , clarifying the problems and reasons, then analysing the result, and putting a proposal to solve the problems by planning Vocational training centres .

The methodology of the research will be based on the many approaches:

- Historical approach: frame number 1.
- Description approach: frame number 2.
- Analytical and deductive framework: frame number 3.

Moreover a set of research tool will be used those:

- Questionnaires.

- Interviews.
- Field survey.
- Observations.
- Computer aided planning tools: GIS, AutoCAD...

1.6 Data sources:

This table indicates the types of the data and information needed for the projects and its sources.

type	data	Source
Qualitative	Photos	Researcher`s observation Online sources
	Interviews	Researcher
	Gary literature (Governmental/academic reports)	Online sources Archive Library Theses
	Previous studies	Online sources Archive Theses
Quantitative	statistic data	Ministry of labour and education TVET institution Observation (Survey) Theses

TABLE (1) the types of the data and information

Chapter IV

Site selection & Site analysis

Chapter IV

5.1 Site selection

Site selection, the concept that applies both analytical and qualitative techniques to determine the most favourable location.

Site selection has a long-lasting impact on every real estate decision that we make. The process, issues, and criteria that support this decision are of great importance to the communities, the environment, and future generations.

Site selection has to be done carefully because the success or failure of a campus depends to a great extent on its location. In this research the process of site selection has worked in three levels, the first one is site selection on the whole west-bank to choose three governorate, second one is site selection on the chosen governorate to choose one of the chosen governorate and the third one is choose the suitable land.

5.1.1 The first level: site selection on the whole West-Bank

The main criteria in this level are the availability/not of any technical and vocational institutions.

Table (17):the number of TVET institutions

Governorate Institutions	colleges	schools	Centers	Total
Nablus	4	1	3	8
Ramallah And Bireh	5	2	5	12
Jenin	–	2	2	4
Salfit	–	1	–	1
Qalqilya	–	1	2	3
Hebron	3	3	5	11
Tubas	–	–	–	0
Jericho	–	1	1	2
Bethlehem	5		1	6
Tulkarem	1	1	1	3
Jerusalem	2	1	2	5

This table shows that there is no institution in Tubas, there is one institution in Jericho and two in Salfit, so these are the chosen governorate .then we go through knowing what is the type of these invitations.

The types of TVET institutions:

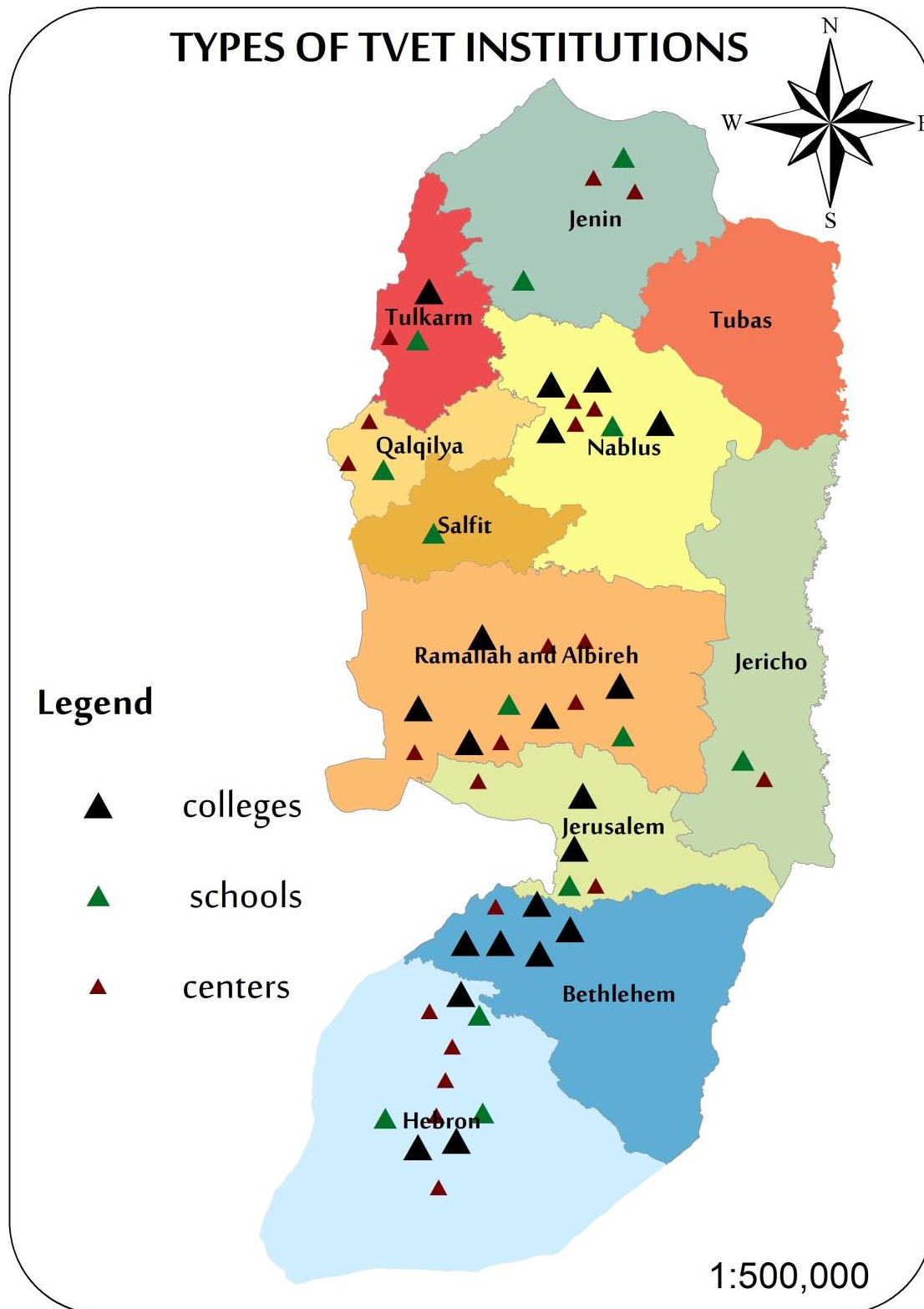


Figure (16): the types of TVET institutions

5.1.2 The second level: site selection on the chosen governorate.

Tubas governorate : Tubas Governorate is located in the northeaster part of the West Bank; it is bordered by Jenin Governorate and Armistice Line (1948 borders) to the north, Nablus and Jericho Governorates to the west and south, and Jordan valley to the east Tubas Governorate extends on high plain area that slides eastward towards the Jordan Valley. It is located west of Jordan River and south of Bissan plain; the area is also rich in springs and flood streams. Tubas is one of the main agricultural areas in the West Bank and significant source for animal grazing due to soil fertility, water availability and the relatively warm weather. (ARIJ – GIS Unit, 2011b)

Salfit : it is located in the northwester West Bank, bordered by the governorates of Ramallah and Al-Bireh to the south, Nablus to the east and Qalqilya in the north.

Jericho: Jericho Governorate is located along the eastern part of the West Bank and shares borders with Jordan. It is bordered by Tubas Governorate to the north, Jordan to the east, Nablus to the northwest, Ramallah to the west, Jerusalem to the southwest, and the Dead Sea to the south. As a region, Jericho covers a total land area of 592,815 dunums (592.82 km²), divided into eighteen major land use classifications. These include Palestinian built up areas, Israeli settlements, closed military areas, military bases, open spaces, forests and construction sites (ARIJ – GIS Unit, 2011b)

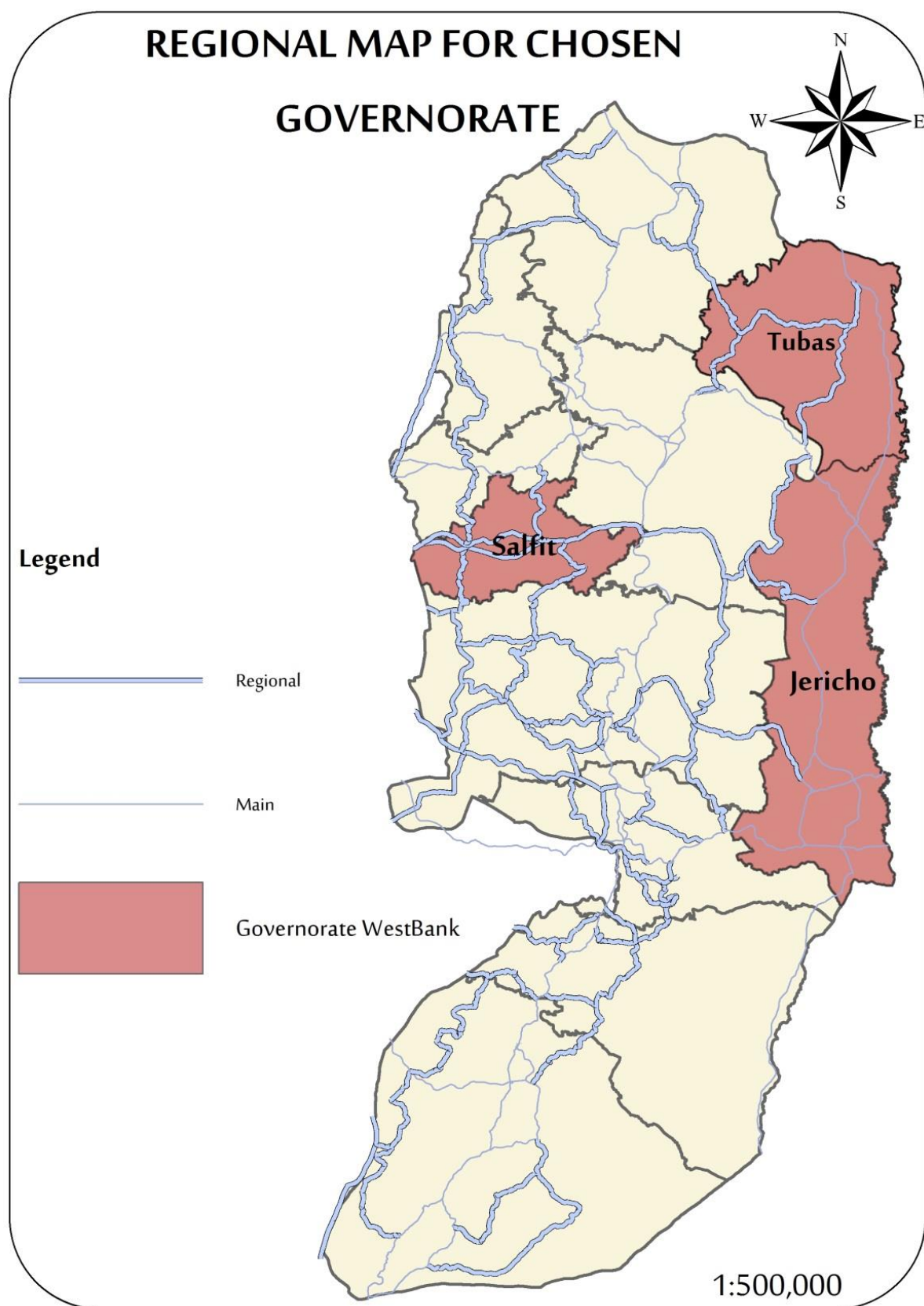


Figure (17): Regional map for chosen governorate

Site selection criteria have to put in order to make a comparison between the chosen governorate, and these criteria are:

Number & types of TVET insinuations: the number of the institution is important to know if these institutions are covered the necessity of the governorate or not.

Number of population: the governorate with the highest population will have the priority to build the campus in it.

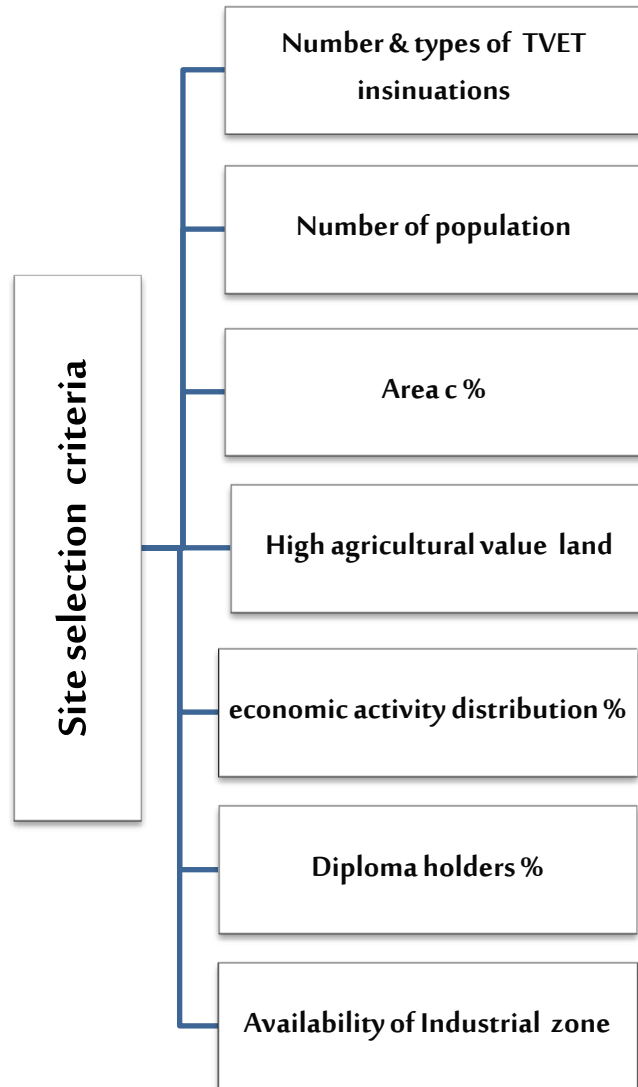
The percentage of area c: should take in consideration the political aspect; that we can't build in area c, so knowing the percentage of this area from the whole governorate area is important to know the area of buildable area (area that we can build on it).

The percentage of High agricultural value land, forests and biodiversity land: also environment aspect should take in consideration, which we can't build in them.

The percentage of Economic activity distribution: This criterion is important to meet the needs of the labour market, thereby helping to counter the structural efficiency between supply and demand in the Labour markets.

The percentage of Diploma holder's: it shows the percentage of enrolment and resisted student in middle college to take diploma certification.

Availability of Industrial zone: it's important to provide training and working environment for un/graduated students.



The Number & the type of TVET institutions

This map shows that there is no institution in Tubas, there is one institution in Jericho and two in Salfit, so these are the chosen governorate .then we go through knowing what is the type of these invitations.

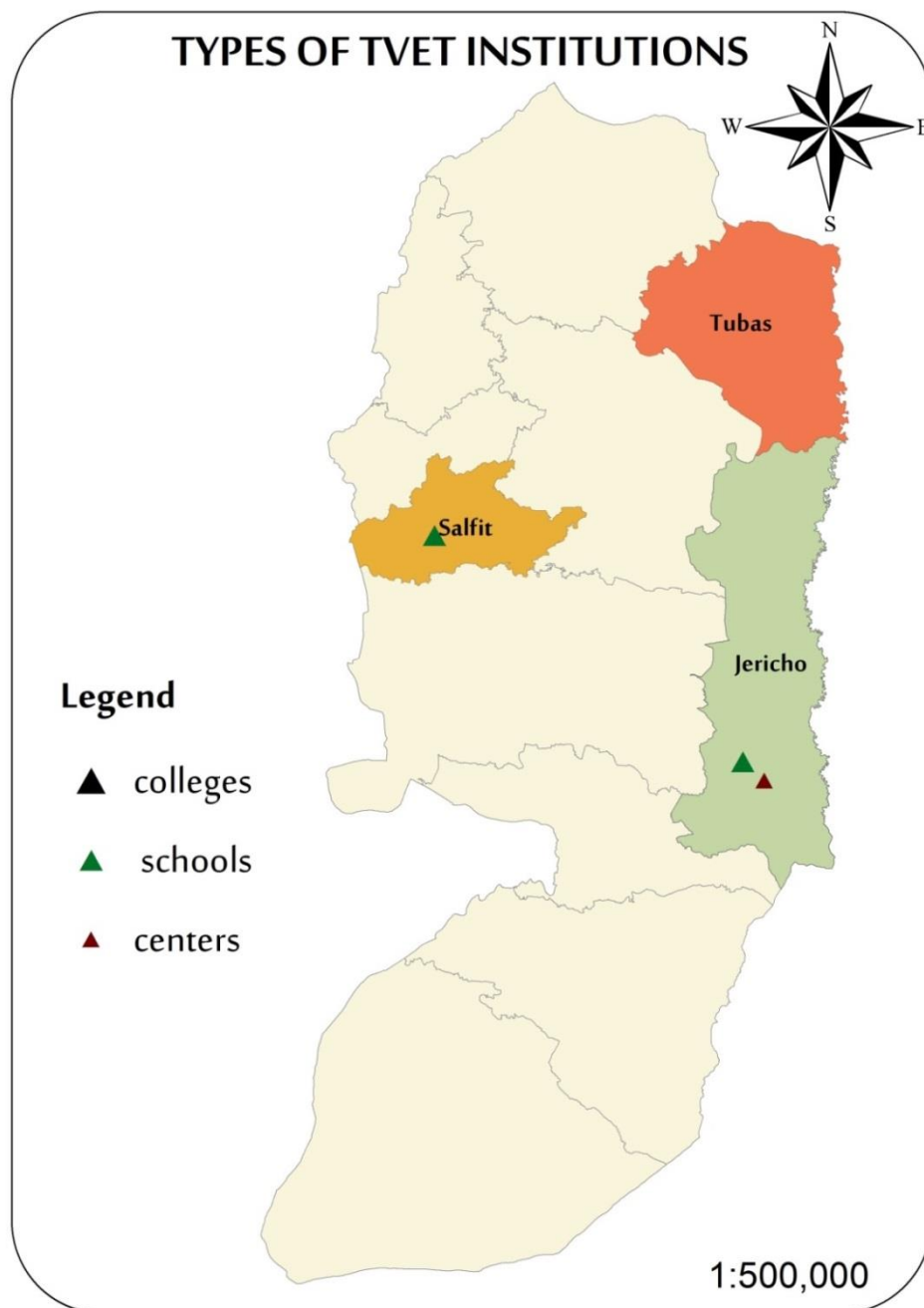
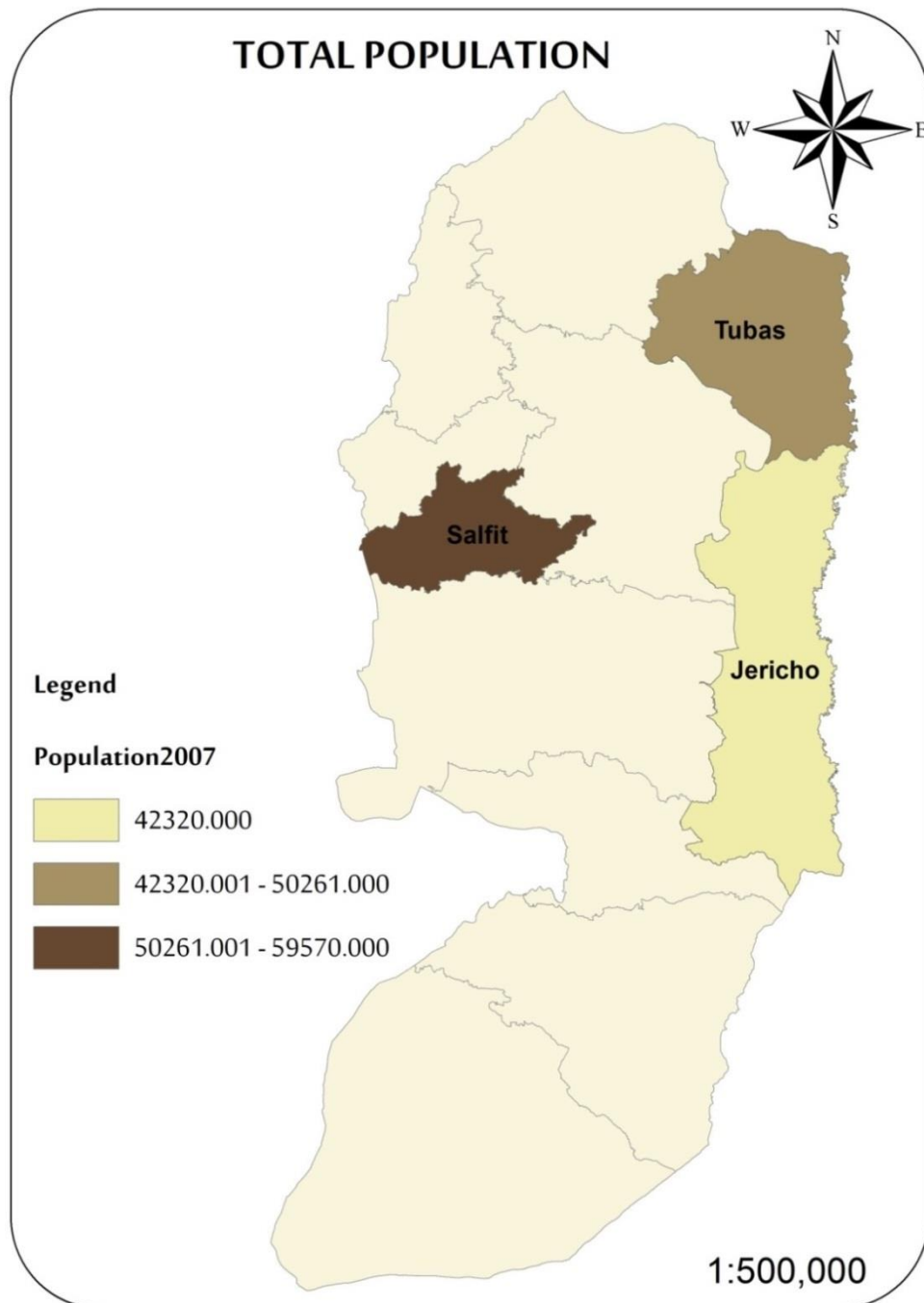


Figure (18): The Number & the type of TVET institutions

Total Population

The highest population is in Salfit, then Tubas and the last one is in Jericho.



Figure

(19): Total Population

The Percentage of Area C & Settlements:

The highest percent of area c and settlements is in Salfit which is 91% from the whole governorate area and this is a negative sign because we can't build in 91% area of Salfit, then in Tubas and the last one is in Jericho.

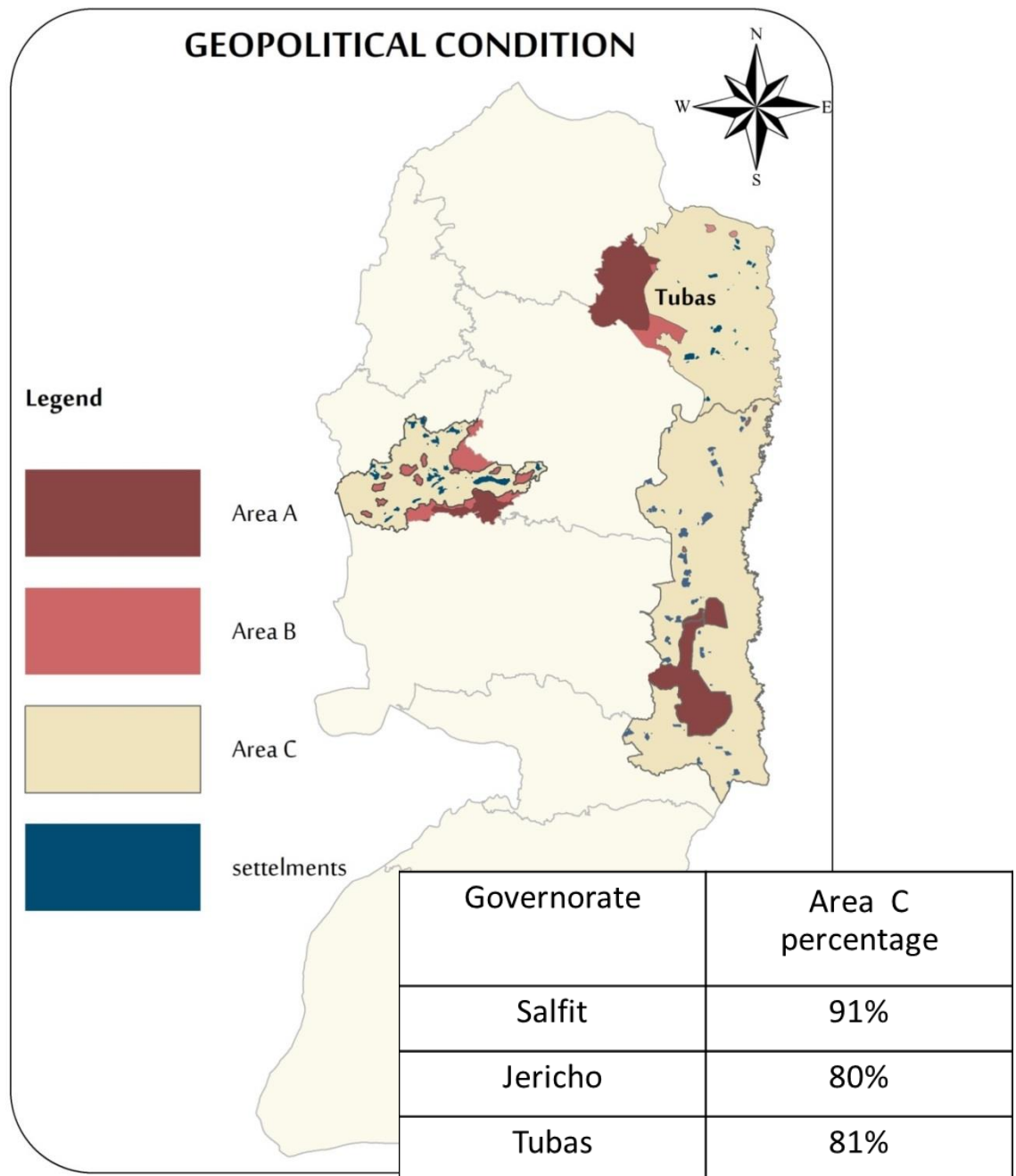


Figure (20): Percentage of Area C & Settlements

**High agricultural value, forests, Biodiversity and natural
deserve:**

Also Salfit has a highest agriculture, forest, biodiversity and natural
deserves area.

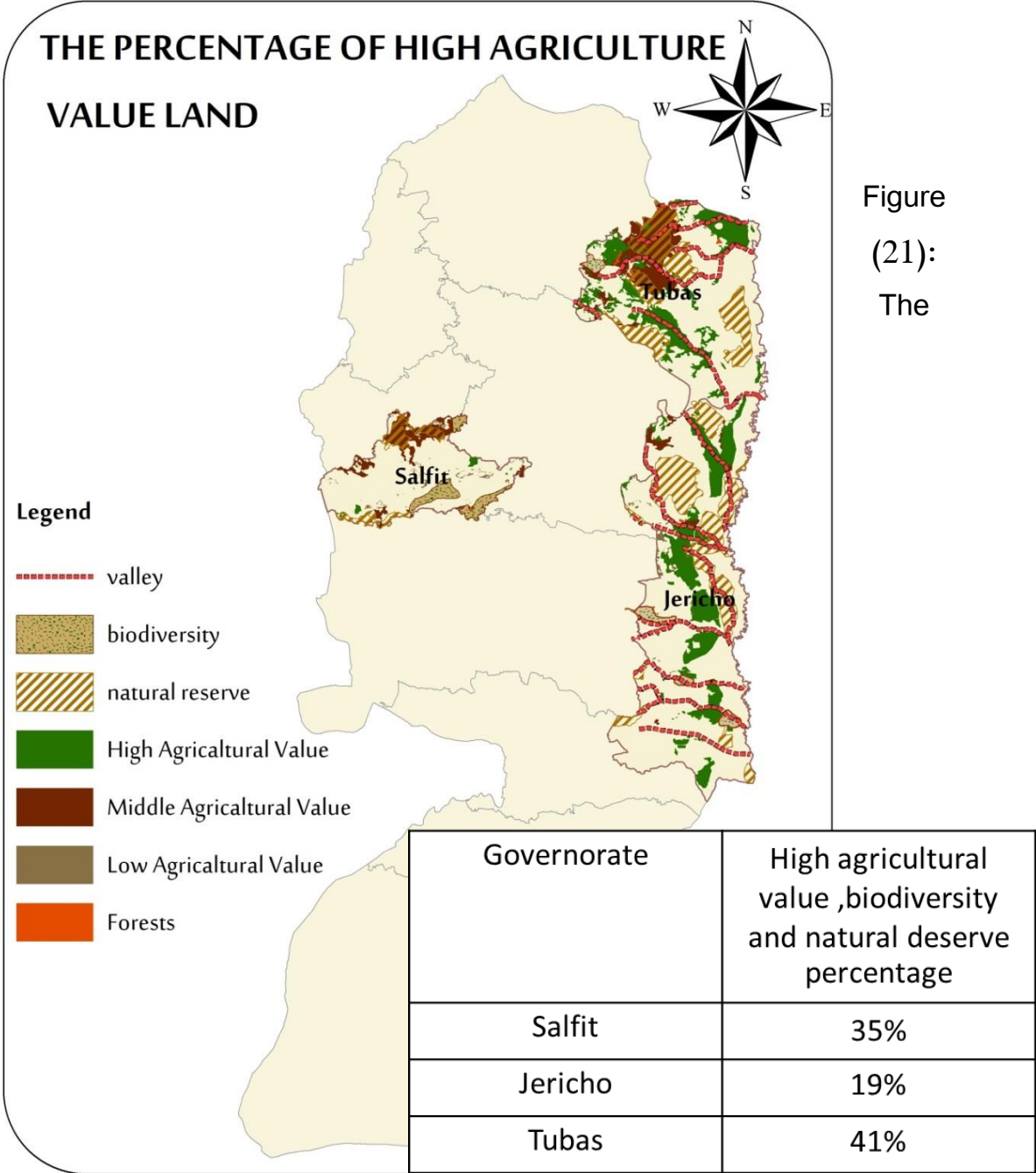


Figure
(21):
The

Percentage Distribution of Employed Economic Activity

Most of employed in tubas worked in agriculture, while most of employed in Salfit worked in construction and commerce, and most of employed in Jericho worked in manufacturing.

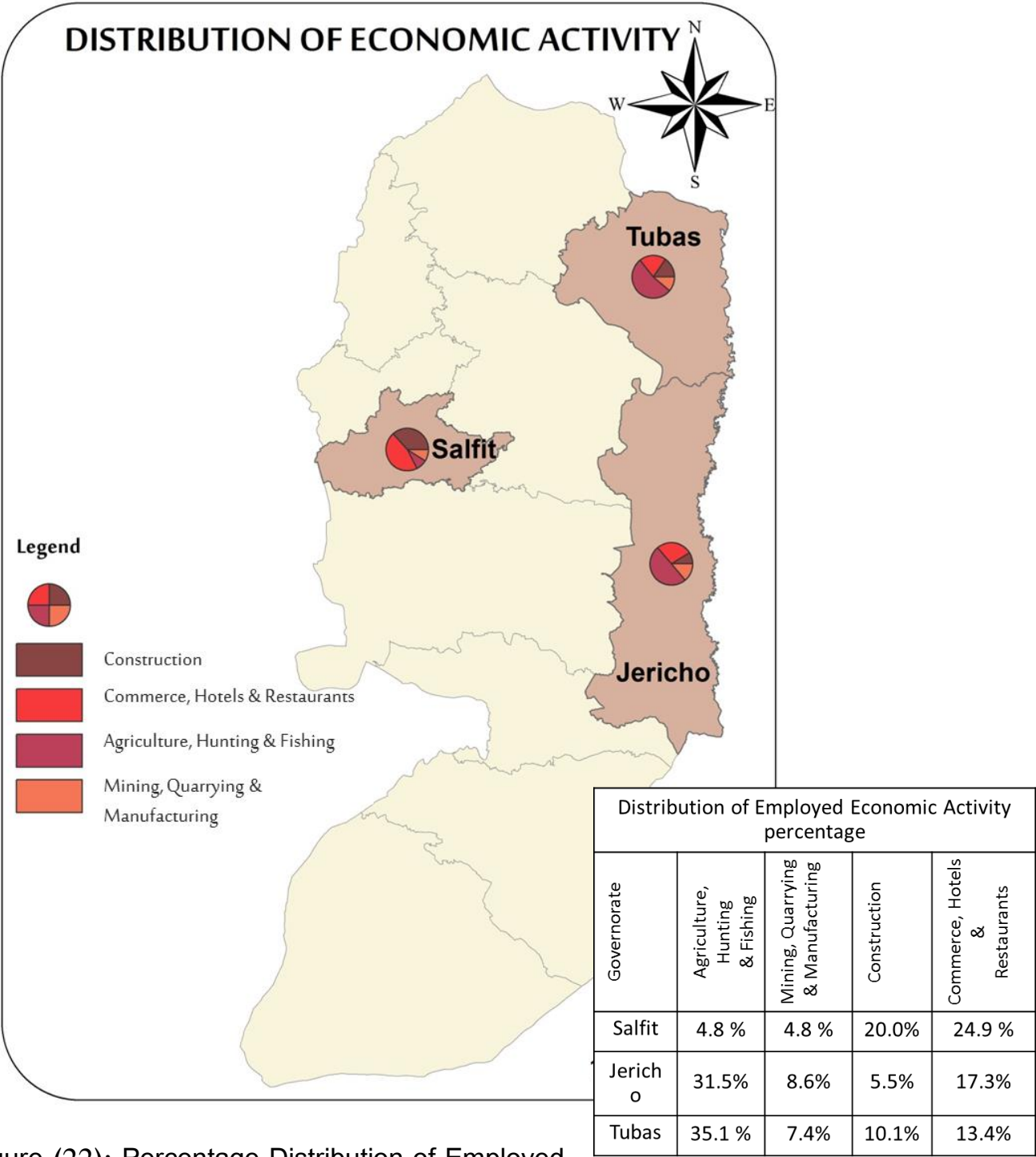


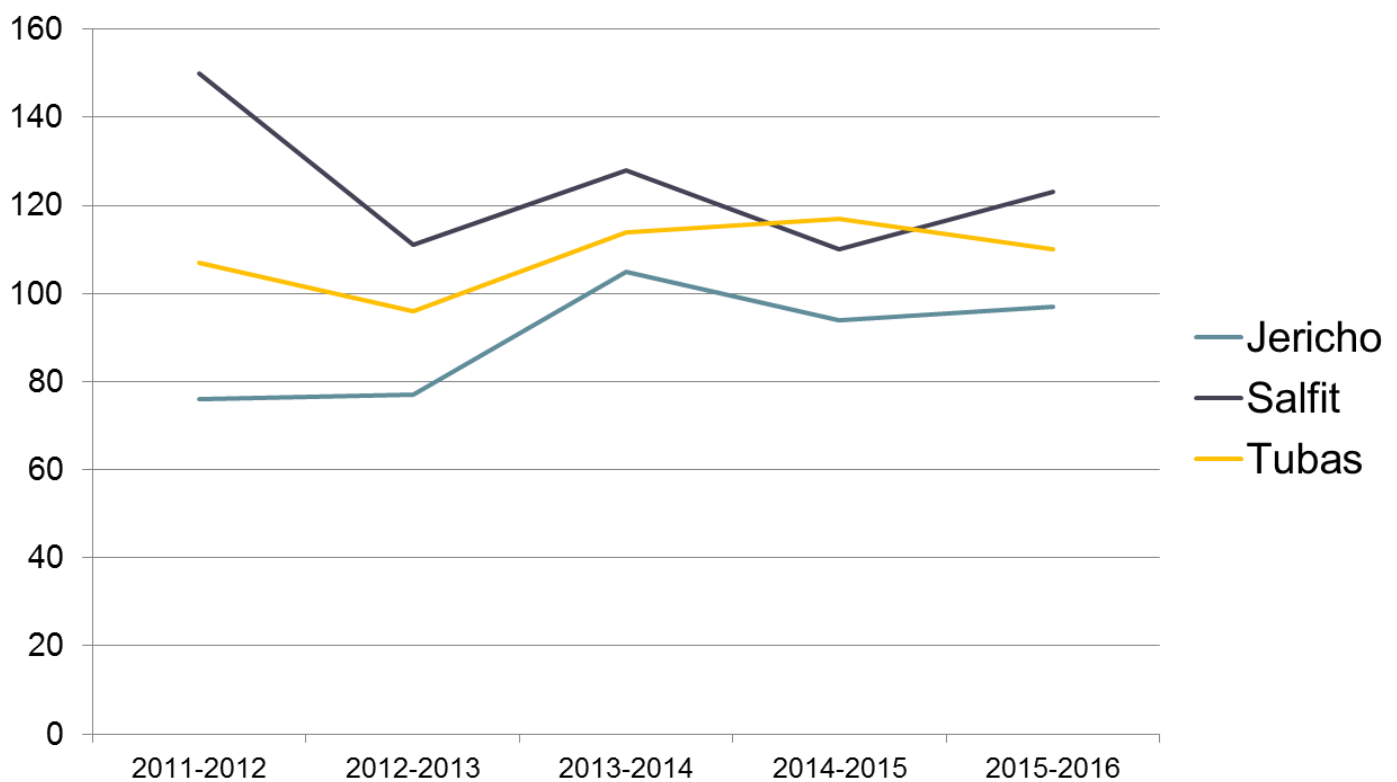
Figure (22): Percentage Distribution of Employed Economic Activity:

Number of diploma registered students in middle colleges:

Number of enrolment student in college for diploma student is the highest in Salfit from 2011–2014 and then it decreased until 2015 to present.

In Jericho the number of enrolment students is the least.

Figure (23): Number of diploma registered students in middle



Criteria value:

These are the value of each criteria, which are needed in order to make evaluation.

Table (18): criteria value

Governorates	Number of population	Number of TVET insinuations	High agricultural value ,biodiversity and natural deserve %	Diploma holders %	Number of diploma registered students	Area c %	Percentage distribution of economic activity				Availability of Industrial zone
							Agriculture, Hunting & Fishing	Mining, Quarrying & Manufacturing	Construction	Commerce, Hotels & Restaurants	
Salfit	72,279	1	35%	4.1	622	91%	4.8	4.8	20.0	24.9	Yes
Jericho	66,854	2	19%	2.5	449	80%	31.5	8.6	5.5	17.3	Yes
Tubas	53,562	0	41%	3.6	544	81%	35.1	7.4	10.1	13.4	No

Evaluation:

Once the Site Selection Process has been initiated, it will require some standardized protocols in order to evaluate the possible governorate for building the campus and the highest points goes to **Tubas**.

Table (19): criteria evaluation

Governorates	Number of population	Number of TVET insinuations	High agricultural value ,biodiversity and natural deserve %	Diploma holders %	Number of diploma registered students	Area c %	Percentage distribution of economic activity				Availability of Industrial zone	Total
							Agriculture, Hunting & Fishing	Mining, Quarrying & Manufacturing	Construction	Commerce, Hotels & Restaurants		
	3	3	3	1	2	3	2	2	2	2	2	
Salfit	3	1	1	1	3	1	1	1	3	3	3	47
Jericho	2	2	2	3	1	3	2	3	1	2	1	50
Tubas	1	3	3	2	2	2	3	2	2	1	3	55

5.1.3 The third level: choose the suitable land in **Tubas**

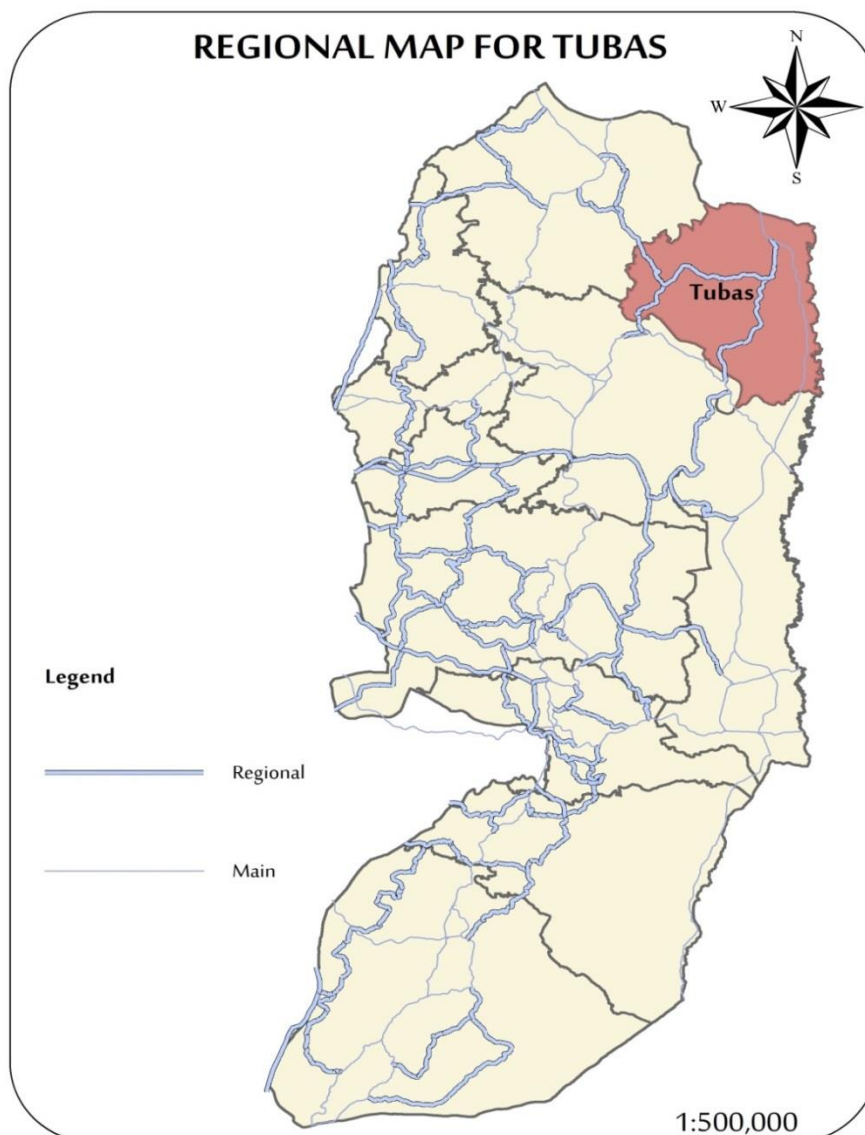
TUBAS Governorate is located in the northeaster part of the West Bank; it is bordered by Jenin Governorate and Armistice Line (1948 borders) to the north, Nablus and Jericho Governorates to the west and south, and Jordan valley to the east. Tubas Governorate extends on high plain area that slides eastward towards the Jordan Valley. It is located west of Jordan River and south of Bissan plain; the area is also rich in springs and flood streams. Tubas is one of the main agricultural areas in the West Bank and significant source for animal grazing due to soil fertility, water availability and the relatively warm weather,(ARIJ GIS).

Tubas Governorate is characterized of being a moderate elevated area where its highest elevation reaches up to 495 m above the Sea level at Aqqaba and the lowest elevation reaches to 182 m below the Sea see level at Khirbet Tell el Himma. Summer in Tubas Governorate is warm and dry, while winters are moderately rainy. The mean annual rainfall in the Tubas Governorate is 329 mm (varies between 180 mm in the east to 440 in the west); noting that the western parts of Tubas enjoy greater amounts of rainfall. The average annual temperature in Tubas Governorate is 21 °C, and the average annual humidity is 56 % (ARIJ GIS).

Due to its location between two main Palestinian Governorates: Nablus and Jenin, Tubas Governorate gained an important economical and political role. It is also a strategic area for the occupation activities especially for military activities. Based on the British Mandate administrative border maps. It is divided into four major village

boundaries: Tubas (299 km), Tammun (95 km), Tayasir (23.5 km) and Aqqaba (8 km). Based on the Palestinian Ministry of Local Government classification, Tubas governorate comprises of 23 localities, of which 3 localities are managed by municipality councils, 6 localities by village councils and the rest are managed by project committees in addition to one refugee. (ARIJ GIS).

Figure (24): TUBAS GOVERNORATE



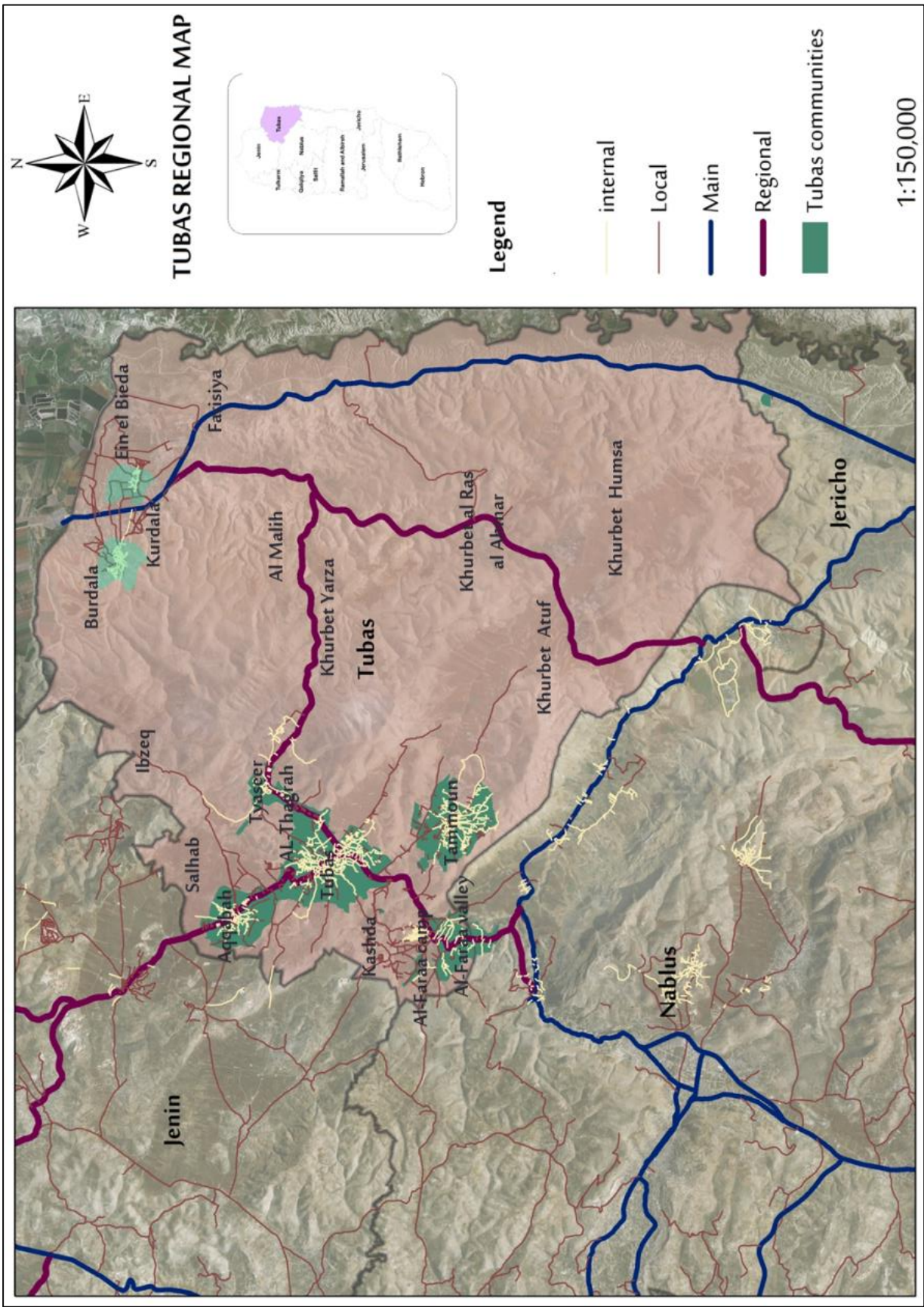


Figure (25): TUBAS GOVERNORATE

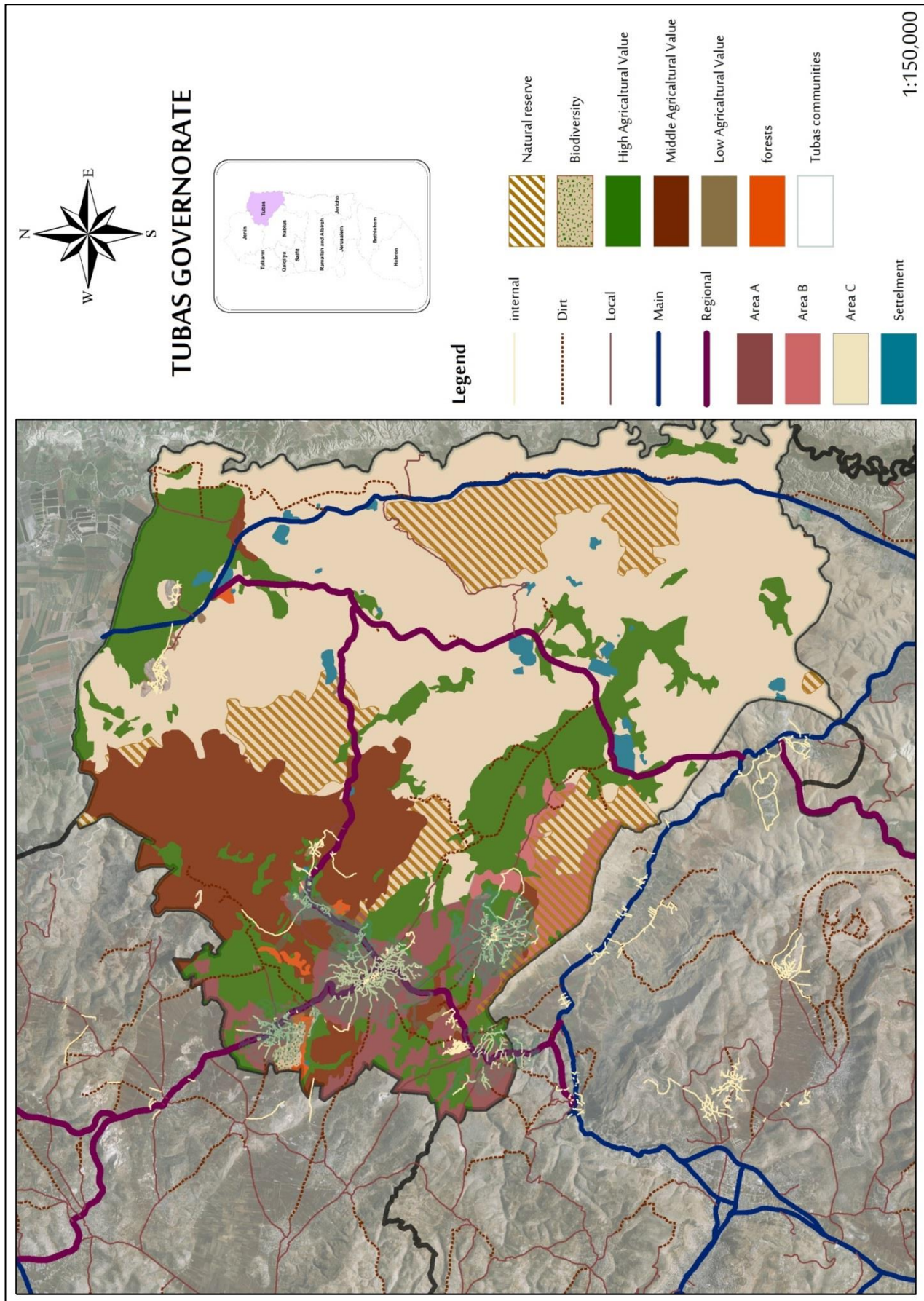


Figure (26): TUBAS GOVERNORATE

Before making site selection, there is many criteria should put to choose the best and suitable site, and these criteria are:

The main criteria is to have the sites in area A or B.

The percentage of High agricultural value land, forests and biodiversity land: also environment aspect should take in consideration, which we can't build in them.

Slope/topography: Most desirable would be a flat site or a slight gradual slope downward to the south to have Sites with good surface drainage. The best slope is between (5–10) percent.

Size: the best site is when it has an enough spaces for construction and also for future expansion.

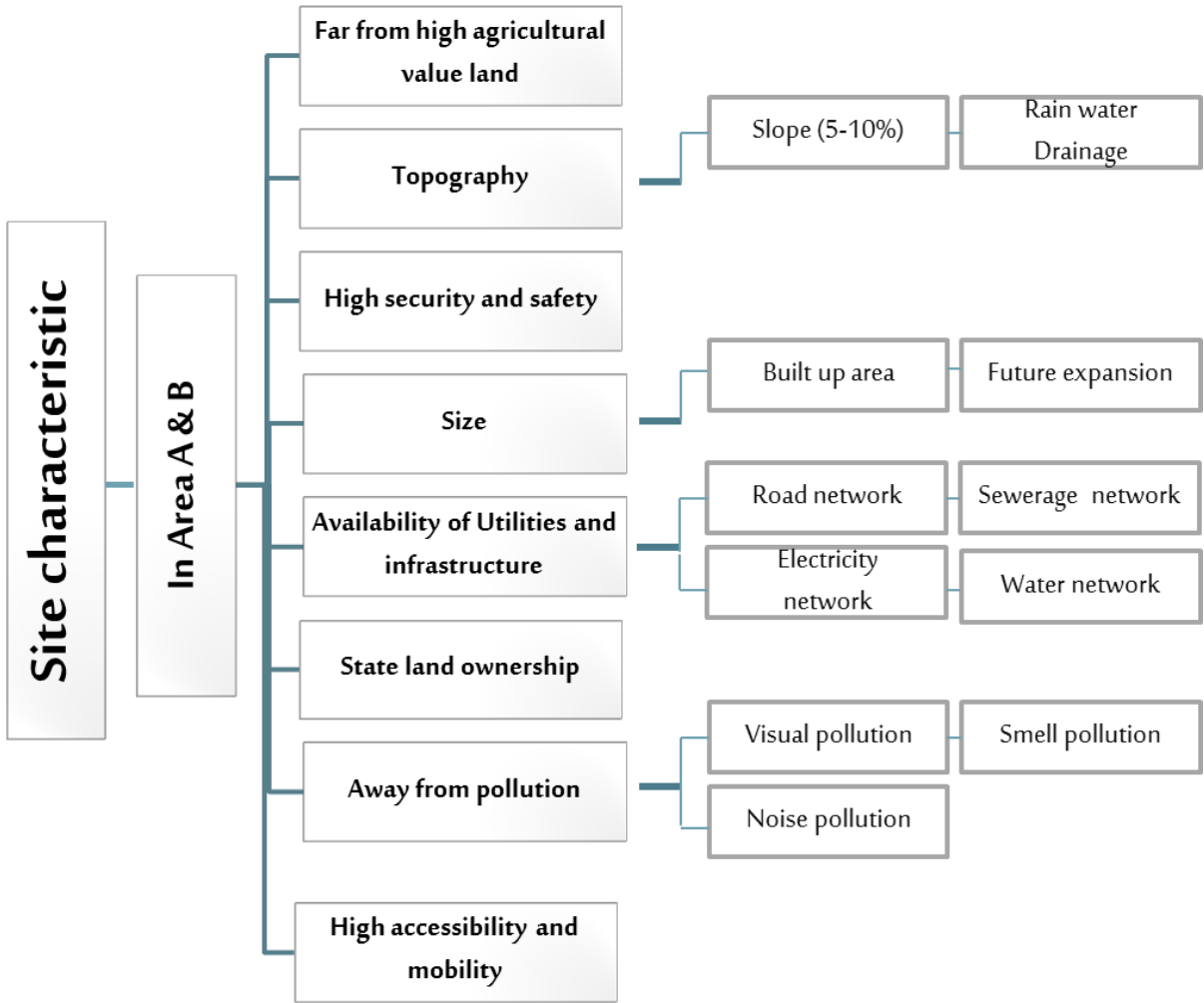
Infrastructure: the best site is when it has a road, electricity, water, sewage network.

Site ownership: its prefer to be a state ownership in order to decrease the construction cost.

Away from pollution: the best site is when it's a way from visual, noise and air pollution.

Accessibility and mobility: the chosen site should has a good and paved road network and it's preferred to be on regional or main street to have a high accessibility and high mobility.

Site selection criteria



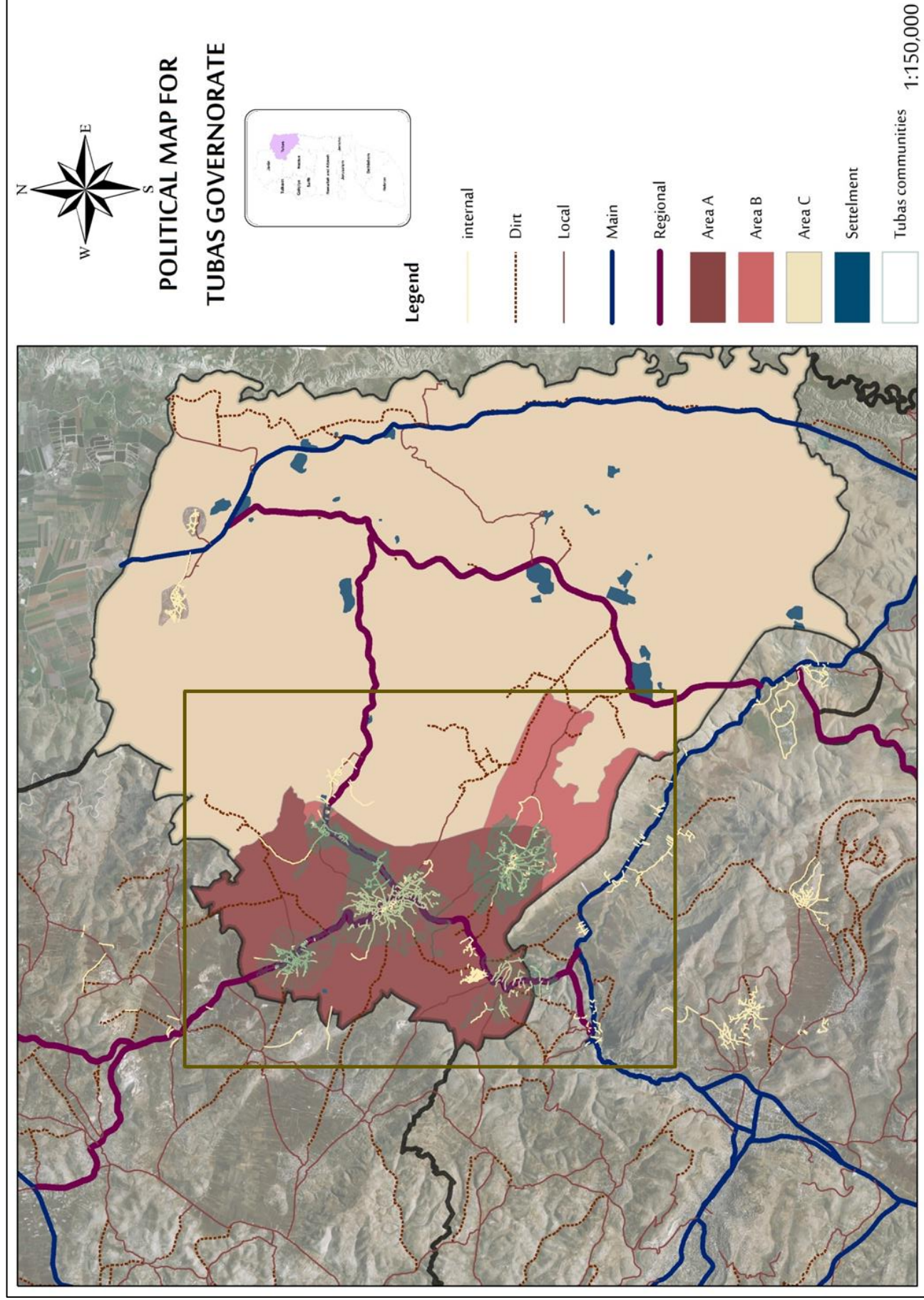


Figure (27):political map for TUBAS GOVERNORATE and the chosen study

area

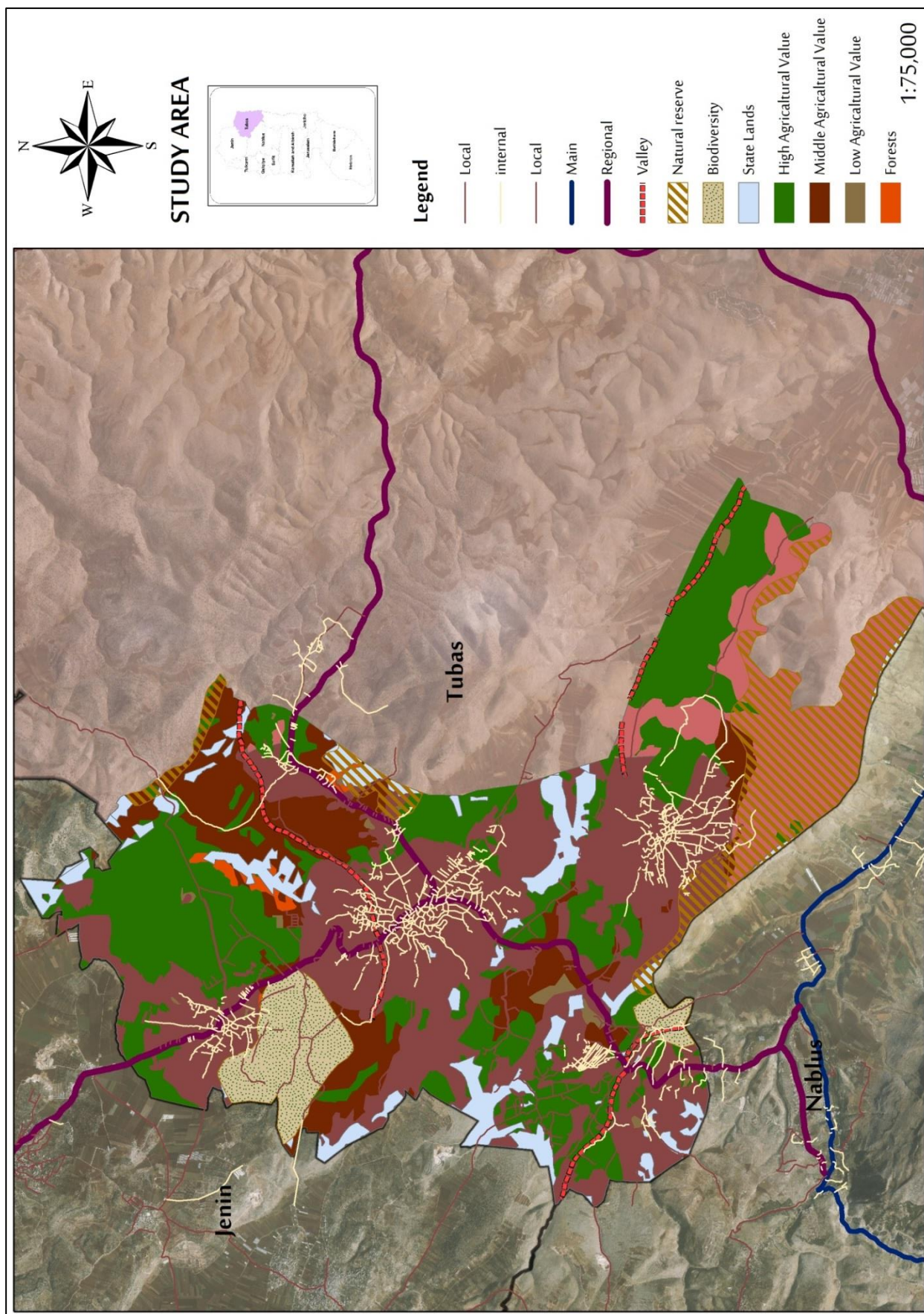


Figure (28):the study area

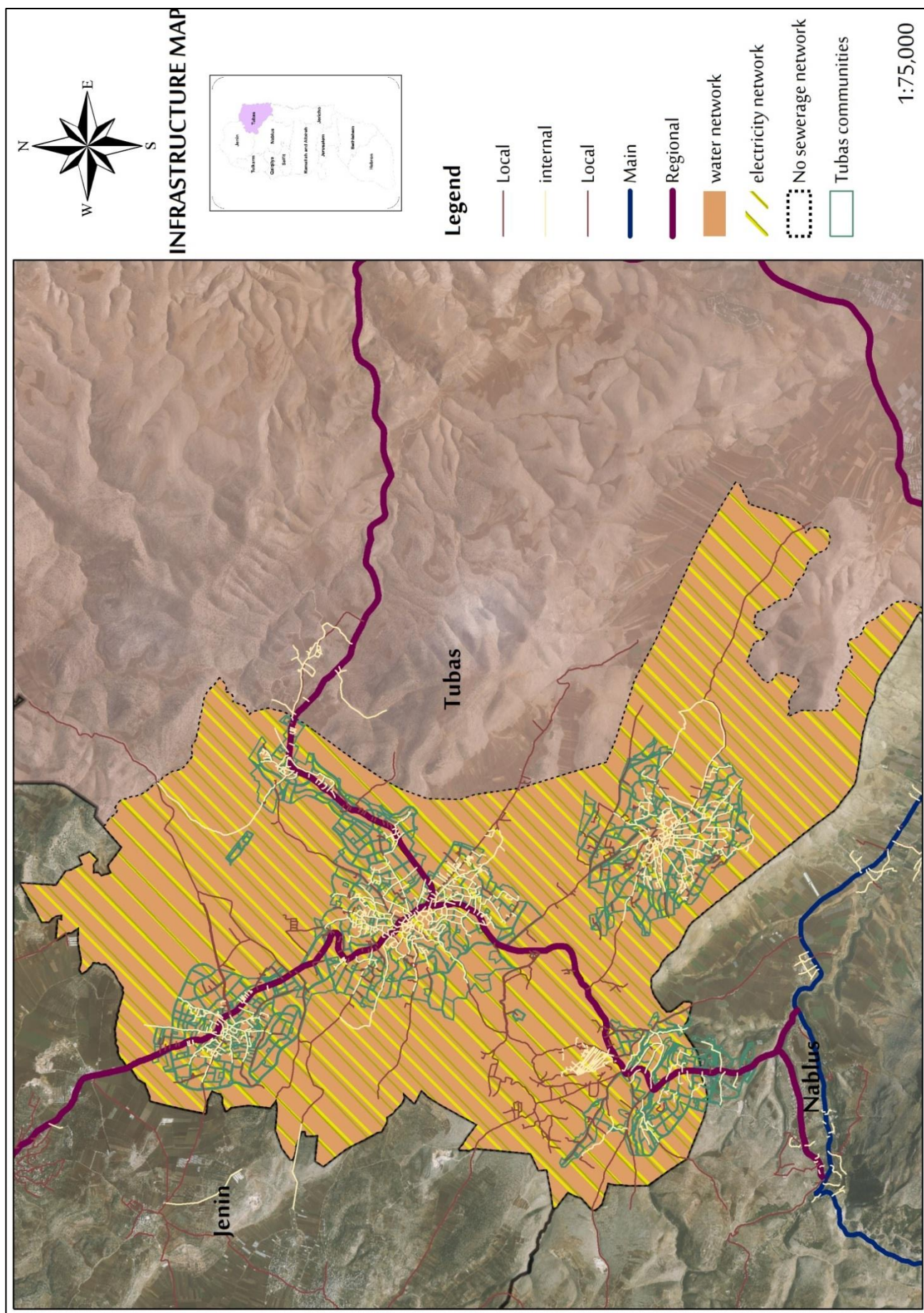


Figure (29):the infrastructure map for study area

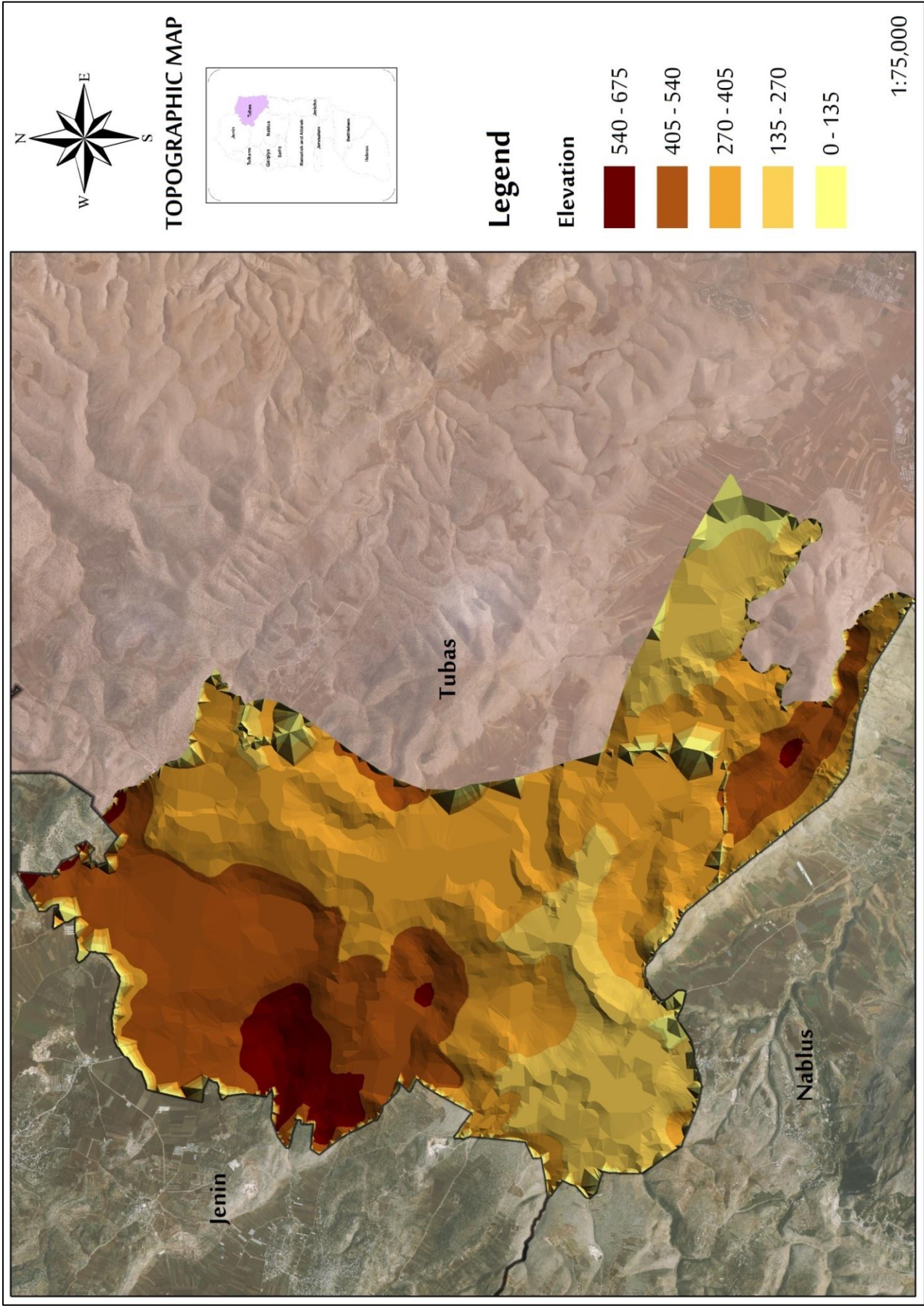
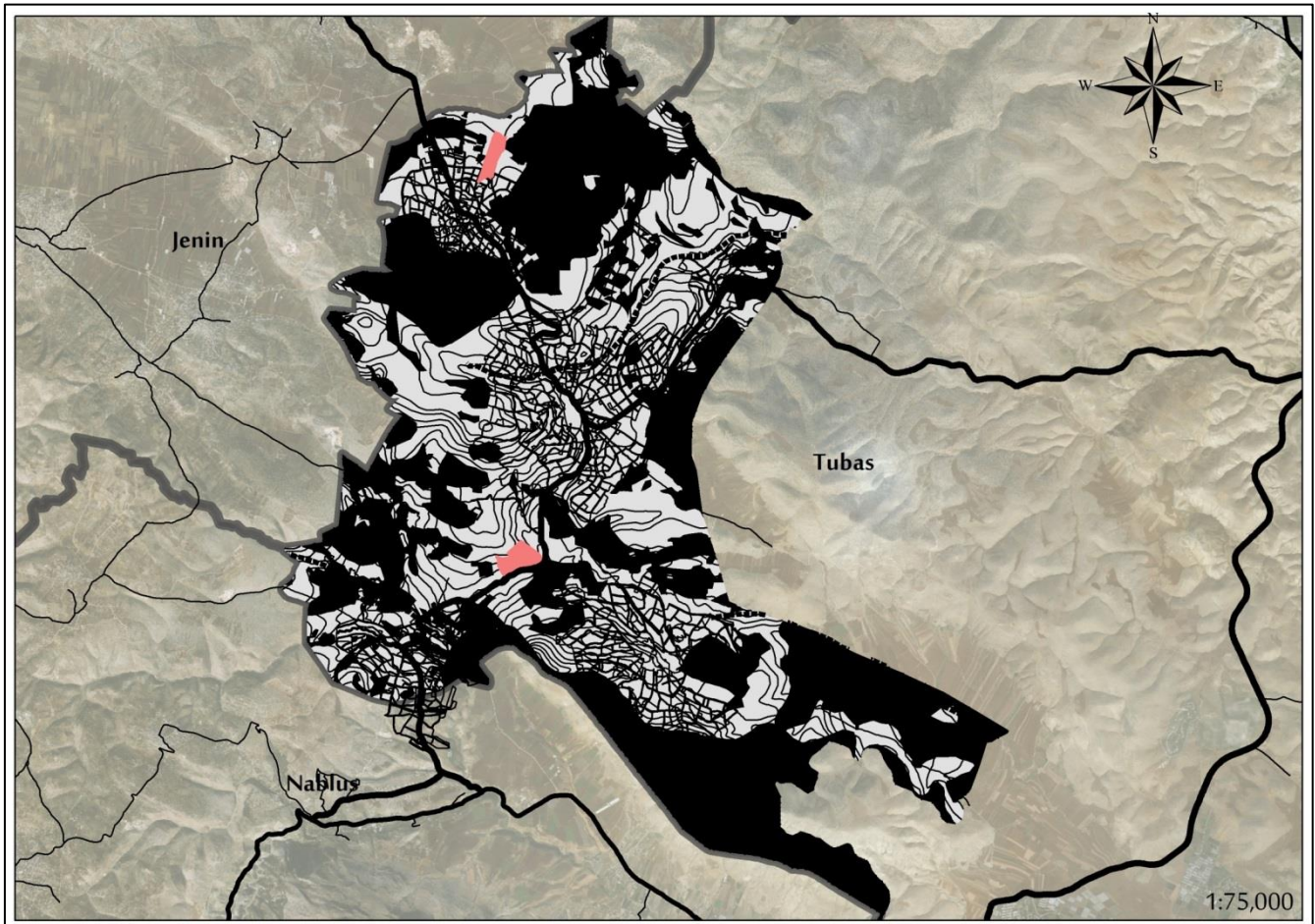


Figure (30):topography map for study area

At this map all the previous data were put on it, the black colour is the place that we can't build in it; high agriculture value, forest, biodiversity, natural diverse or steep slope. While the grey colour means a place that we can build on it, and after that two sites were chosen.



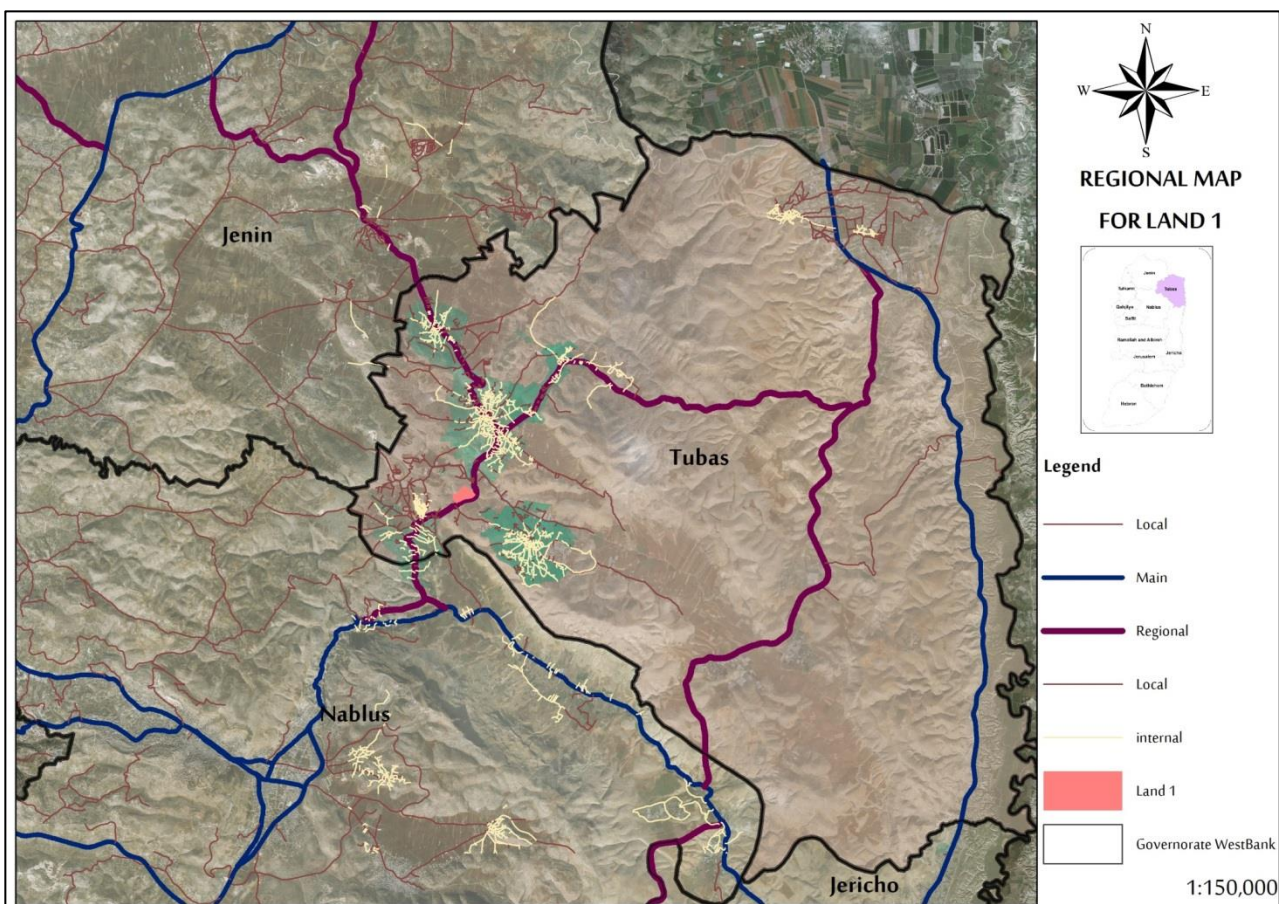
5.2 Site analysis:

Understanding the site is the first step in designing a development and is a mandatory part of the assessment process. The purpose of a site analysis is to identify how a development responds to the opportunities and constraints of an allotment and the surrounding streetscape.

5.2.1 Site 1 analysis:

The first site is lie between Al-Faraa camp and Tubas city on regional road which connected it with the local communities in Tubas governorate and other governorate, with about 297,000 m², it has a private ownership.

Figure (31): regional map for site 1



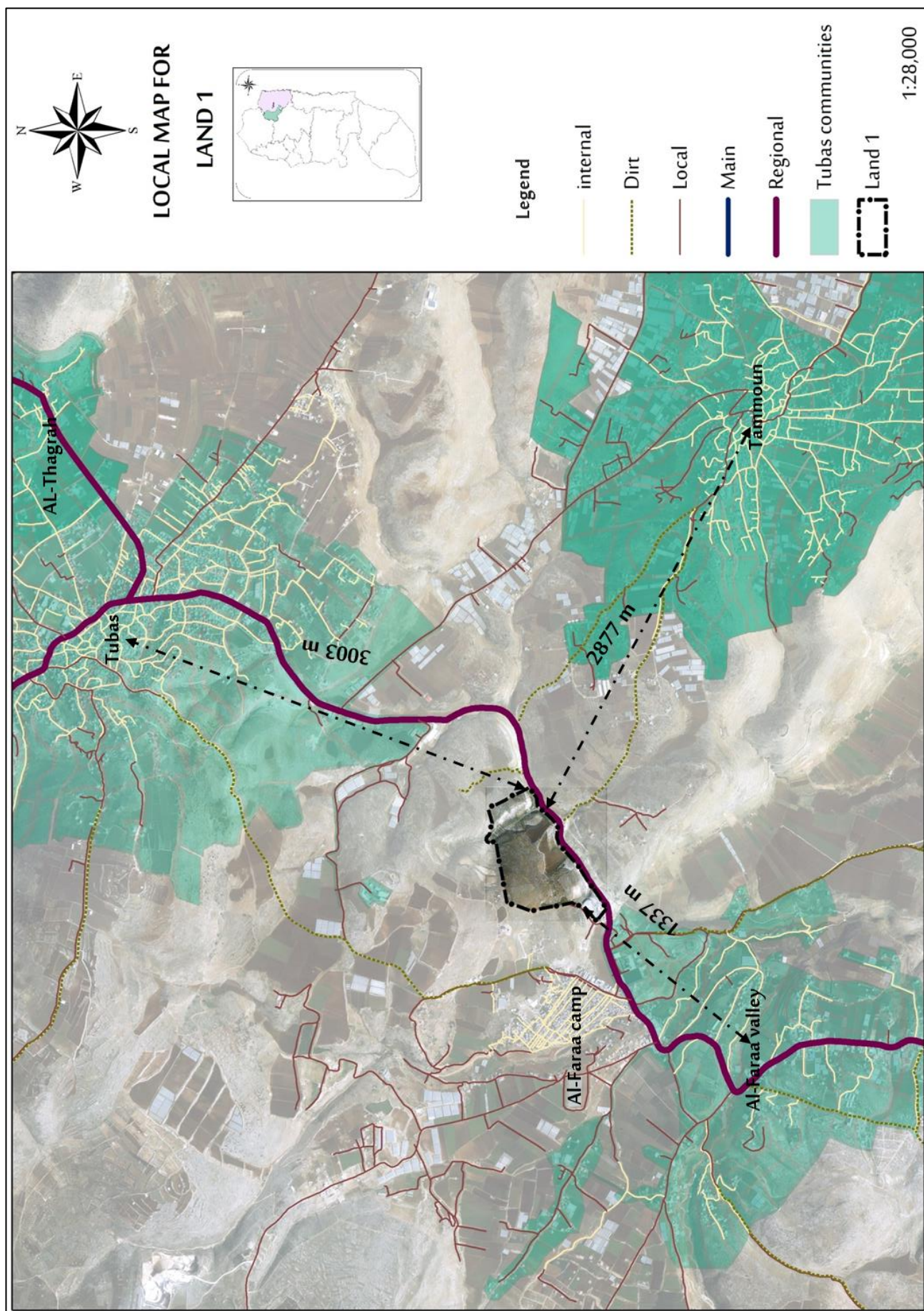
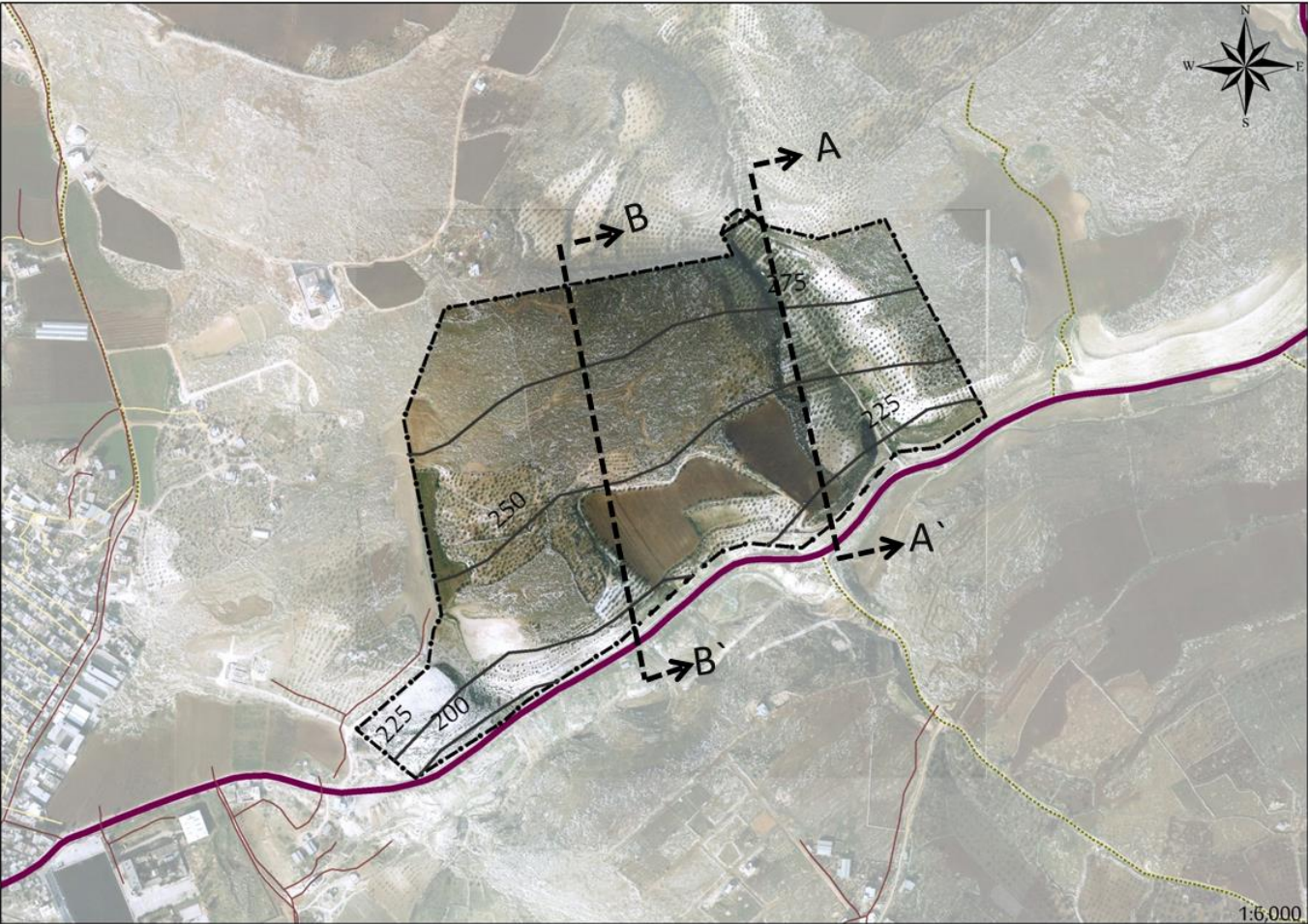
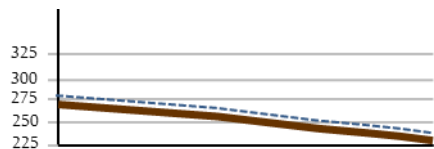


Figure (32): Local map for site 1

Figure (33): slope map for site 1

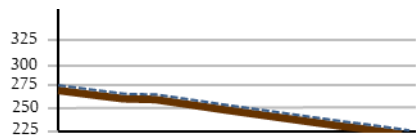


Section B-B'



SLOPE: 6.6%

Section A-A'



SLOPE: 5.5%

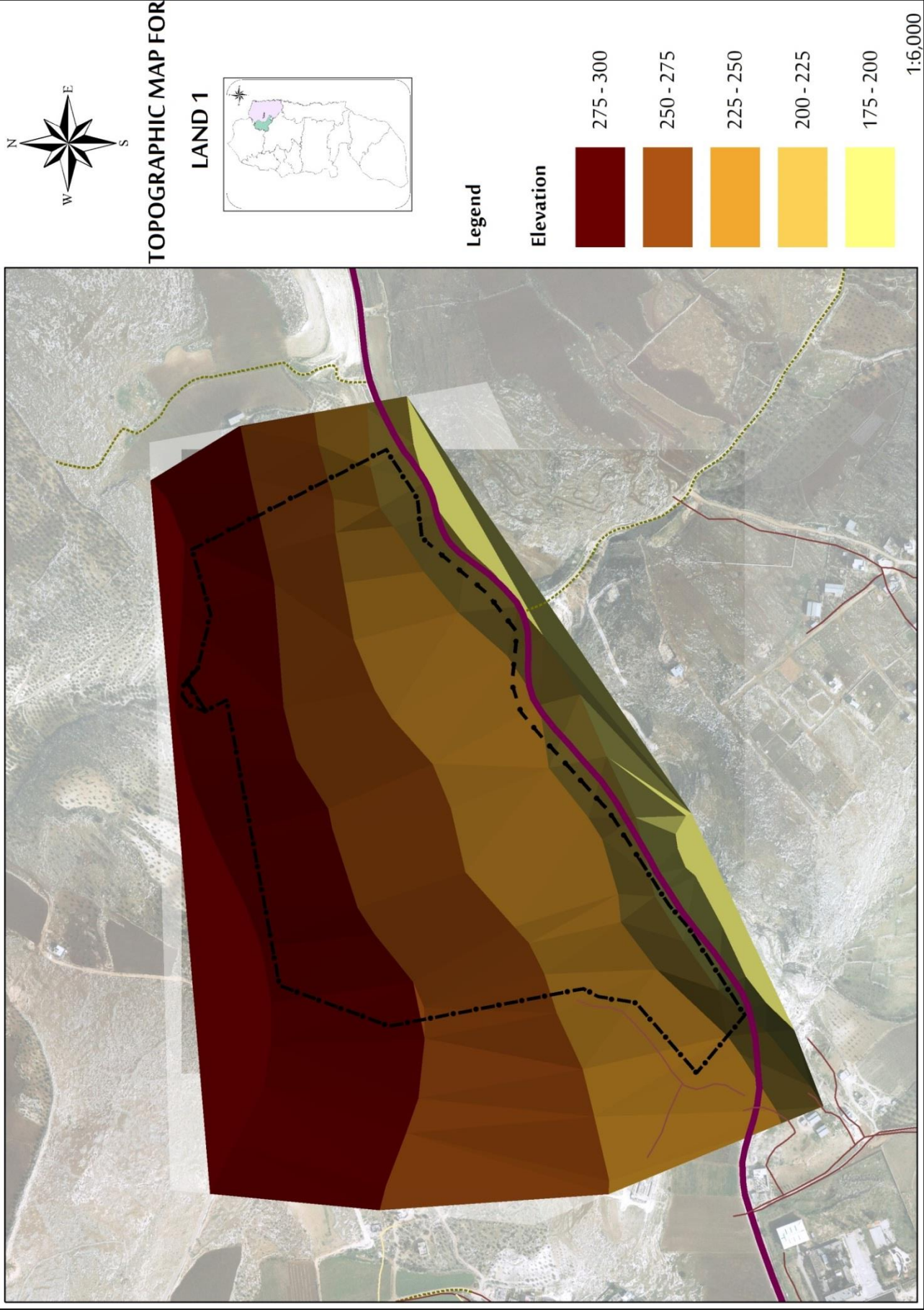


Figure (34): topographic map for site 1

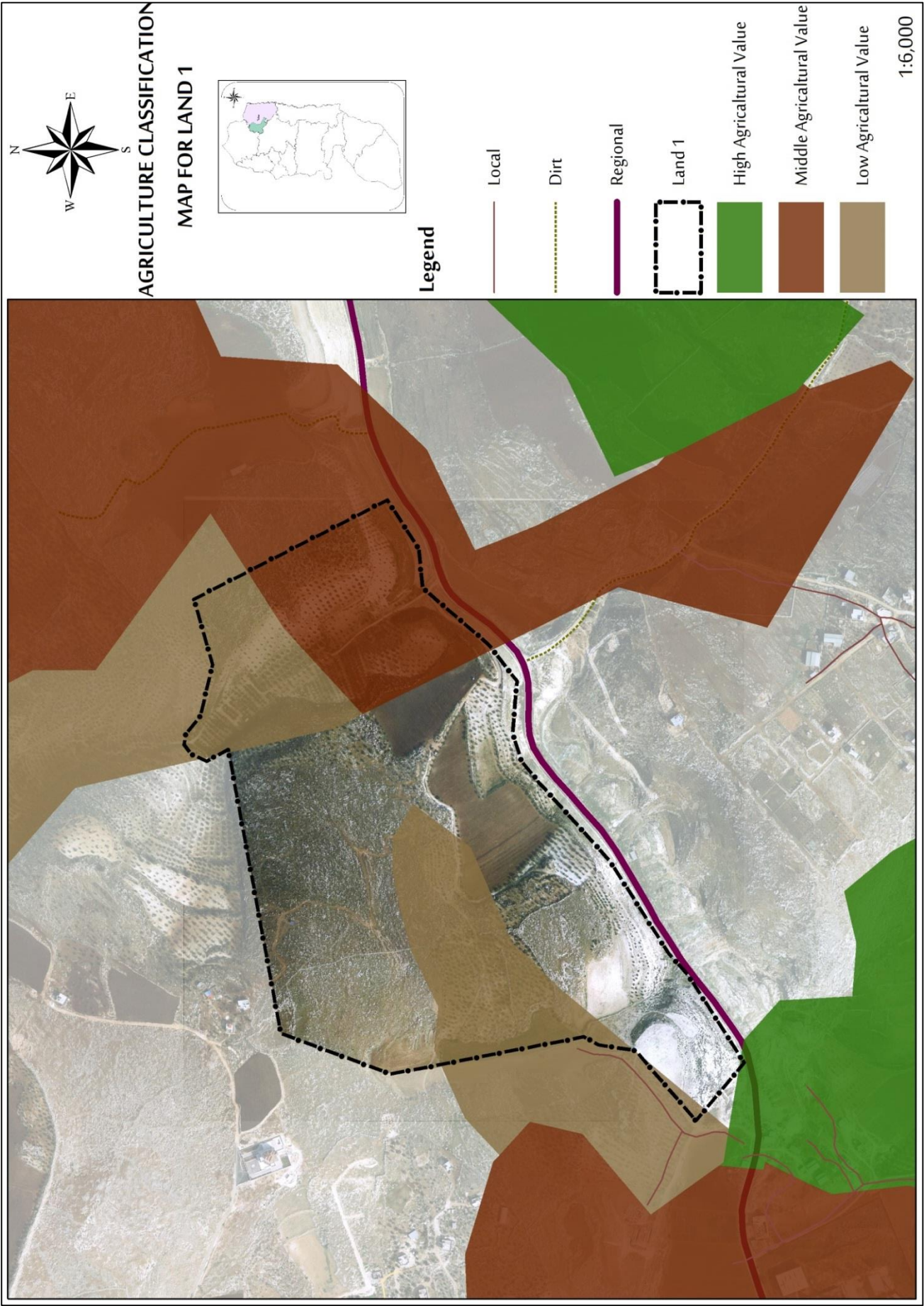


Figure (35): agriculture classification map for site 1

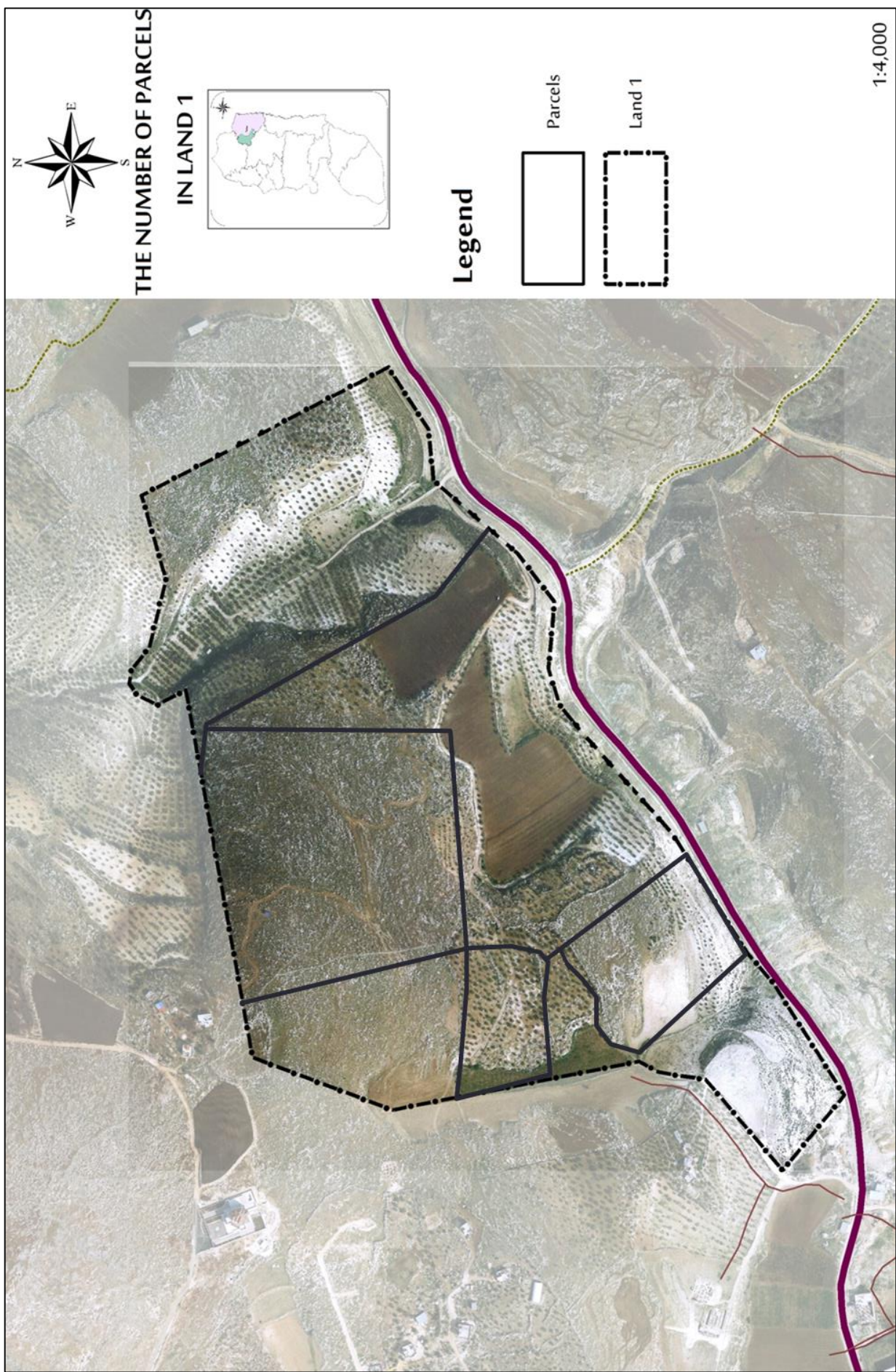


Figure (37):sun and wind direction in site 1

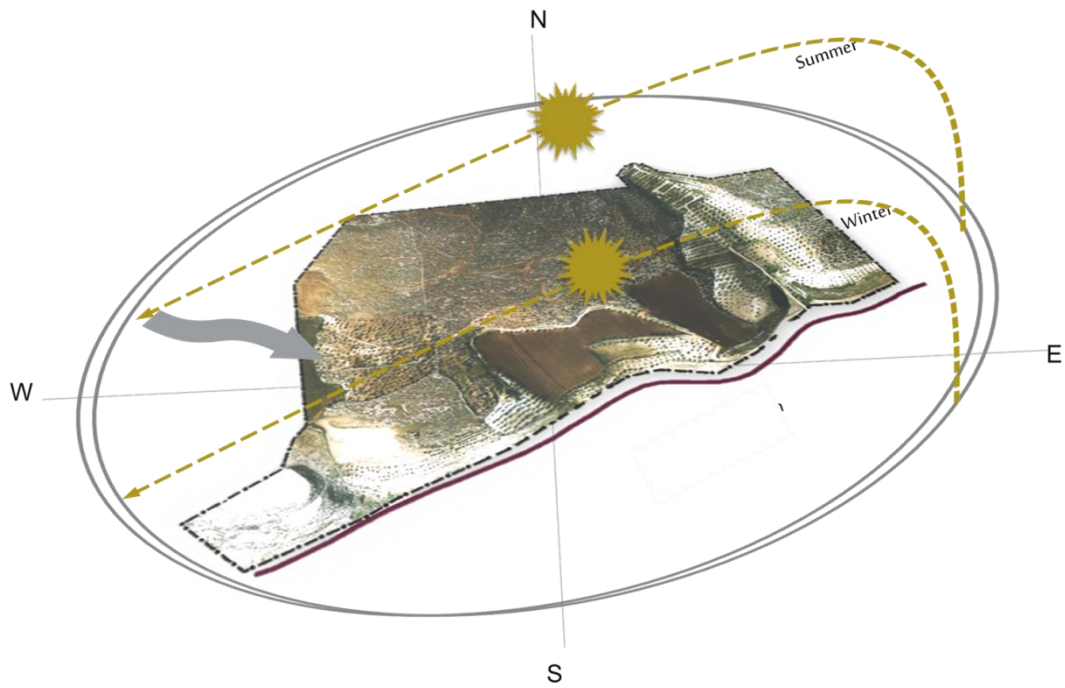
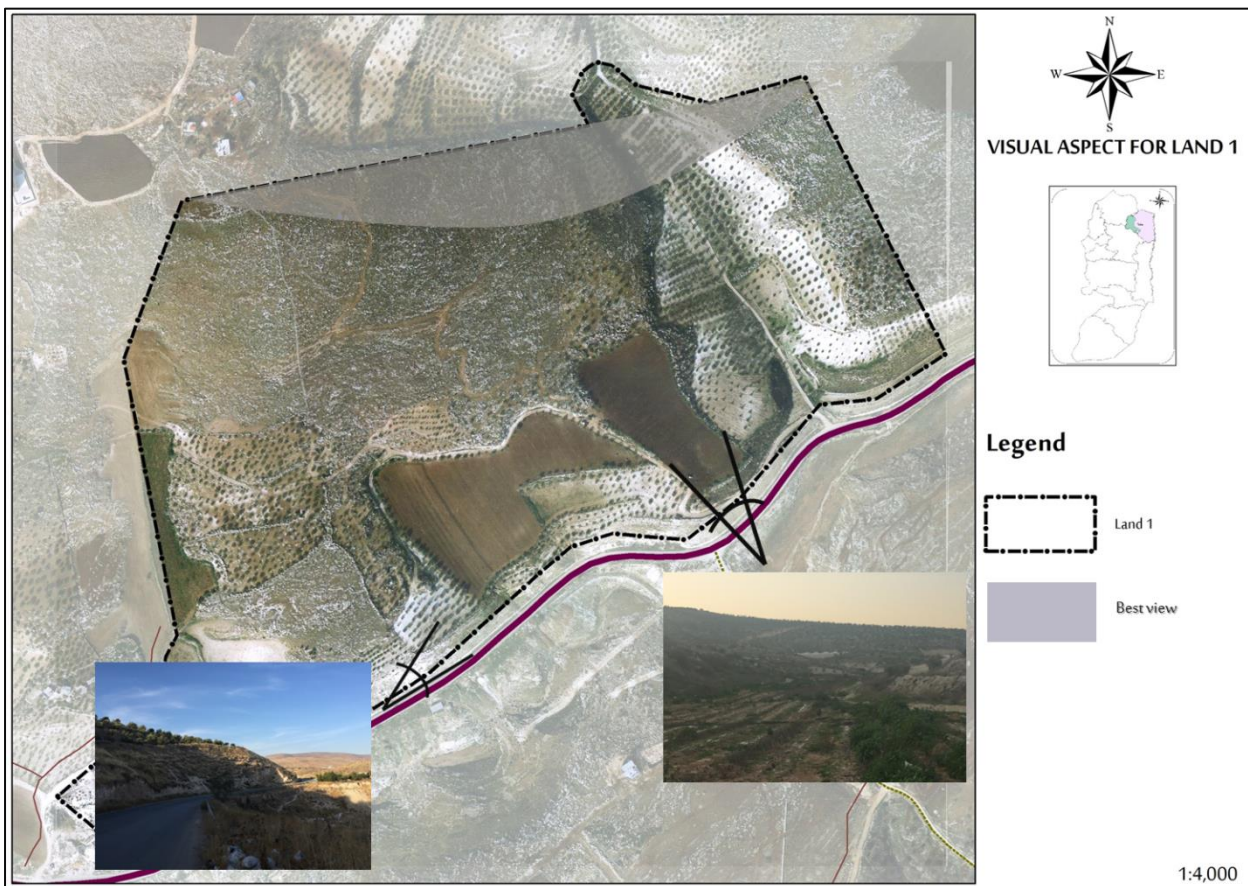


Figure (38): visual aspect map for site 1



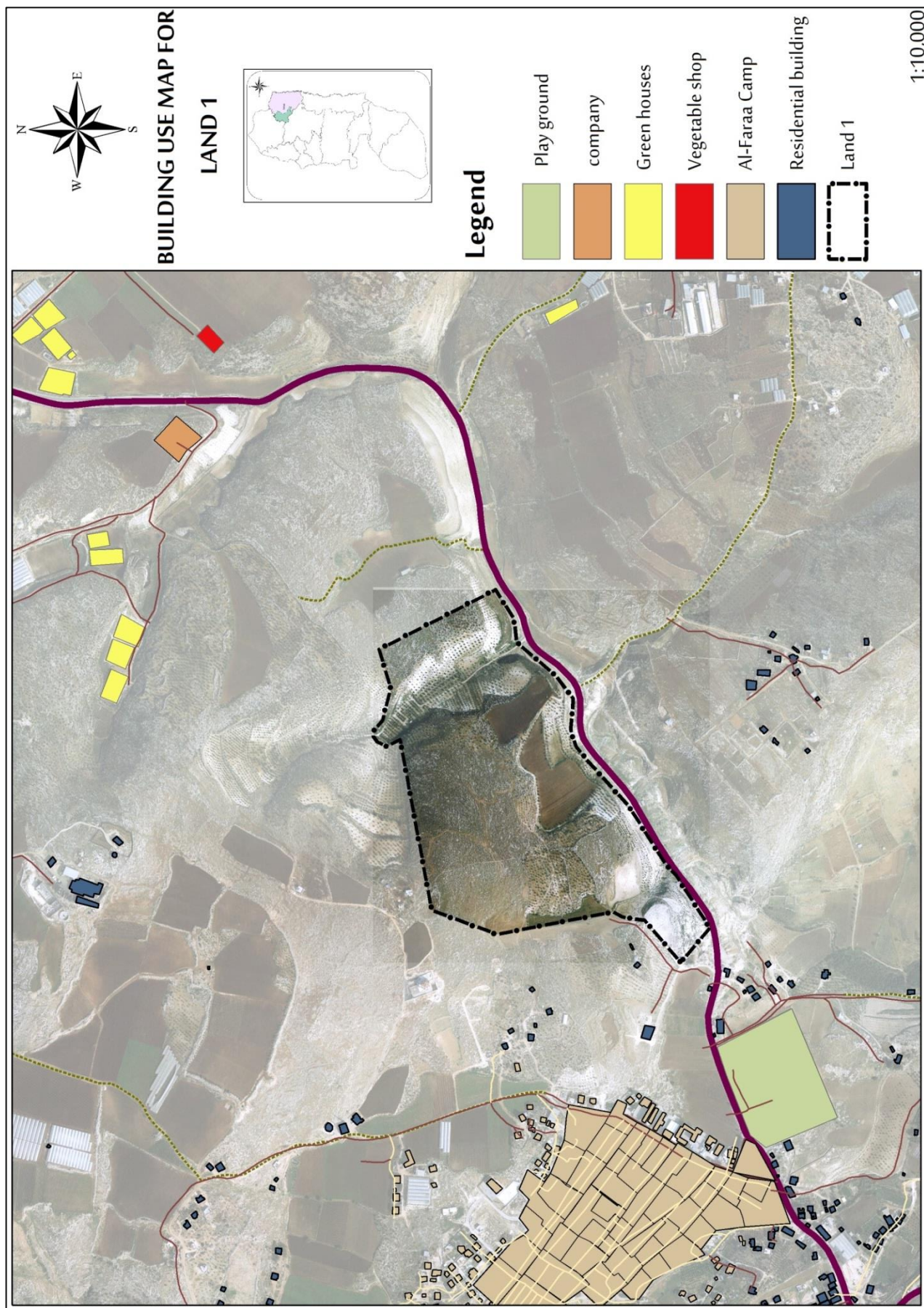


Figure (39): building use map for site 1

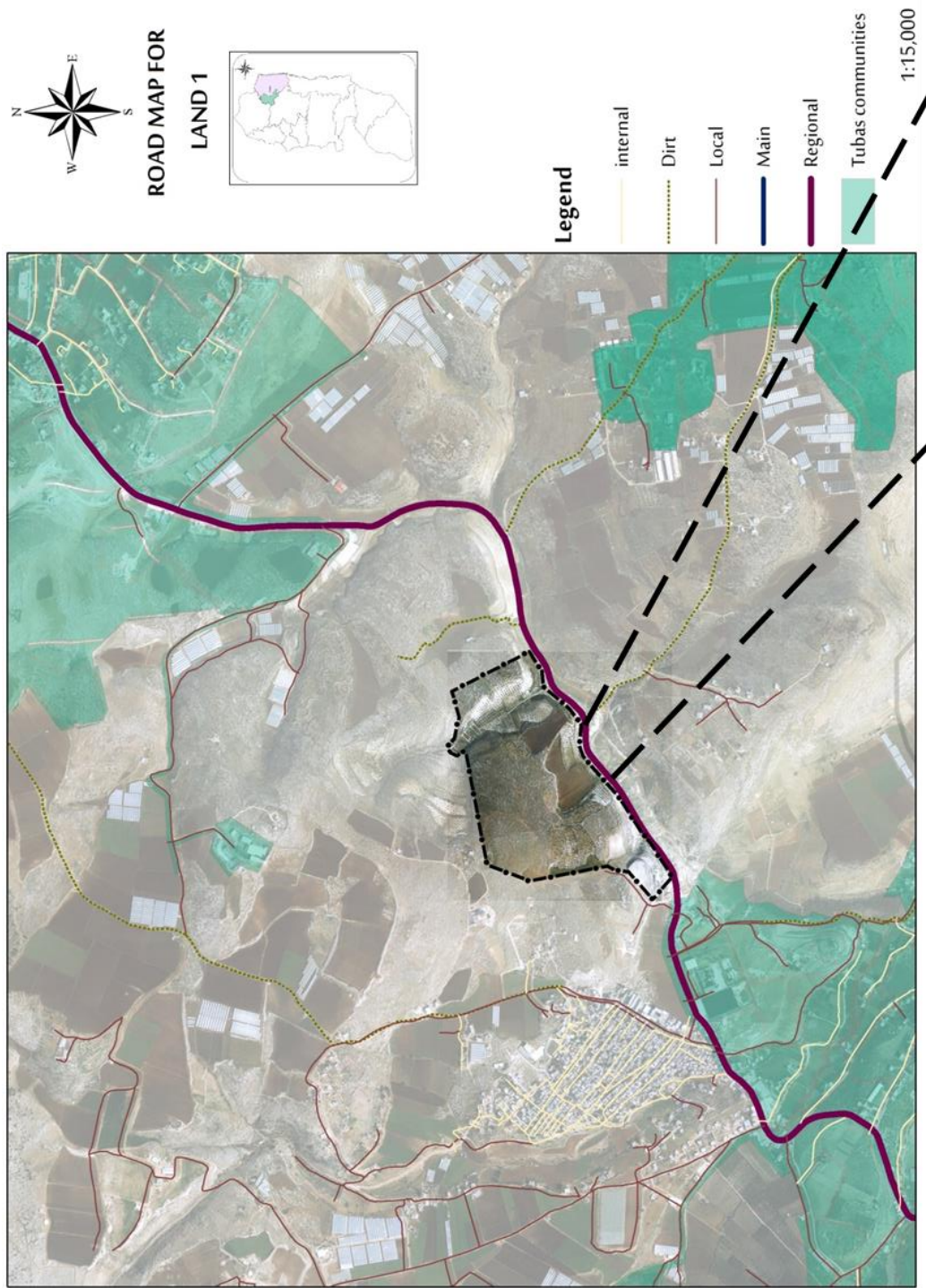
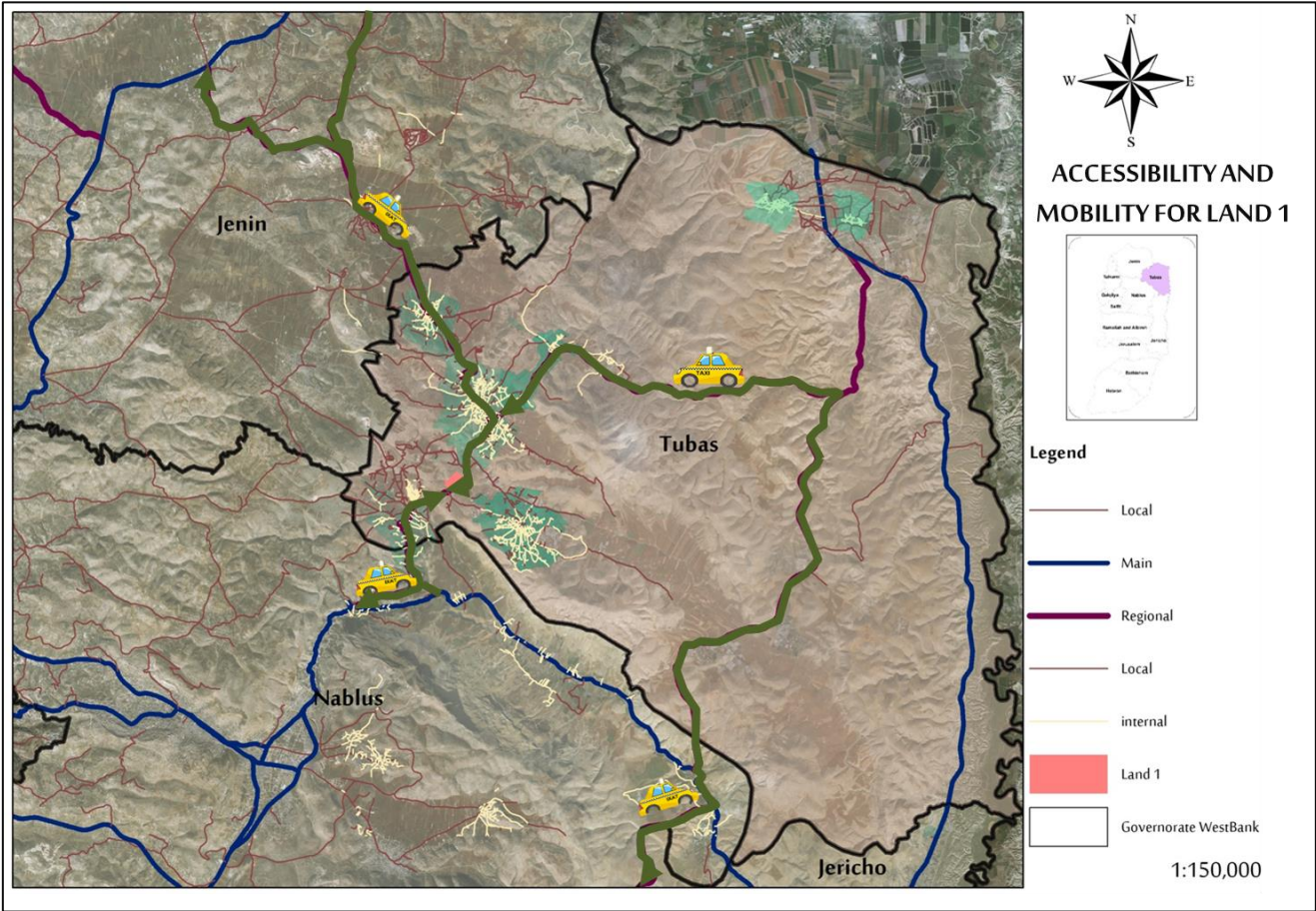
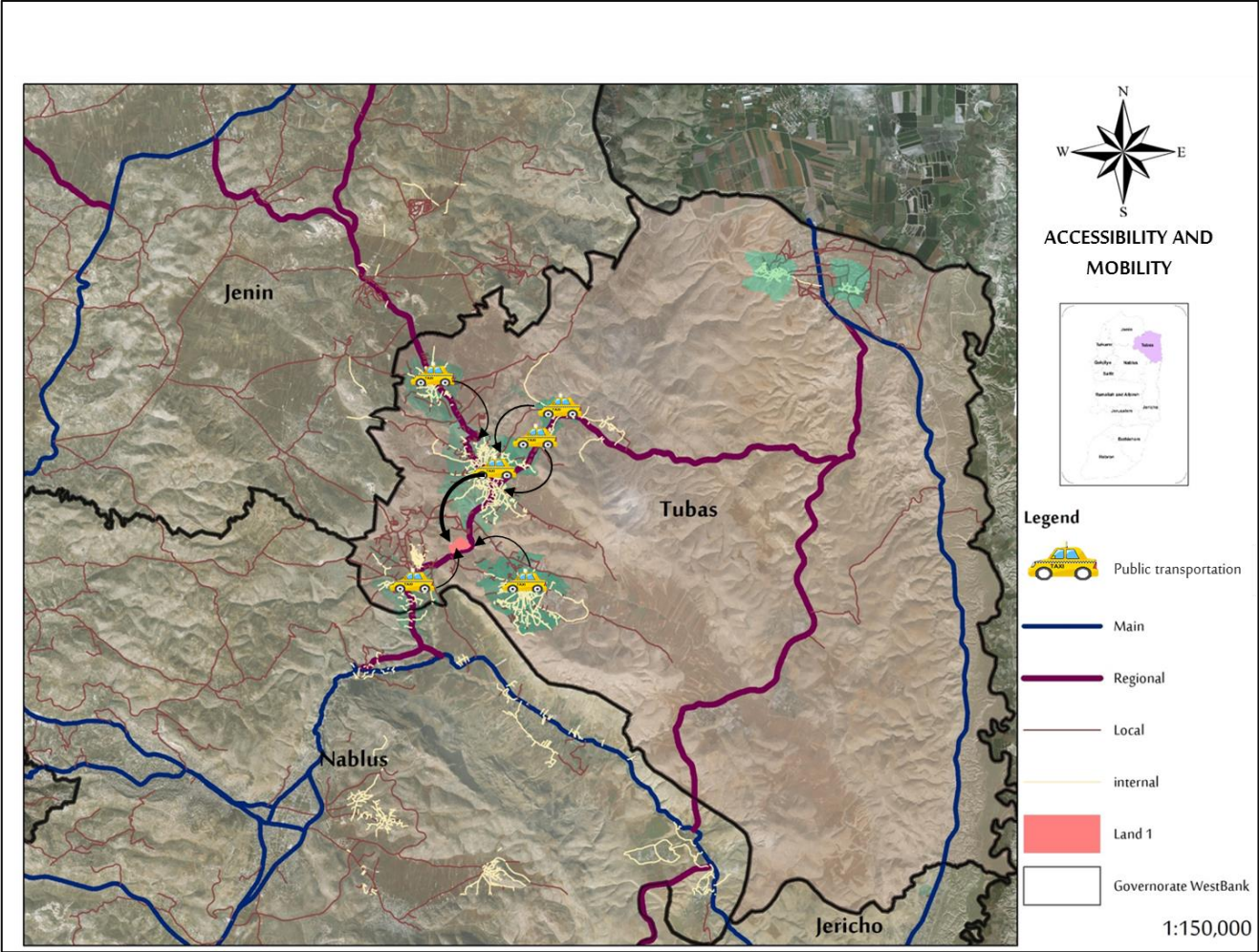


Figure (40): road map for site 1

Figure (41): regional and local transportation map for site 1



5.2.2 Site analysis for site 2:

The second site lies in Aqqaba on regional road, with about 204,000m², and it has a private ownership.

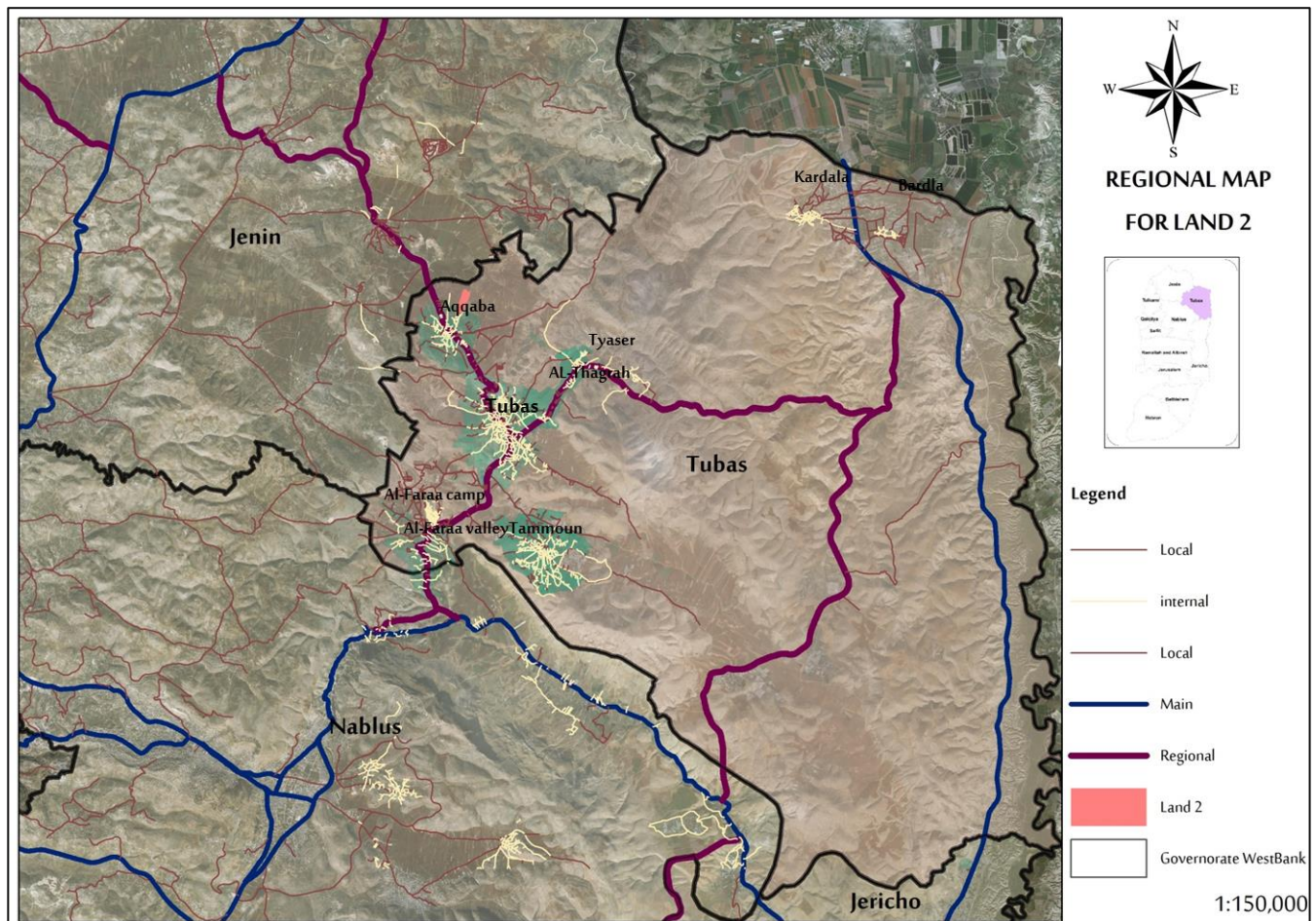


Figure (42): Regional map for site 2

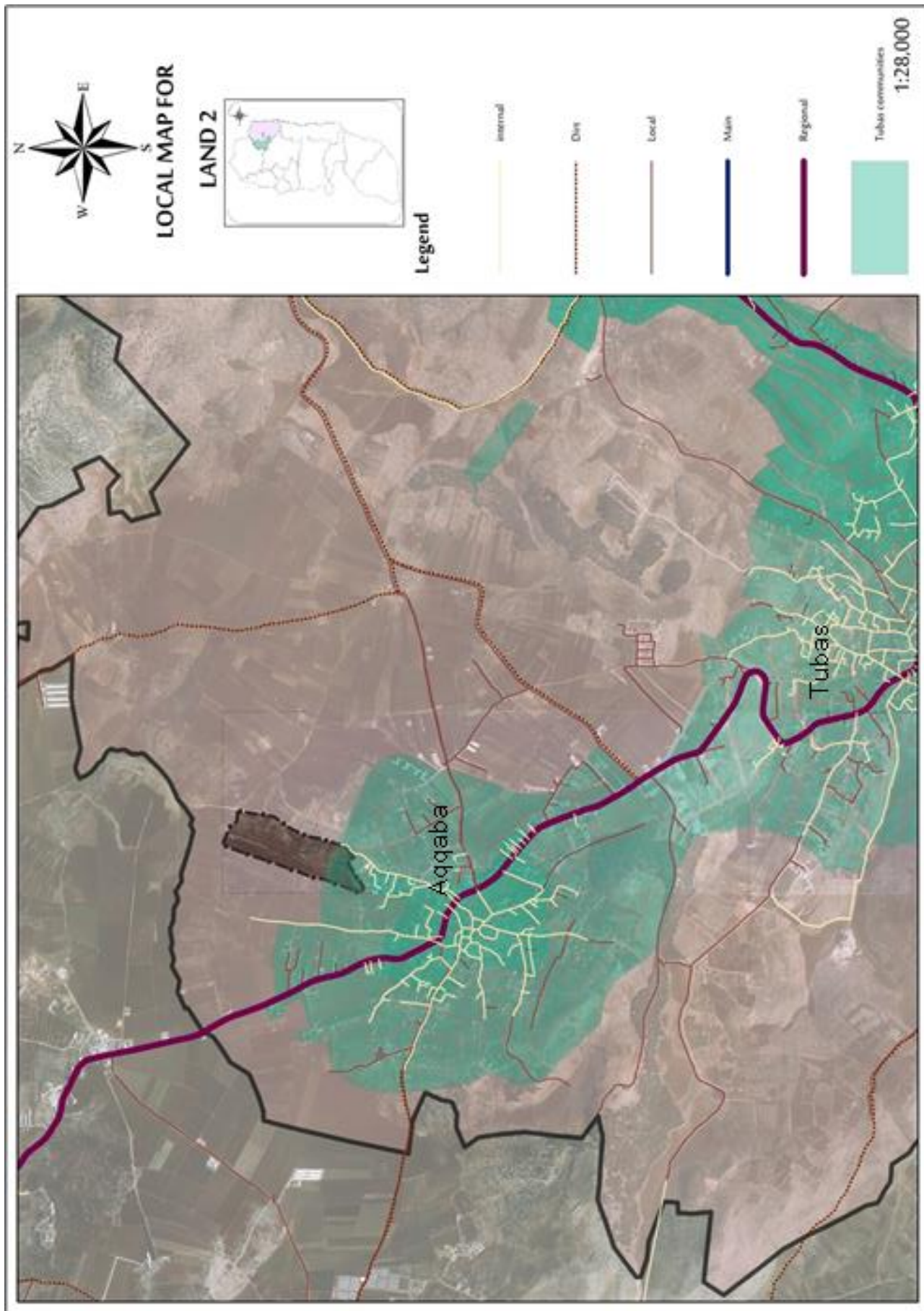


Figure (43): local map for site 2

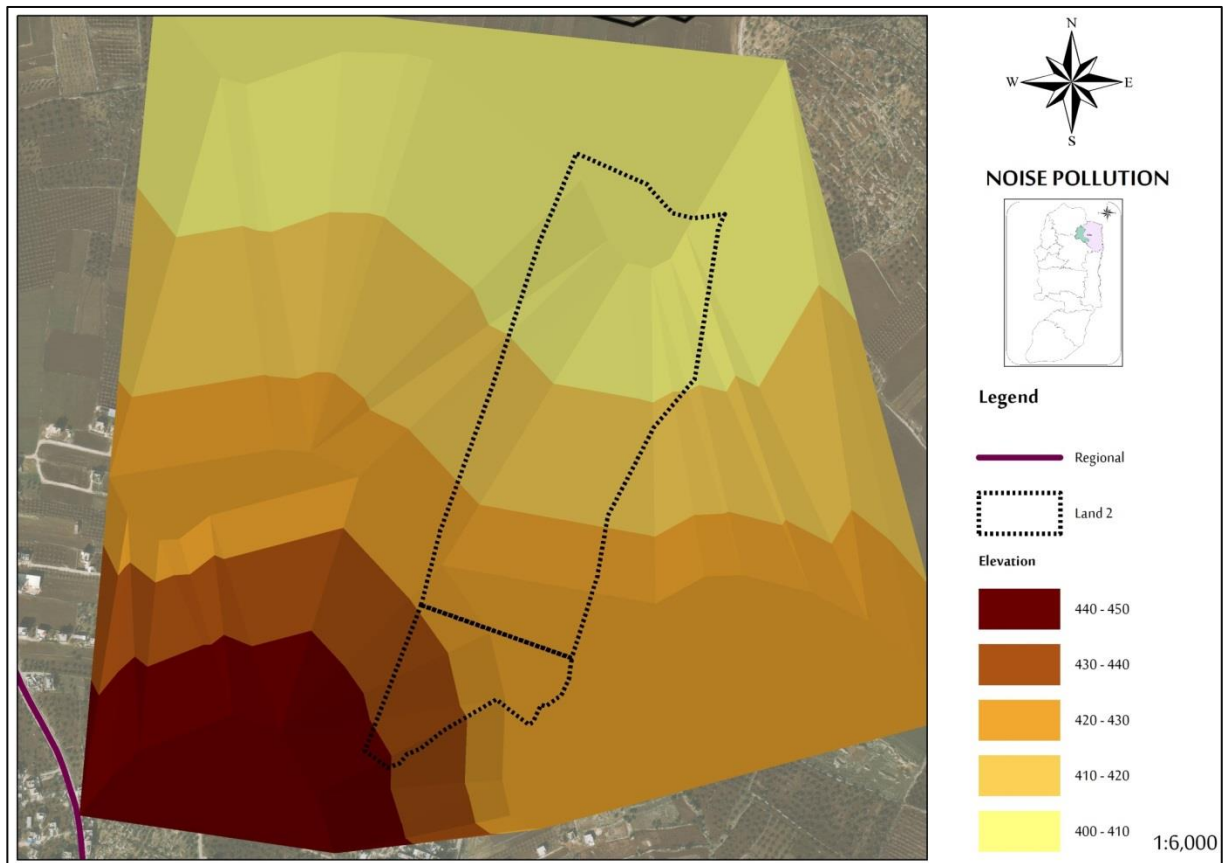
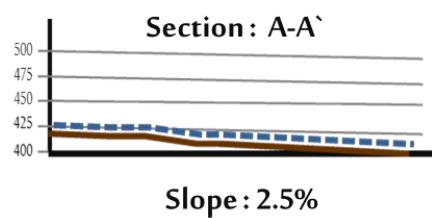


Figure (44): slope and topographic map for site 2



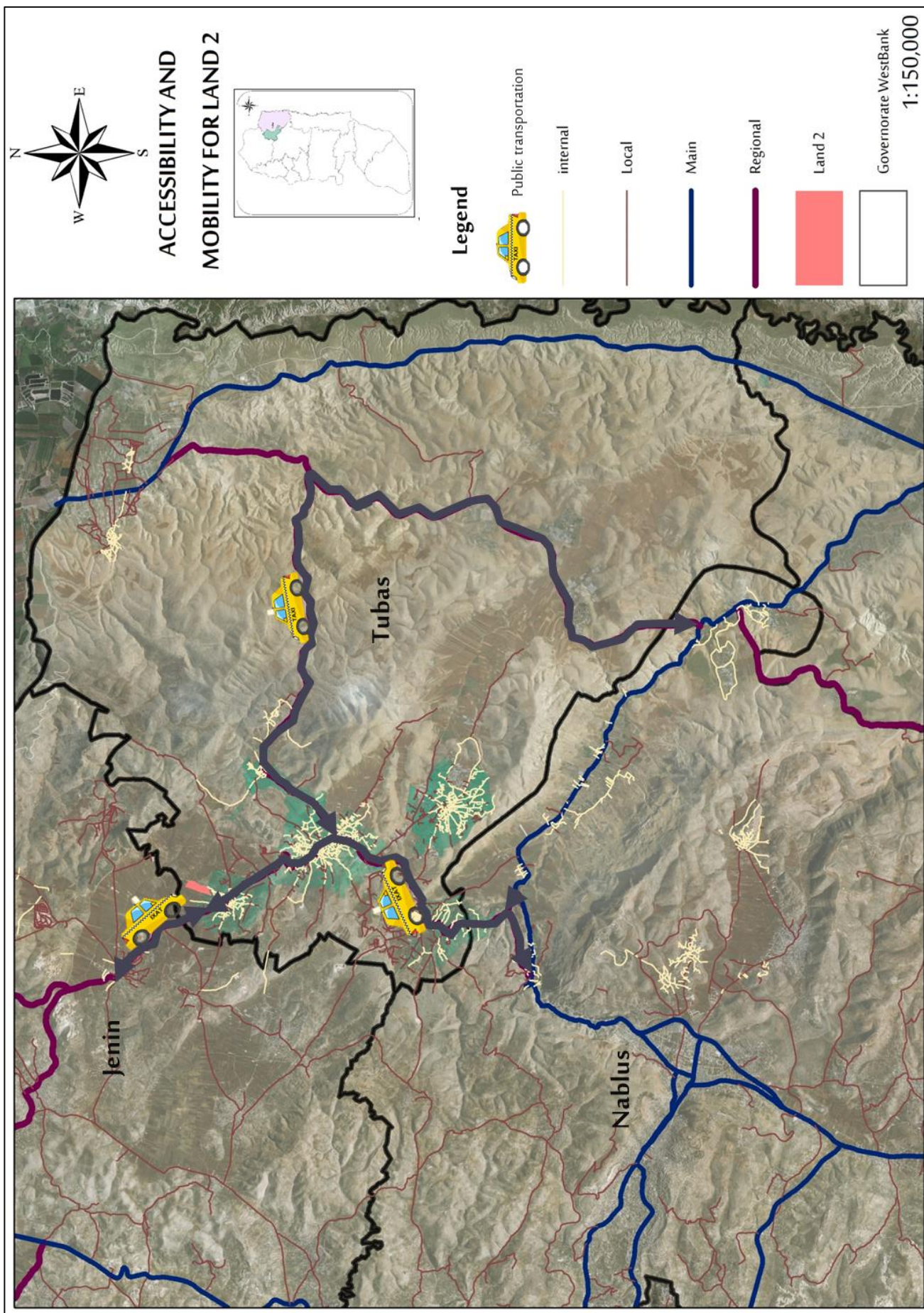


Figure (45): public transportation map for site 2

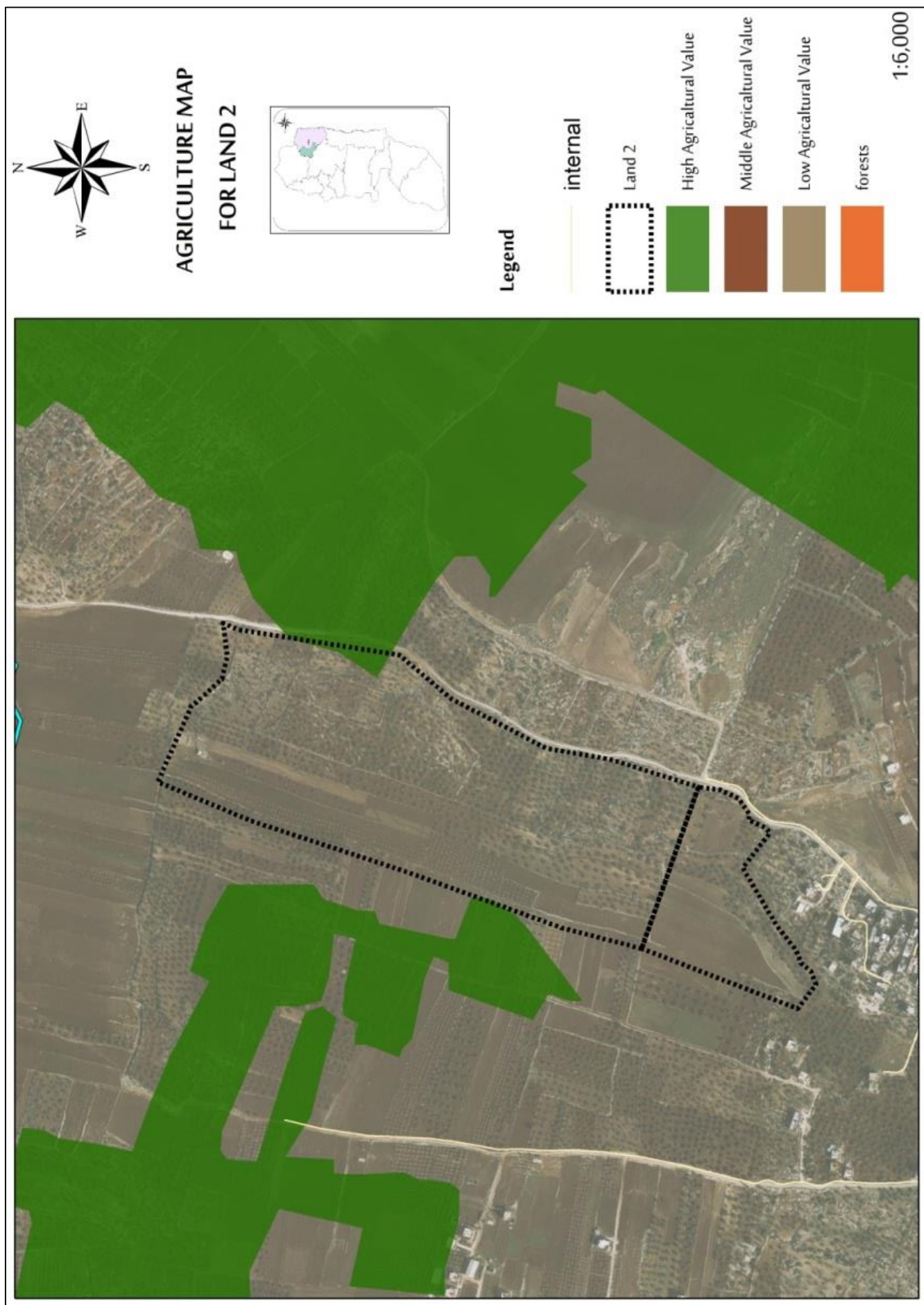


Figure (46): agriculture classification map for site 2

5.3 Evaluation:

Once the Site Selection Process has been initiated, it will require some standardized protocols in order to evaluate the possible and suitable site for building the campus. The Site Evaluation Study list of possible sites has been compiled, each site shall be evaluated according to how well it ranks with the Site and Program Criteria considerations, **and** the highest points goes to **site 1**.

Table (20): evaluation

Sites criteria	Wight	Site 1	Site 2
Far from high agricultural value land	3	2	1
Topography and drainage	3	3	1
High security and safety	2	2	3
Size	2	3	1
Availability of utilities and infrastructure	3	2	2
State land ownership	1	1	1
High accessibility and mobility	3	3	2
Away from pollution	1	2	3
Land geology	2	1	1
Total		45	32

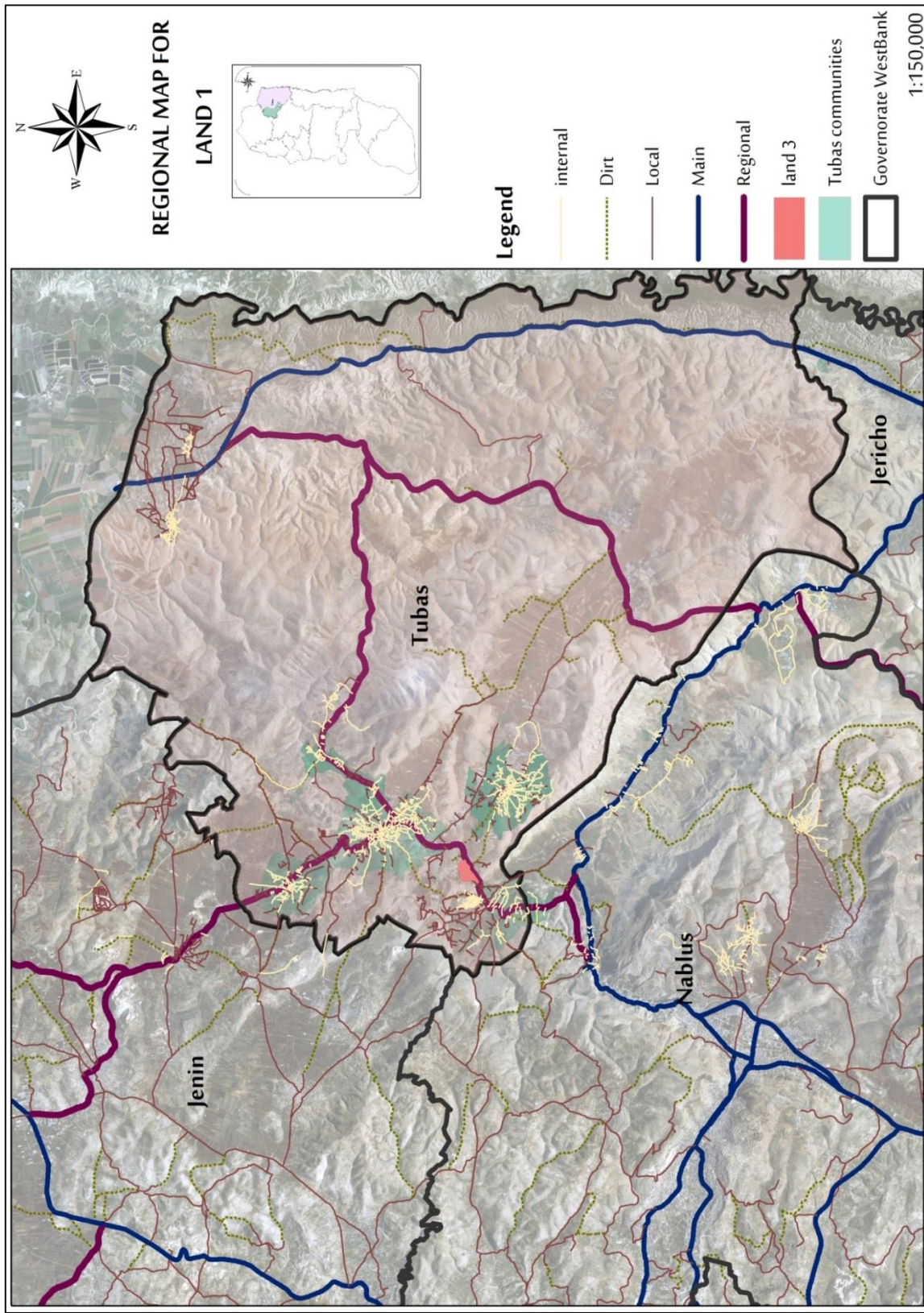


Figure (46): the chosen site map

Chapter VI

Concept development and design

5.1 Concept development:

The first step before beginning the design is to put the strength, weakness, opportunity and threats points in the chosen site, this helps in focus or avoid things in design, this is what is called Concept.

According to this, SWOT analysis was made, for example the important strength and opportunity points in site is the agriculture communities that the site lies between them, the regional road, the empty areas around the land which can be used in future expansion for the campus and services, the topography which provides good water rain drainage and also the availability of water and electricity network. And the important points in threats and weakness is that the land is a private ownership that is divided into 8 parcels which increase the total cost, the regional road which causes the noise and air pollution and there is no sewage network.

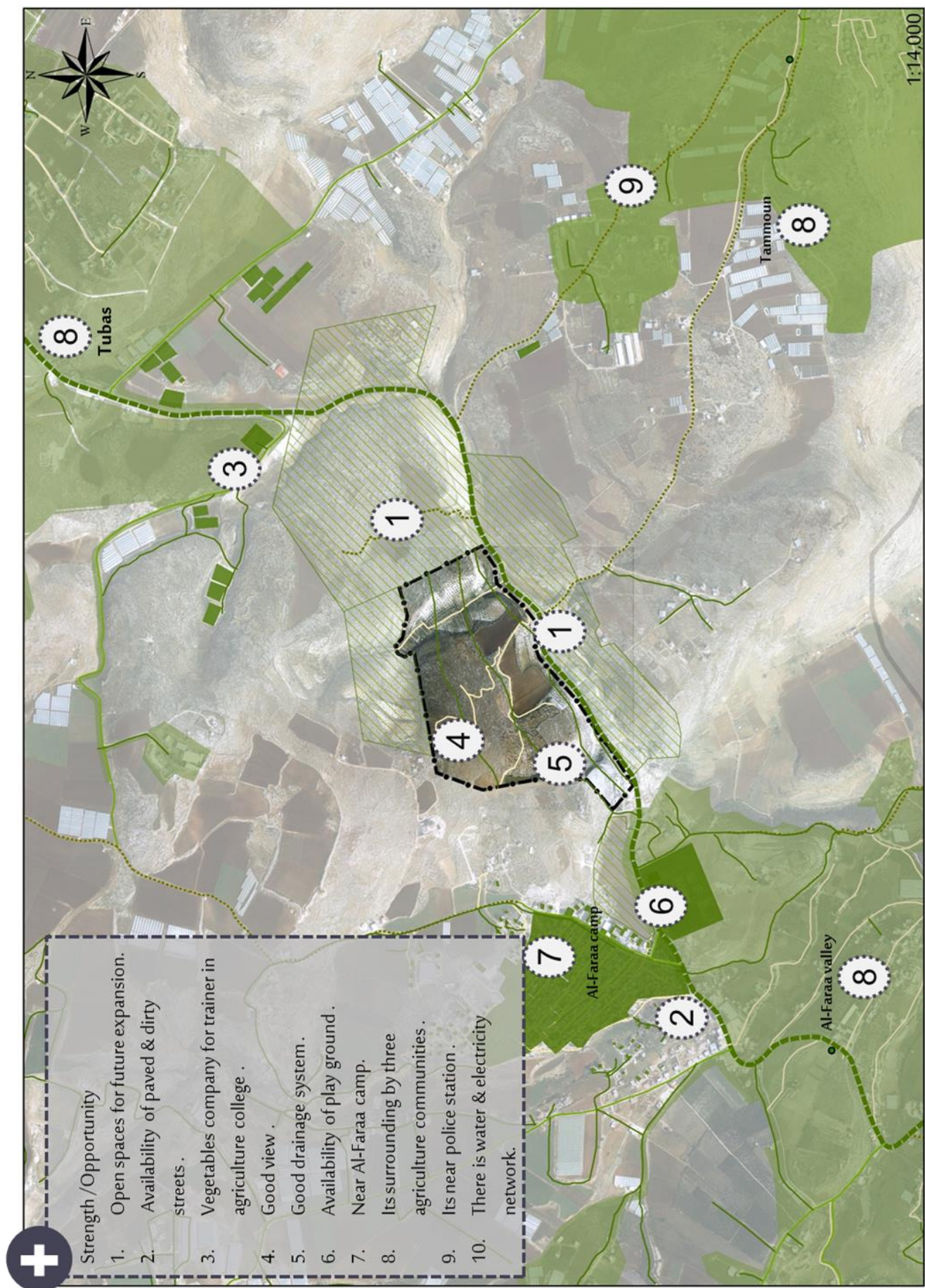


Figure (47): strength and opportunity map

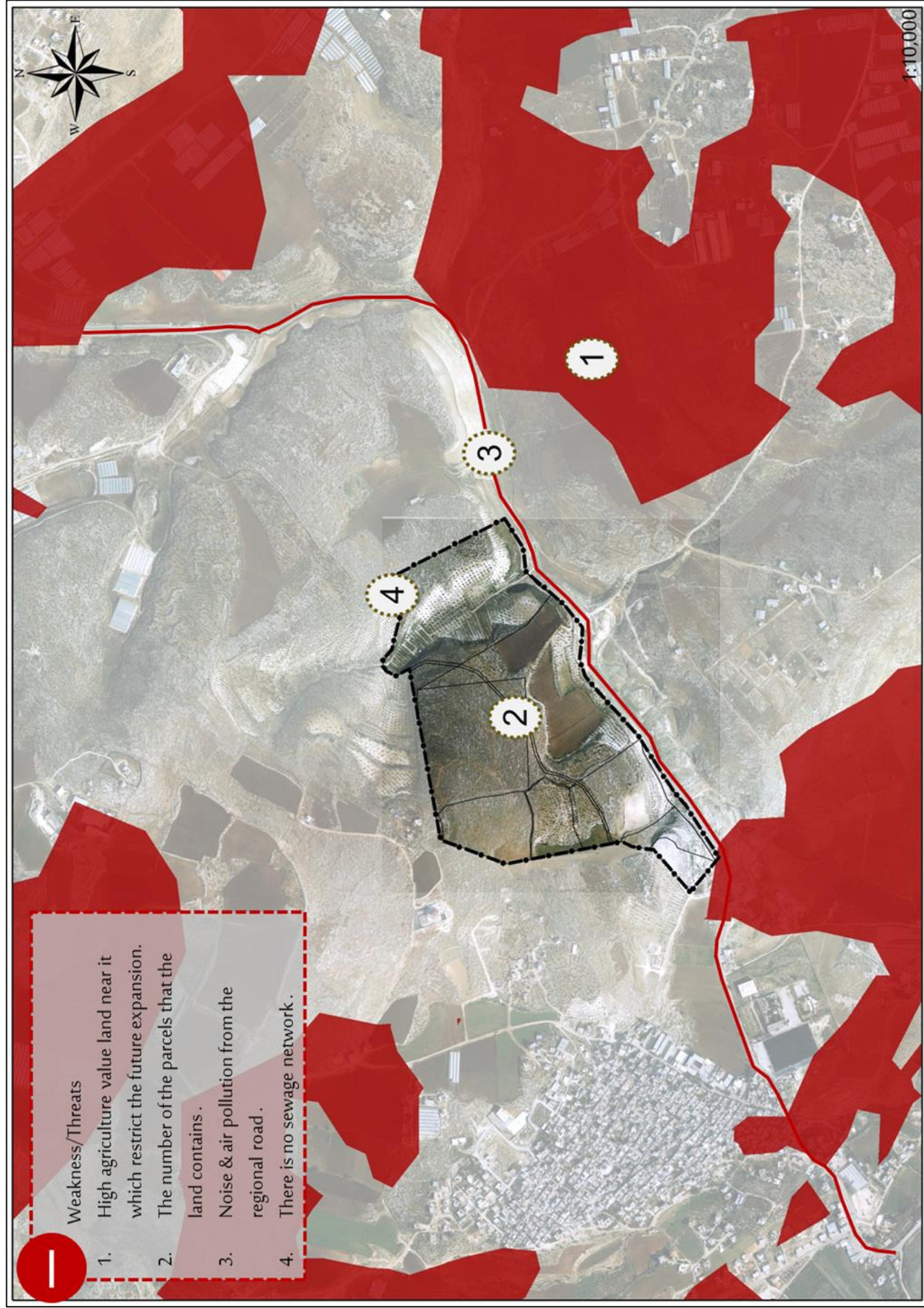


Figure (48): threats and weakness map

From these two maps, zones were put in land as the map below, the green colour mean green areas and open spaces, the blue colour mean the colleges, it put away from the regional road, the grey colour mean parking which it put near to the main street, the yellow colour is sports area and the brown colour is an agriculture area to support the agriculture communities around the land, after divided the zones, main and secondary entrances were put.

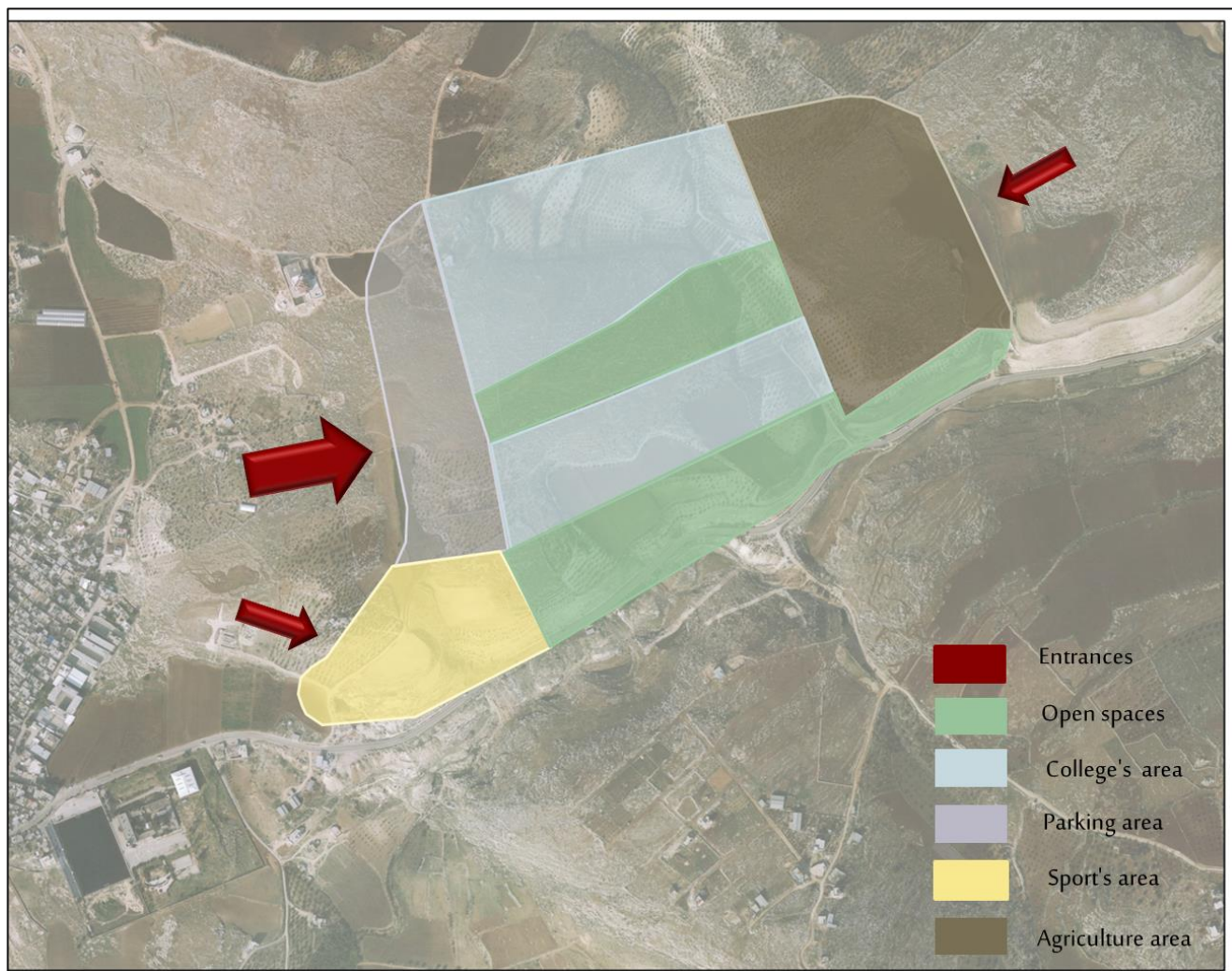


Figure (49): zones map

After zones, two ring roads were put in the land, internal and around the land, the width of internal is 12m, and the width of outer is 20m. then the circulation of the pedestrian were clean, the width of corridors for pedestrian were from 3–5 m.

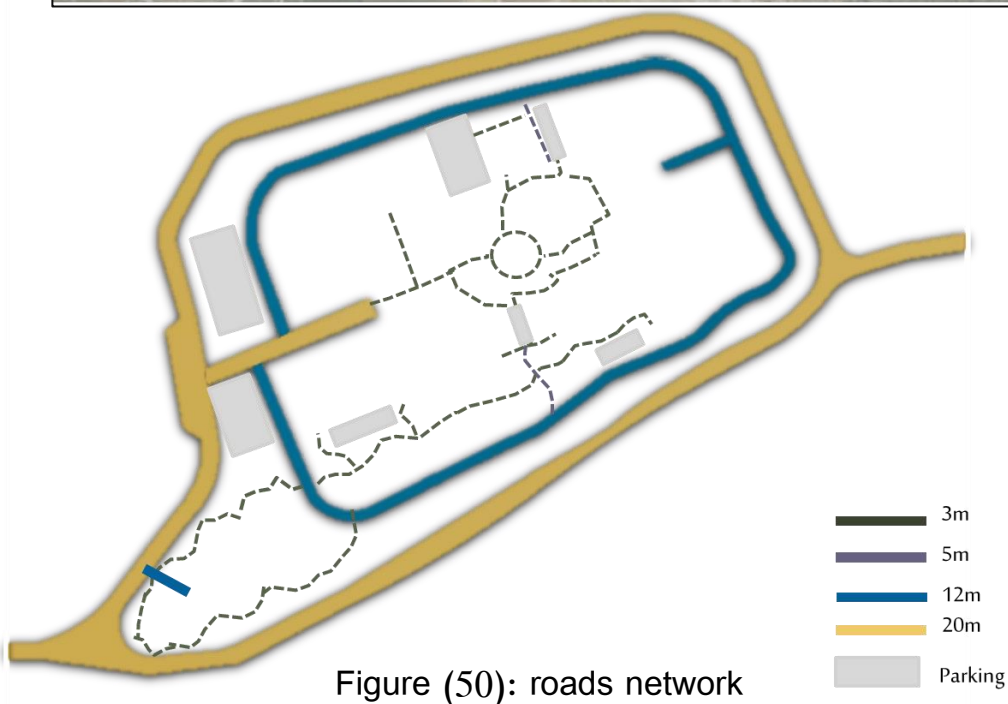
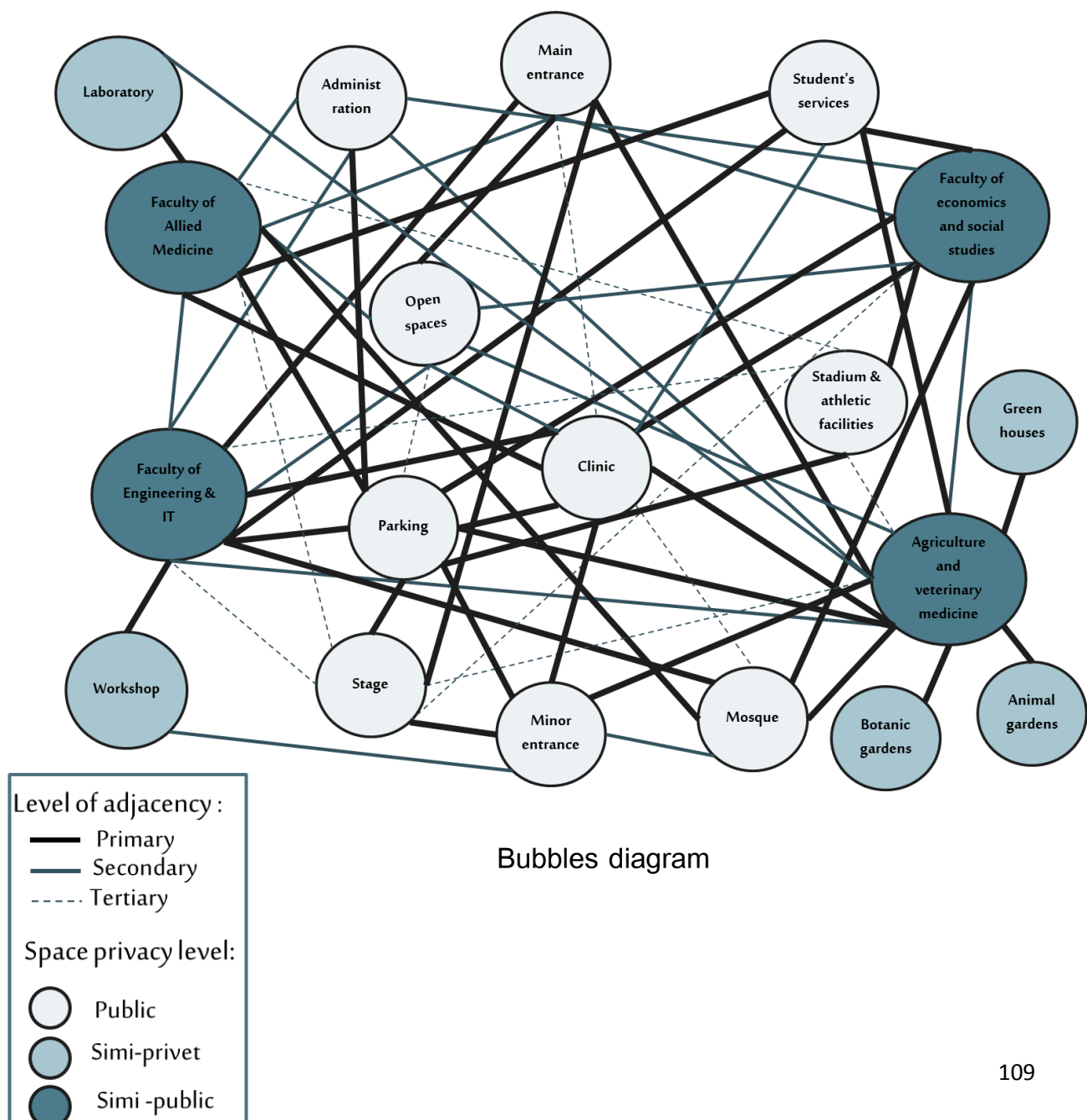


Figure (50): roads network

Studied the relationship between elements and facilities in the campus were the next step after the roads network, the dark lines means that the relationship between them are high and they are needed to be adjacency, the blue lines means that there is a relationship but not in the same strength of the first one, and the last uncontentious lines means that the relationship between them is so weak and they didn't need to be adjacency. And after that's buildings were put as the picture ().



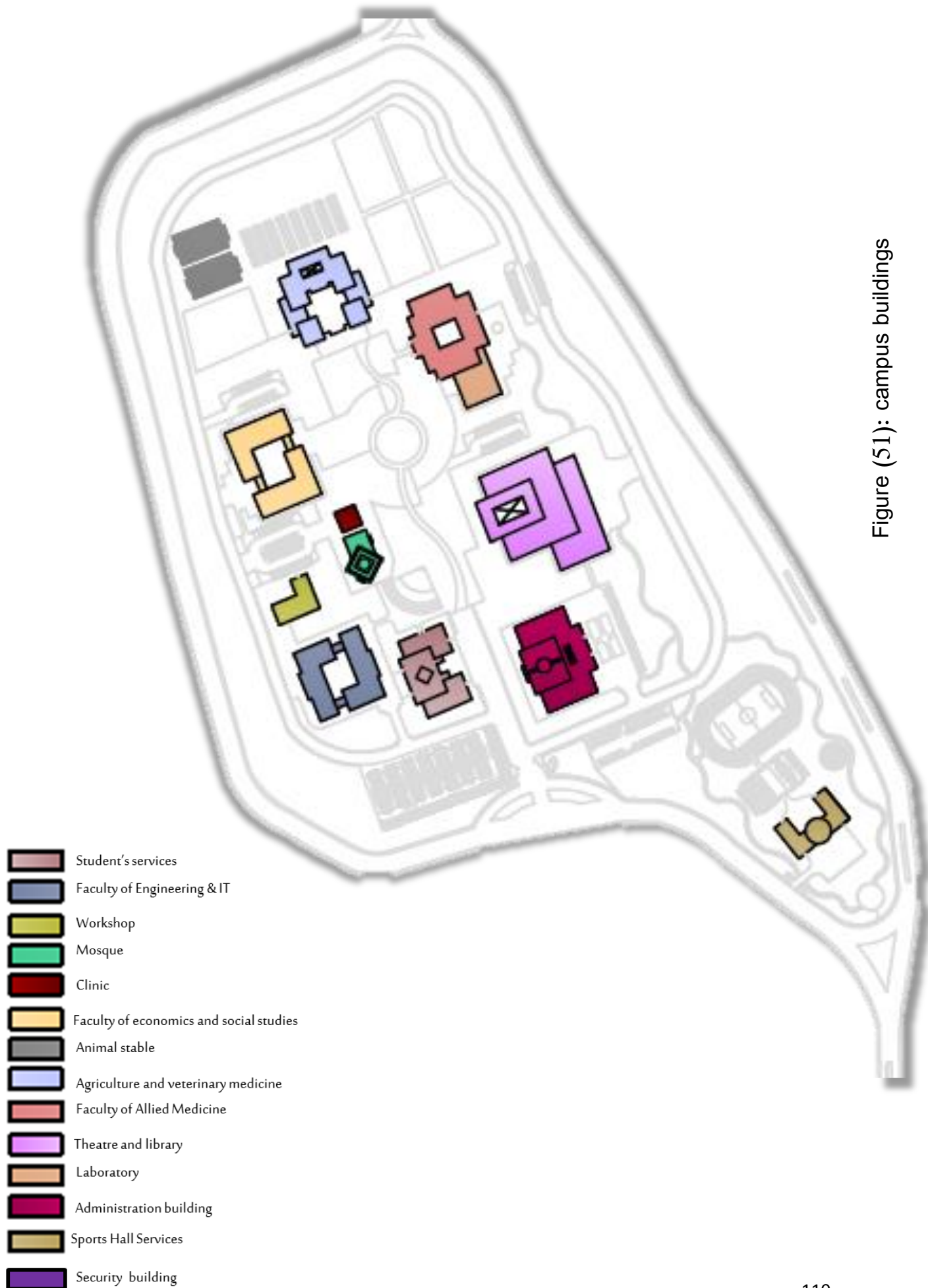


Figure (51): campus buildings

Table (21): buildings' areas

No .	Buildings	Area (m2)
1	Administration building	5298
2	Faculty of Engineering & IT	5298
3	Mosque	1100
4	Clinic	460
5	Workshop	1240
6	Faculty of economics and social studies	5849
7	Animal stable	3500
8	Agriculture and veterinary medicine	4895
9	Faculty of Allied Medicine	5000
10	Laboratory	1540
11	Theatre and art gallery	10,582
12	Student's services	3879
13	Sports Hall Services and stadiums	7250
14	Security buildings	200
Total built up area		56091

Chapter vii

Design





Figure (53): campus masterplan

Agriculture area:

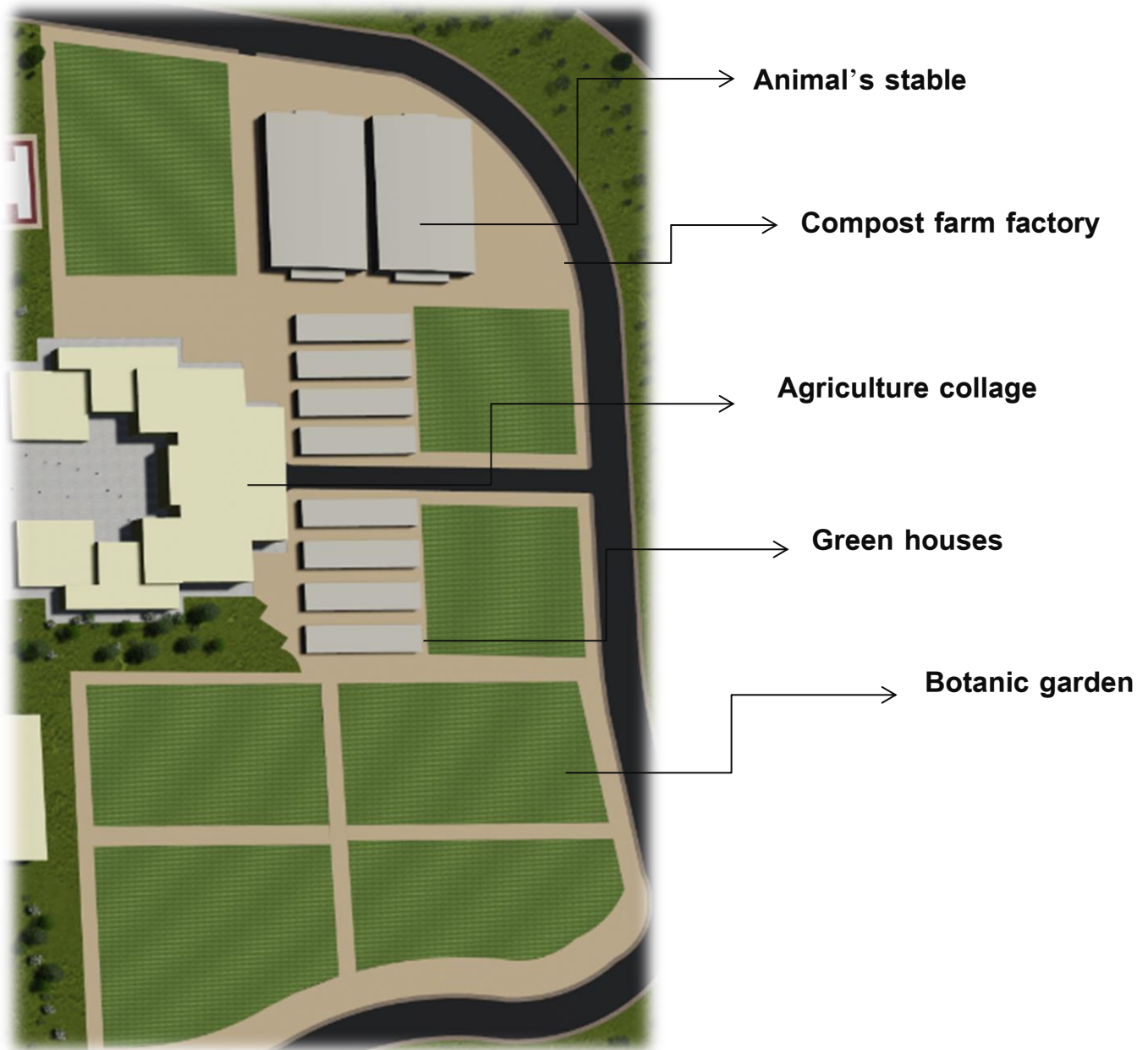


Figure (54): agriculture area

Sport area

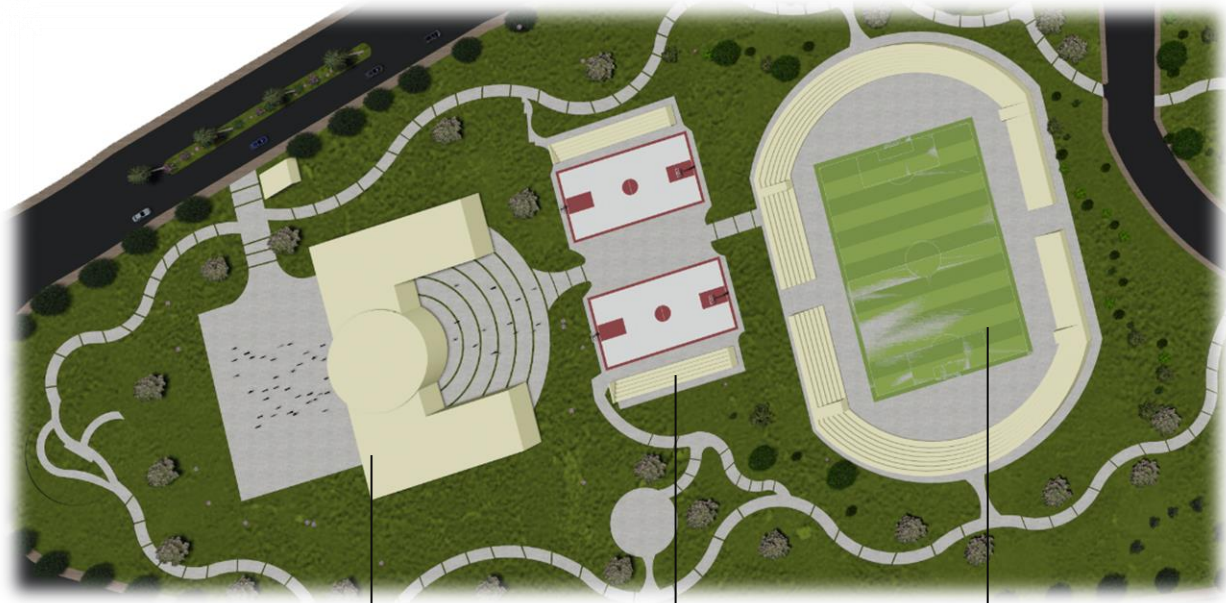


Figure (55): sport area

Sport hall services

Play ground

Stadium

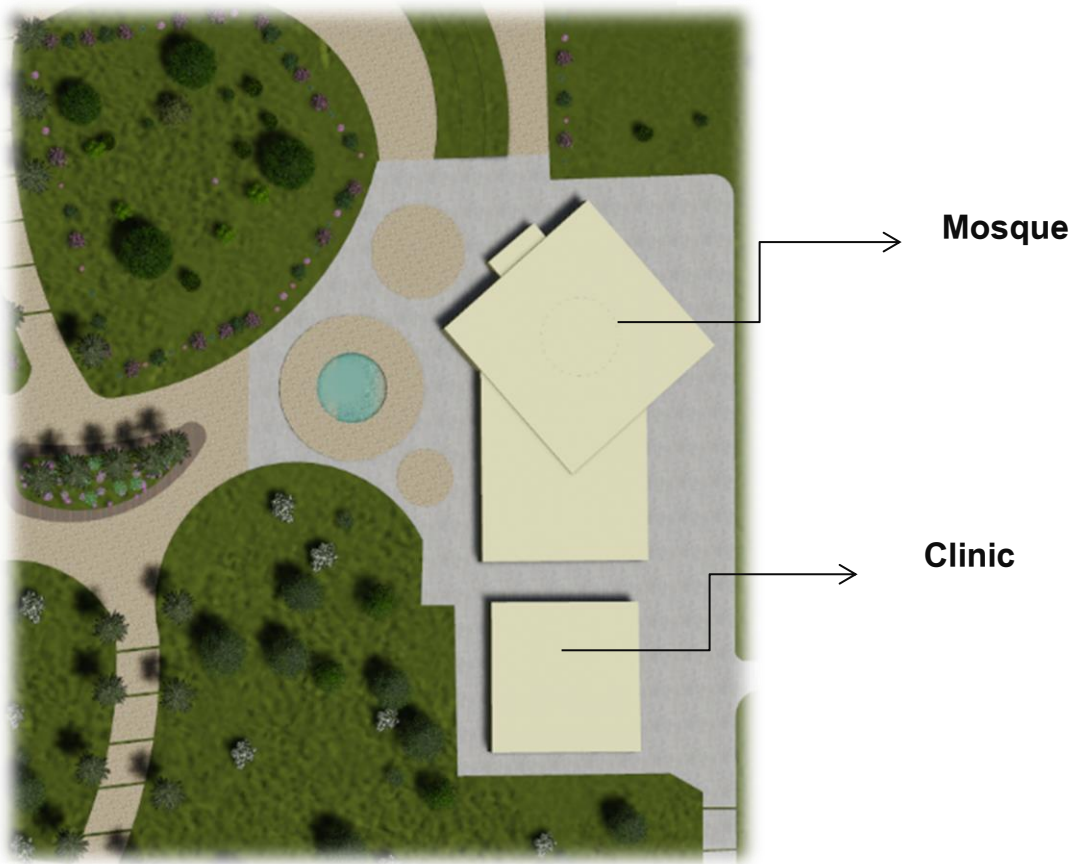


Figure (56): all the building in campus

Parking:

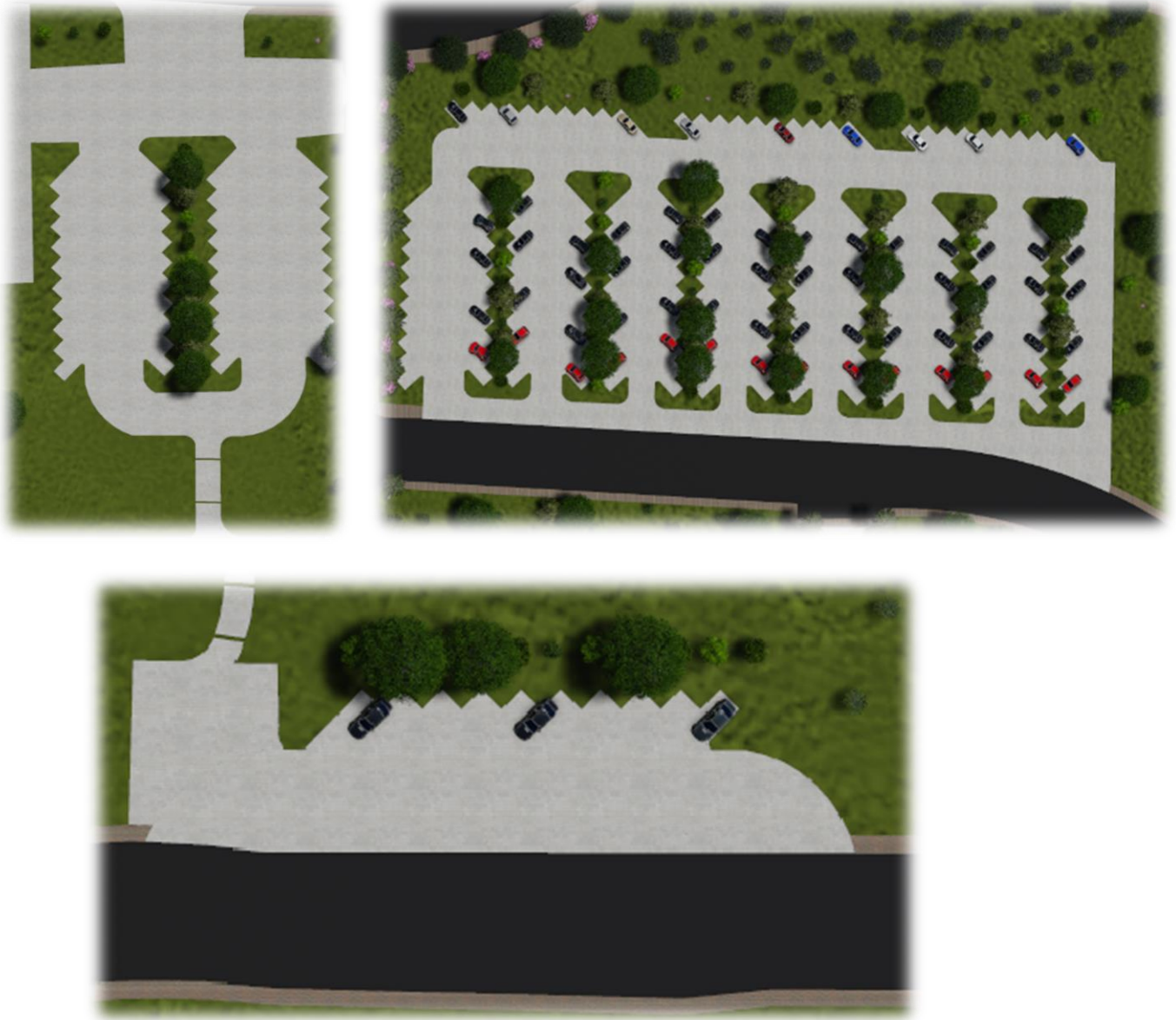
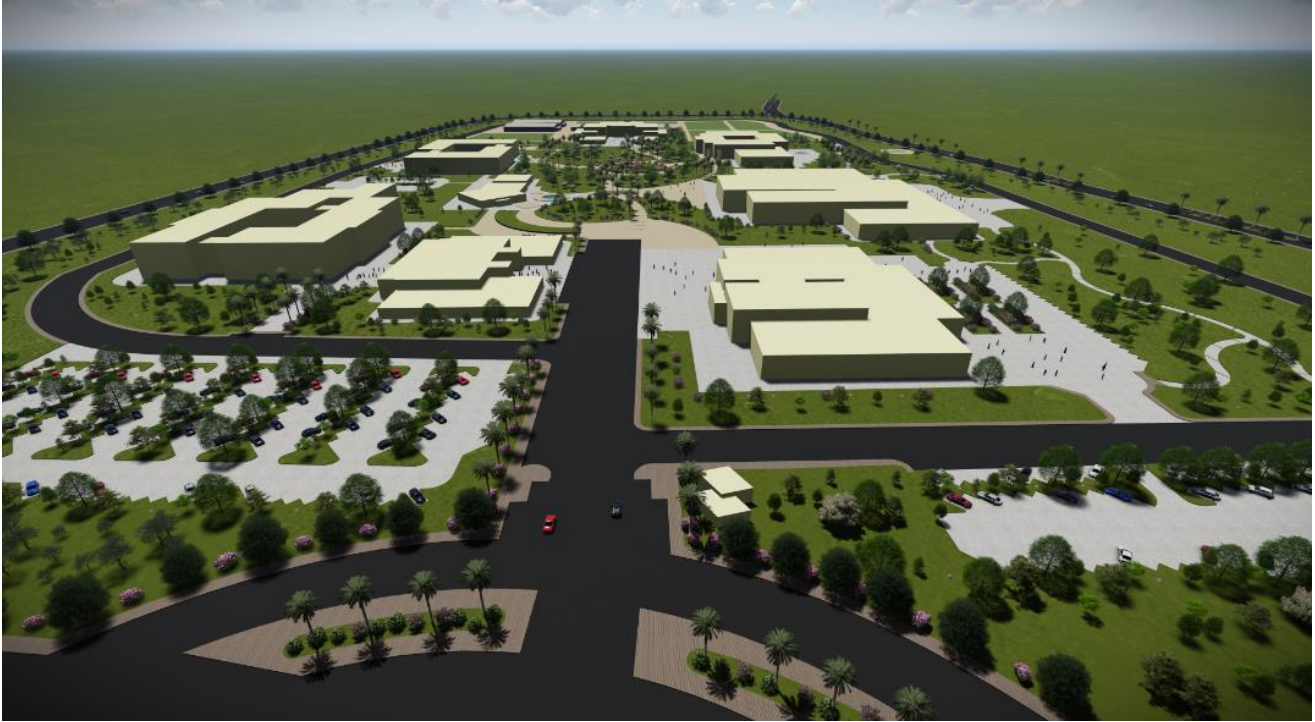


Figure (57): parking in the campus

3d shoots





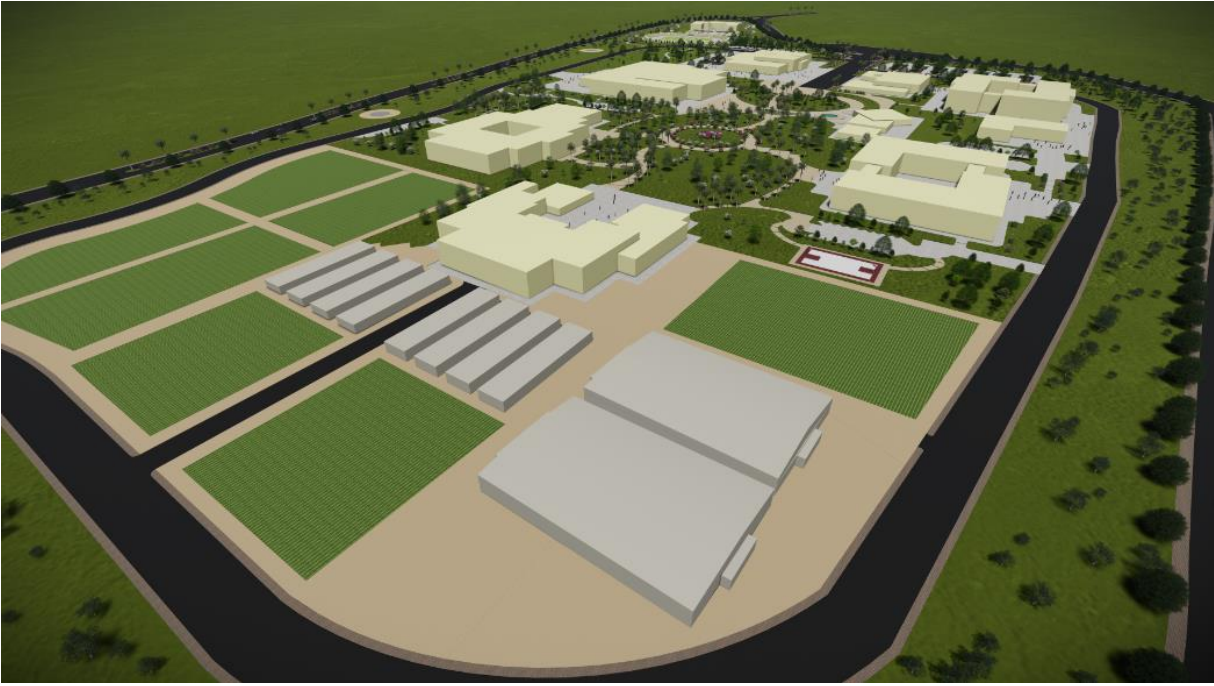


Figure (58): 3d shoots

Chapter viii

Conclusion

7.1 Conclusion:

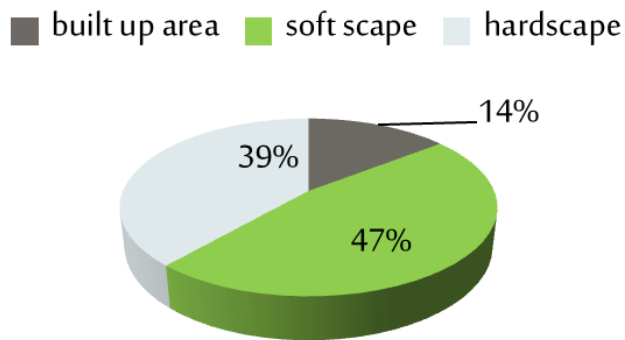


Figure (59): area in campus

- Total cost :Not less than 10,000,000 dollar
- For 200,000 student
- The campus has two wells to collect rainfall water.
- There will be a compost farm factory.
- The project will effect on the whole sectors in tubas governorate, it will increase the economic activity , make the governorate more liveable , it will improve the infrastructure ,improve the tourism sector and also a new building , services ,facilities will be open.

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