

Landscape, Urban Design, and Architecture Projects - Birzeit University

The attached projects are a collection from graduation project course and Landscape Ecology course at the Department of Architectural Engineering and Planning at Birzeit University, Palestine.

These projects explore various topics related to landscape, urban design, and urban reconstruction and revival. The selected projects adhere to specific design criteria that align with the approach of the International Landscape Biennial. Emphasizing on the integration of nature into cities and villages, building resilient urban environments, incorporating sustainability aspects, green infrastructures, and preserving architectural and landscape features.

Some projects focus on studying landscape changes, including natural areas, agricultural land, and built-up areas, enhancing local biodiversity and ecological resilience, and discussing the concepts of landscape dynamics and design in conflict zones, providing a framework for future environmental recovery and spatial planning. Other projects discuss the integration of design and urban design processes within the local context to enhance the concepts of self-sufficient societies, creating an integrated social and economic framework, respecting community's needs and desires as well as land features.

Please provide a 250-word text explaining the selection criteria used to choose the five projects representing the school in the Ribas Piera Prize. Detail the aspects evaluated, such as conceptual quality, innovation, thematic relevance, technical resolution, or any other criteria considered in the selection process with a single image, characteristic of the academic process, to accompany the text.

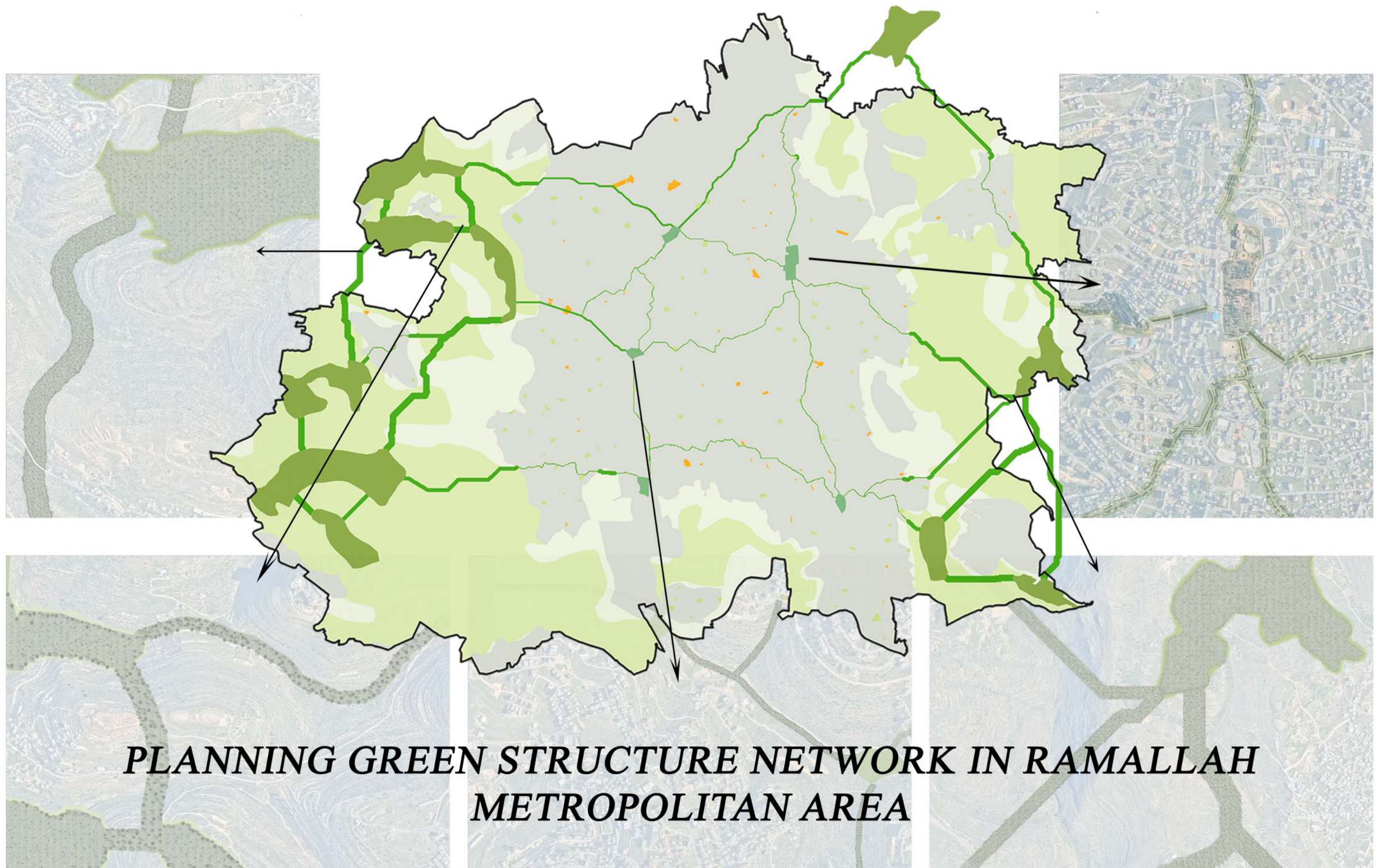
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Country/City	<i>Palestine, Birzeit</i>
University / School	<i>Birzeit University</i>
Academic year	<i>Fifth Year in Engineering in Urban Planning & Design / 2023-2024</i>
Title of the project	<i>PLANNING GREEN STRUCTURE NETWORK IN RAMALLAH METROPOLITAN AREA</i>
Authors	<i>Mayar Bannoura & Narmine Kaloti</i>



Title of the project	PLANNING GREEN STRUCTURE NETWORK IN RAMALLAH METROPOLITAN AREA
Authors	Mayar Bannoura & Narmine Kaloti
Title of the course	Graduation Project
Academic year	Fifth Year in Engineering in Urban Planning & Design / 2023 - 2024
Teaching Staff	Dr. Sana' Anabtawi
Department / Section / Program of belonging	Architectural Engineering and Planning Department - Engineering in Urban Planning and Design Program
University / School	Birzeit University

Written statement, short description of the project in English, no more than 250 words

The Project proposes an integrated vision to create a resilient urban environment by establishing a green infrastructure composed of protected areas, parks, and ecological corridors. The project covers nine towns within the Ramallah metropolitan area, with a population of approximately 175,600.

A multi-criteria suitability analysis was conducted to classify **areas outside the master plans** into two protection levels:

* **Level 1:** Highly suitable areas (80–100%) that are ecologically or agriculturally valuable and strictly protected from development.

* **Level 2:** Moderately suitable areas (60–80%) where limited development may be allowed under environmental evaluation.

Within the master plans, two types of green spaces were identified:

* **Urban Parks** (30–40 dunums): Serve as primary recreational and ecological nodes.

* **Neighborhood Parks** (2–4 dunums): Distributed in underserved residential areas, based on NDVI analysis and projected park needs for 2040 (3.2 m²/person).

Green Corridors, connecting both inside and outside the master plans, were designed using **Least-Cost Path** and **Graph Theory** (via Linkage Mapper and Conefor).

These ensure both structural and functional connectivity, enhancing biodiversity and ecological resilience.

The entire network was developed through GIS-based analysis and a participatory, criteria-driven methodology. This project demonstrates how urban planning can align ecological preservation with equitable access to green spaces, contributing to sustainable growth and environmental justice in the Ramallah metropolitan region.

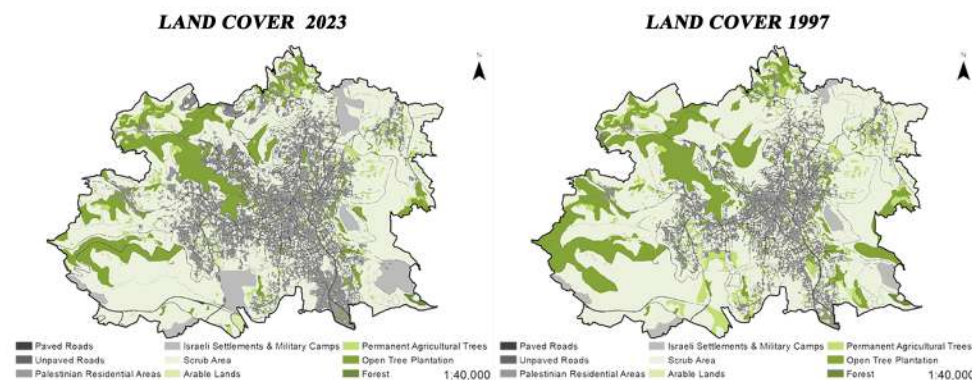
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A. SITE ANALYSIS - LANDSCAPE CHANGE

To assess urban expansion and landscape transformation, land use data for the Ramallah Metropolitan Area was analyzed using aerial photographs from 1997 and 2023. The images were digitized into nine land use categories using ArcMap 10.8.



The analysis involved calculating the area, average patch size, and number of patches for each category, along with a change matrix to track gains, losses, and stable areas.

Results showed that the main drivers of land use change were:

- * Urban sprawl
- * Expansion of Israeli settlements
- * Road network development
- * Natural environmental shifts.

B. PROTECTION AREAS

The process of identifying new protection areas includes:

1. Setting Criteria & Classifications

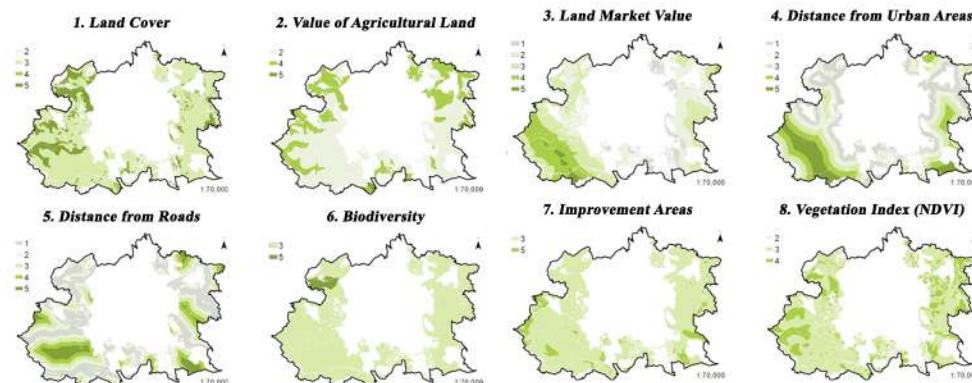
Nine factors affecting site selection are identified and classified with suitability scores ranging from 1 to 5.

(5 = Highly suitable, 4 = Suitable, 3 = Moderately Suitable, 2 = Poorly Suitable, 1 = Un-Suitable).

Criteria	Classification	Value	
1. Land Cover	Unpaved Roads	2	Poorly Suitable
	Permanent Agricultural Trees	4	Suitable
	Arable Lands	4	Suitable
	Open Tree Plantation	5	Highly suitable
	Scrub Area	3	Moderately Suitable

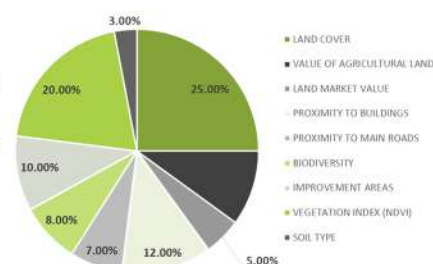
Example of how criteria and classifications were defined

2. Creating Suitability Maps

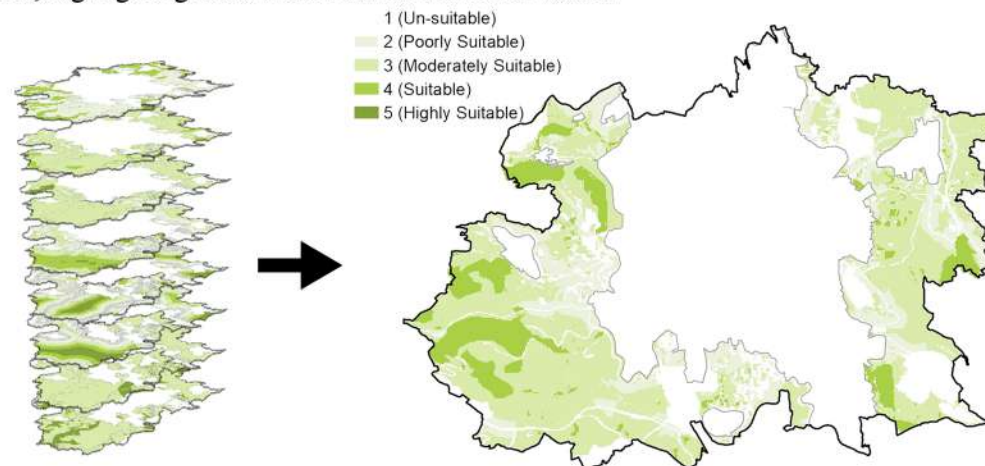


3. Determining Criteria Weights

using the Analytic Hierarchy Process (AHP), which supports multi-criteria decision-making by comparing criteria in pairs and calculating weights and consistency.



4. Overlaying Suitability Maps to combine all weighted criteria into a single map using GIS, highlighting areas most suitable for conservation.

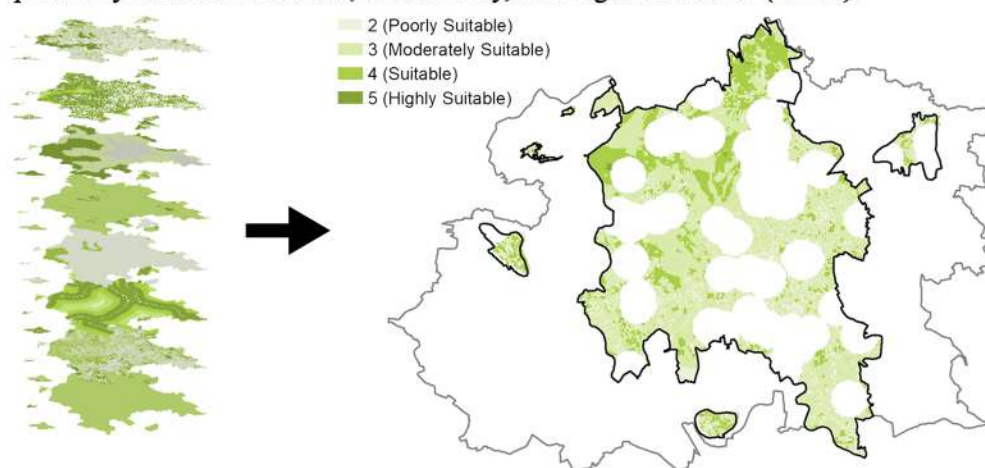


5. Extracting Protection Areas based on suitability results:

- * **Level 1:** Highly suitable areas (value 4 or 5), meeting 80–100% of criteria and larger than 50 dunams.
- * **Level 2:** Moderately suitable areas (value 3), meeting 60–80% of criteria.
- * **Development Areas:** All other areas not qualifying for protection.

C. URBAN PARKS

The same methodology used for identifying protection areas was applied within the boundaries of the structural plans to determine suitable locations for urban parks. However, the analysis was adjusted using criteria specific to park planning, such as proximity to residential areas, accessibility, and vegetation cover (NDVI).



D. NEIGHBORHOOD PARKS

Following the identification of urban parks, the next step focuses on distributing neighborhood parks for each town based on:

1. Future Needs Assessment:

- * Estimate the 2040 population and calculate the required park area using a standard of 3.2 m² per person.
- * Compare with existing park areas to identify shortages.

2. NDVI Analysis:

- * Use NDVI to locate areas lacking vegetation and prioritize them for green space development.

3. Site Selection:

- * From the remaining suitable sites, neighborhood parks were chosen based on future population needs and vegetation deficiency.
- This approach ensures an equitable, need-based distribution of parks that supports future growth and improves green space accessibility.

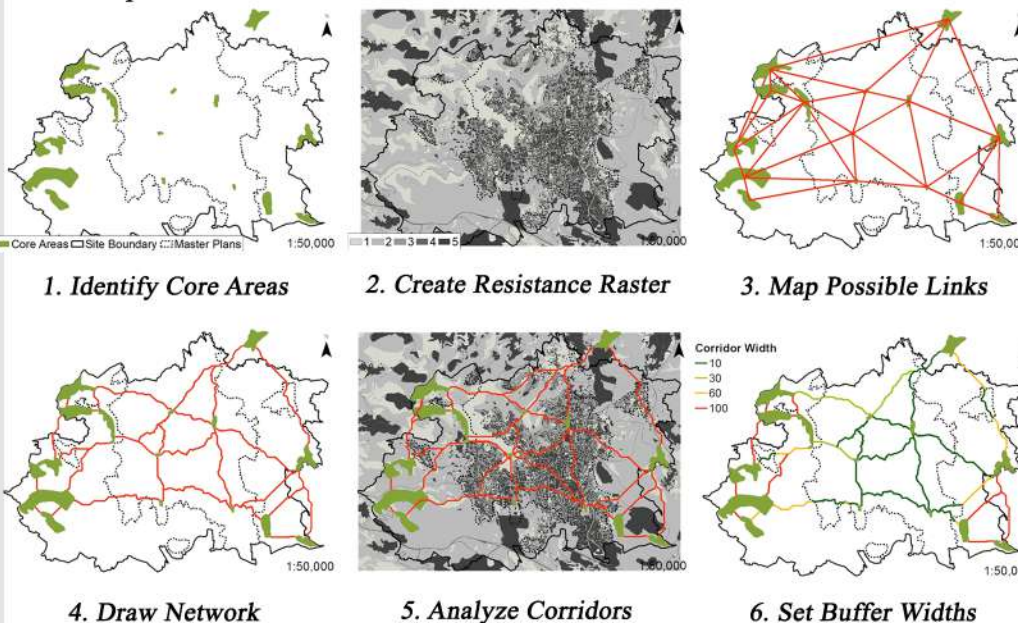
E. GREEN CORRIDORS

Green corridors were mapped using **Graph Theory** and the **Least-Cost Path method**, with the support of **Linkage Mapper** and **Conefor** tools to enhance habitat connectivity.

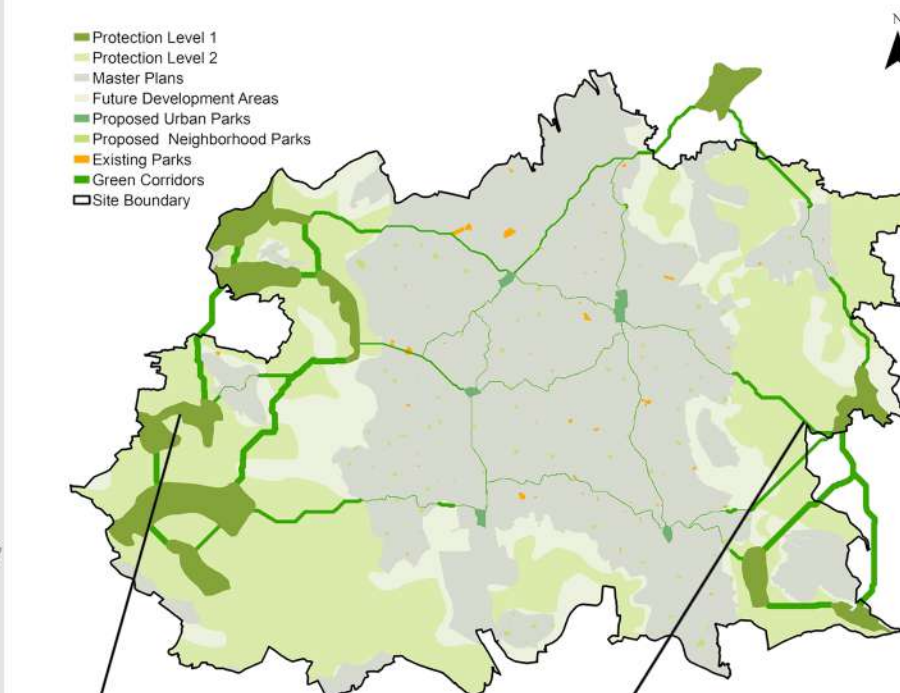
* **Graph Theory** models the landscape as nodes (core areas) and edges (corridors), focusing on structural connections.

* **Least-Cost Path** finds efficient routes for movement across the landscape based on resistance (difficulty of movement), ensuring functional connectivity.

Main Steps:



FINAL GREEN STRUCTURE



GREEN CORRIDORS SAMPLES





Country/City Palestine/ Birzeit
 University / School Birzeit University/ Faculty of Engineering and Technology,
 Academic year 2023-2024
 Title of the project Jisr Az-zarqa A Tapestry of Community, Land and sea
 Authors Suzanne Yousef Abdaljawwad , Mohammad abed-Alnaser Khattab

Title of the project Jisr Az-zarqa A Tapestry of Community, Land and sea
Authors Mohammad abed-Alnaser Khattab, Suzanne Yousef Abdaljawwad
Title of the course Graduation Project
Academic year 2023-2024
Teaching Staff Ms. Sara O. Khasib
Department / Section / Program of belonging Department of Architectural Engineering and Urban Planning
/ Architectural Engineering/ Bachelor of Science in Architectural Engineering
University / School Birzeit University/ Faculty of Engineering and Technology,



Written statement, short description of the project in English, no more than 250 words

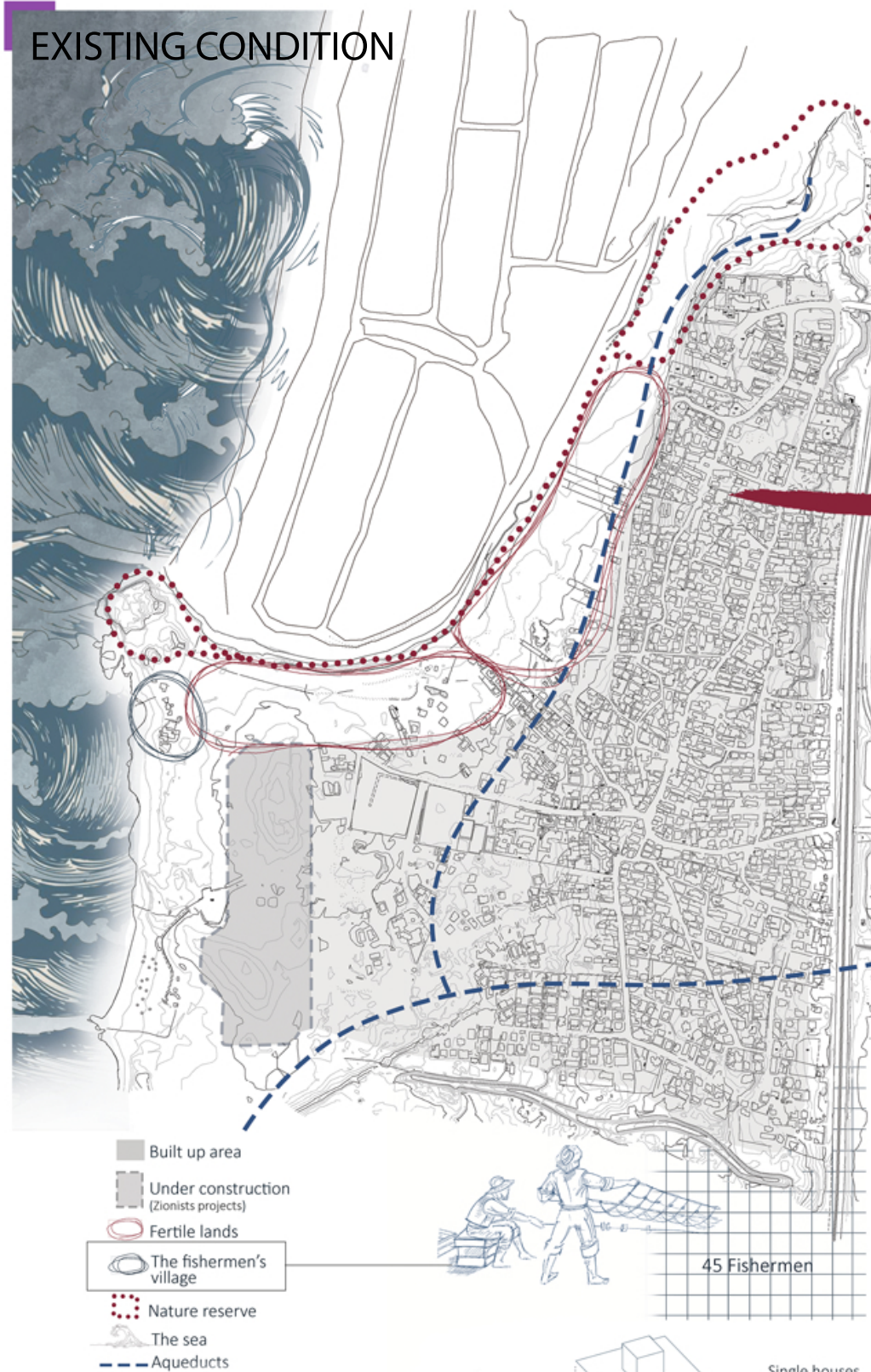
The focus of the project is "Jisr al-Zarqa" village, the last coastal village that is part of the lands confiscated by Israel in 1948 where Palestinians still reside. The relationship between Palestinian farmers and the land is a strong relationship intertwined with narratives that developed to include Palestinian fishermen at a later stage, and extended to include craftsmen. This integration painted a vivid picture of a self-sufficient Palestinian society in the past, but capitalist colonial interventions began to dismantle these relationships. This made the presence in the last coastal village -Jisr Al-Zarqa- near Haifa is in danger. This village seeks to survive and to erase the Israeli lines that made it more like a natural reserve surrounded by settlements. This effort was embodied mainly among the fishermen of Jisr al-Zarqa. Accordingly, the project focuses on strengthening the village's steadfastness and creating an integrated social and economic framework that remembers the past and employs new models to resist the mechanisms of identity theft and the Judaization of the place in the current era and creating a circular self-sufficient community. From an architectural perspective, the project has been planned and executed with the community's needs and desires at its core. This involvement demonstrates the project's authenticity and its potential to empower the community.

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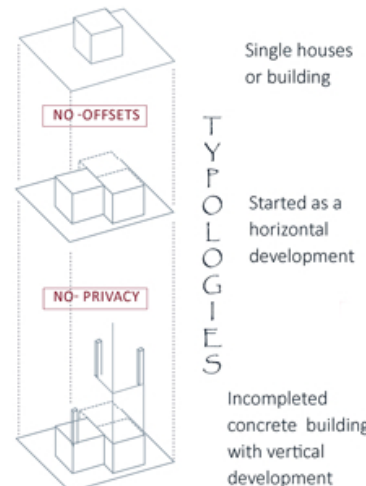
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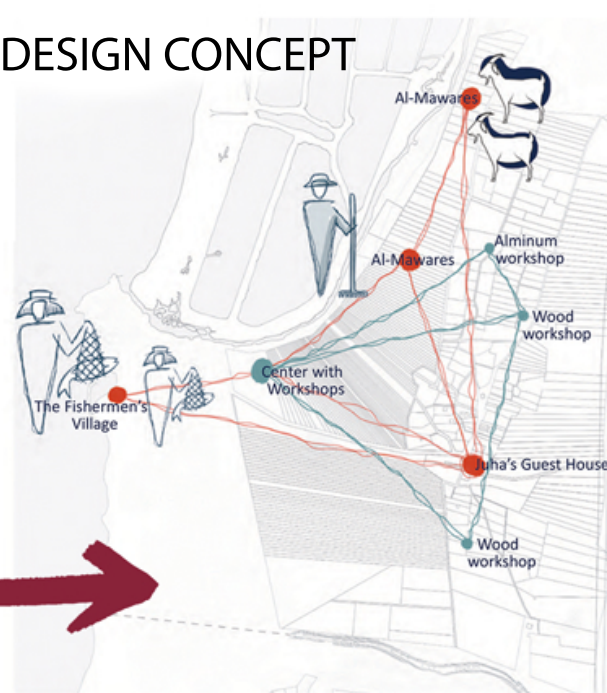
EXISTING CONDITION



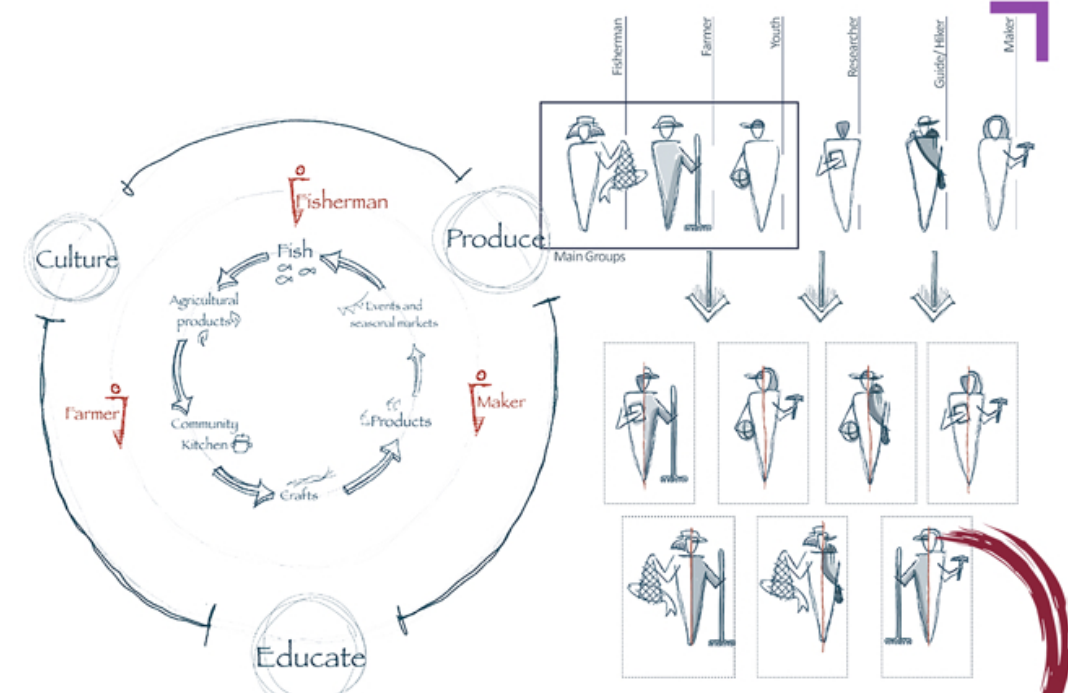
Jisr az-Zarqa village has endured relentless colonial pressures, from land confiscation to capitalist policies and social control. These pressures have nearly eradicated local artisans and marginalized remaining fishermen, farmers, and craftspeople. In response, we have selected three strategic sites to design a network of resilience that strengthens social presence, mobility, and the deep-rooted connection to the sea which create a circular self-sufficient village through this participatory design strategy.



DESIGN CONCEPT



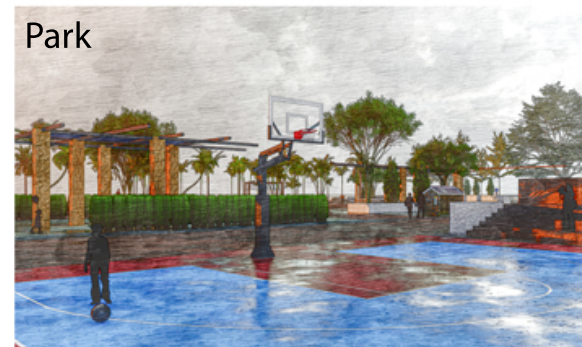
The social structure of the village was studied three main groups where chosen to create a space that connects between them through different activities enriching the village while creating a complete cycle where all groups interact together to benefit from each other through the designed public space created on three selected sites in the village.



SITE PLAN



Social Hub

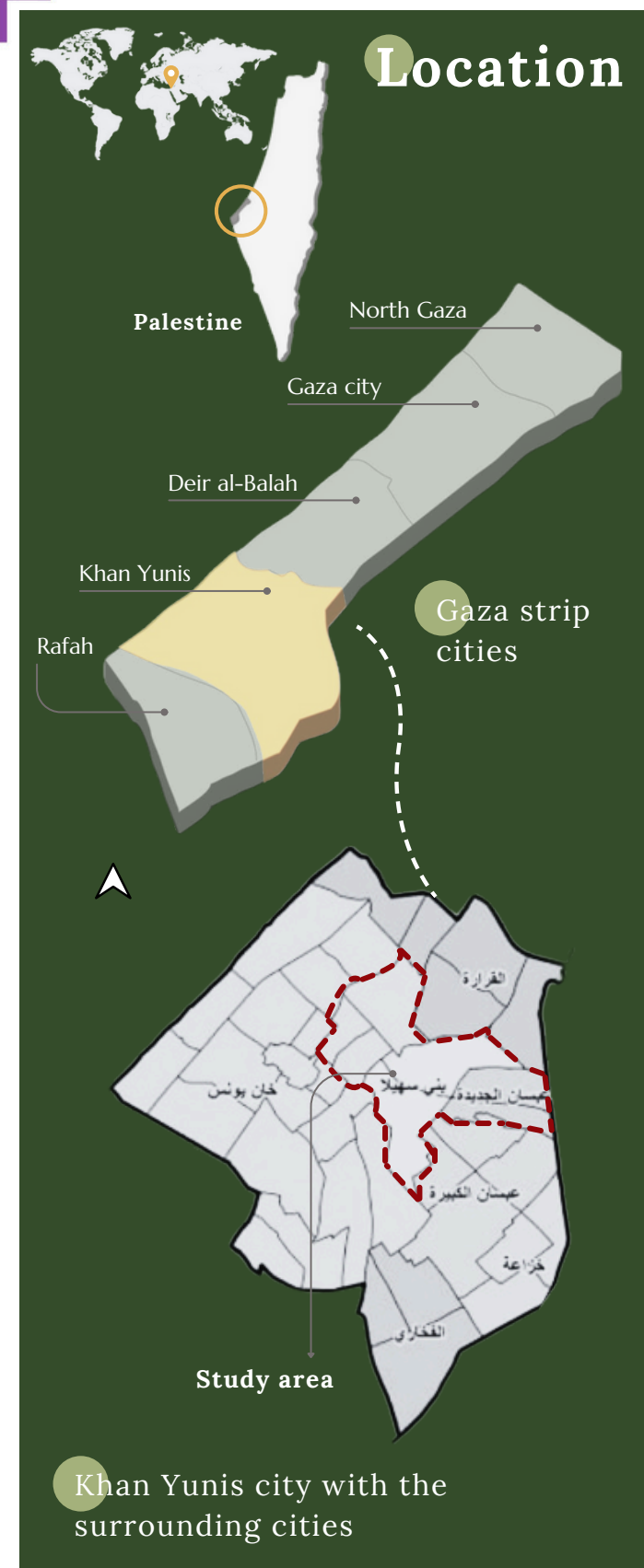


Park

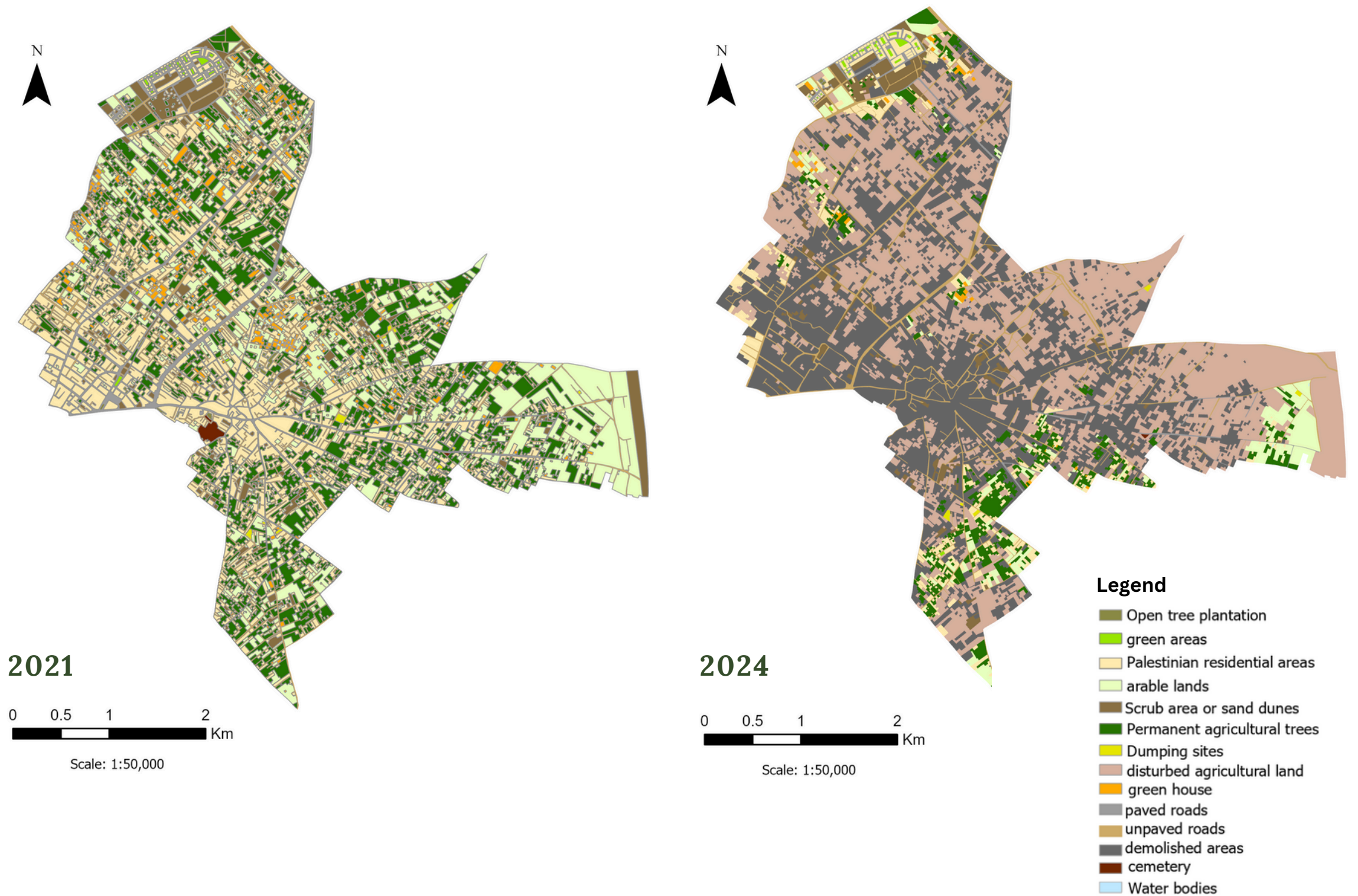


Mawares

The first site is a social hub that includes an educational center, local crafts workshops, theater, hostel, library, and shops that help support the local businesses and encourage visitors to learn about the village and its history. The second site lies in the fishermen's village and to support the village a public park was created on the site as a connecting point between the social hub and the agricultural land which is the third site. The agricultural site includes a research center that works on aquaponics where agricultural waste from the site is used to feed the fish found in the research center and the water from the fish is used to grow crops. The site also includes a farmers market which visitors can lastly visit through their tour through the agricultural land and get fresh produce



Comparative Landscape Classification Maps: 2021 vs. 2024



Country/City Palestine , Ramallah

University / School Birzeit University

Academic year Fourth Year, First Semester (2024/2025)

Title of the project Analysis of Landscape Changes in Gaza Strip from 2021 to 2024

Authors Layan Mimi

Title of the project	Analysis of Landscape Changes in Gaza Strip from 2021 to 2024
Authors	Layan Mimi
Title of the course	Landscape Ecology
Academic year	Fourth Year, First Semester (2024/2025)
Teaching Staff	Dr. Samar Alnazer
Department / Section / Program of belonging	Department of Architectural Engineering and Planning / Bachelor Program of Engineering In Urban Planning & Design
University / School	Birzeit University



Written statement, short description of the project in English, no more than 250 words

This research investigates landscape transformations in the Gaza Strip, focusing on New Abasan, Bani Suhaila, and parts of Khan Yunis City over the period 2021 to 2024. Using high-resolution aerial photographs and GIS Pro software, the study identifies and quantifies physical changes in key landscape classes urban areas, agricultural lands (including arable land, permanent trees, and greenhouses), natural areas, forests, and water bodies. The methodology involves georeferencing and analyzing aerial imagery to map land cover for both years, followed by a spatial change detection process that highlights gains and losses across landscape categories. Findings show severe alterations in land use, especially due to the 2023–2025 War, which caused significant destruction of built-up and agricultural areas. More than 75% of the study area , covering 1,742 hectares was affected, leading to the degradation of vital resources and the disruption of biodiversity. The analysis offers insight into how conflict accelerates landscape change, affecting the environment and socio-economic resilience. By documenting these transformations, the research contributes to broader understanding of landscape dynamics in conflict zones and provides a framework for future environmental recovery and spatial planning.

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Matrix diagram for areas

2021/2024	Total Area 2021	Palestinian residential	Dumping area	Paved roads	Unpaved roads	Cemetery	Demolished areas	Green areas	Arable lands	Permanent agricultural trees	Green houses	Disturbed agricultural land	Open tree plantation	Scrub area	Water bodies	Refugee camps	Displaced resident tents	Industrial area
Palestinian residential	550.44	47.11	0.03	3.68	21.24	0.00	411.29	0.54	1.39	9.39	0.49	53.00	0.12	2.50	0.01	0.00	0.00	0.00
Dumping area	3.60	0.04	0.97	0.00	0.29	0.00	1.56	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00
Paved roads	86.31	4.24	0.00	10.09	25.60	0.00	34.74	0.36	0.37	1.02	0.00	8.13	0.16	1.58	0.00	0.00	0.00	0.00
Unpaved roads	119.49	5.41	0.09	0.84	14.91	0.01	50.26	0.02	1.93	4.13	0.38	39.06	0.00	2.47	0.02	0.00	0.00	0.00
Cemetery	4.18	0.00	0.00	0.00	0.23	0.13	3.75	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Demolished areas	0.56	0.01	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.02	0.00	0.17	0.00	0.12	0.00	0.00	0.00	0.00
Green areas	4.53	0.61	0.00	0.47	0.15	0.00	0.61	2.09	0.00	0.00	0.00	0.38	0.00	0.21	0.00	0.00	0.00	0.00
Arable lands	364.59	3.08	0.00	1.63	11.34	0.00	35.04	0.14	45.50	8.31	1.43	256.46	0.00	0.68	0.03	0.00	0.00	0.00
Permanent agricultural trees	438.13	9.41	0.00	1.57	13.65	0.06	86.40	0.00	7.11	56.81	0.75	260.80	0.16	1.47	0.03	0.00	0.00	0.00
Green houses	54.47	0.56	0.00	0.00	1.25	0.00	7.56	0.00	0.46	1.28	2.46	40.82	0.00	0.12	0.02	0.00	0.00	0.00
Disturbed agricultural land	0.23	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
Open tree plantation	6.39	0.14	0.00	0.12	0.53	0.00	2.99	0.07	0.03	0.18	0.00	0.43	0.15	1.73	0.00	0.00	0.00	0.00
Scrub area	108.68	3.04	0.00	2.02	6.59	0.00	15.55	0.04	4.15	1.22	0.30	38.20	0.00	37.60	0.00	0.00	0.00	0.00
Water bodies	1.31	0.00	0.00	0.00	0.01	0.00	0.17	0.00	0.07	0.04	0.00	0.78	0.00	0.00	0.05	0.00	0.00	0.00
Refugee camps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Displaced resident tents	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Industrial area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Area 2024	1742.66	73.49	1.43	20.29	94.63	0.20	642.51	3.22	80.35	81.44	5.75	690.69	0.59	47.90	0.15	0.00	0.00	0.00

2024

Loss and Gain

Landscape Classes	Area 2024 (Hec)	Area 2021 (Hec)	loss and gains
Palestinian residential areas	73.49	550.44	-476.94
Refugee camps	0	0	0
Displaced resident tents	0	0	0
Dumping area	1.43	3.59	-2.13
Paved roads	20.29	86.30	-66.02
Unpaved roads	94.63	119.49	-24.86
Cemetery	0.20	4.18	-3.97
Industrial area	0	0	0
Demolished areas	642.51	0.56	641.95
Green areas	3.22	4.53	-1.31
Arable lands	80.35	364.59	-284.23
Permanent agricultural trees	81.44	438.127	-356.69
Green houses	5.75	54.47	-48.72
Disturbed agricultural land	690.69	0.23	690.46
Open tree plantation	0.59	6.39	-5.80
Scrub area	47.90	108.68	-60.78
Water bodies	0.15	1.13	-0.98

Highest Increase Classes

Highest decrease Classes

Demolished Areas:
36.88% of the total study area.

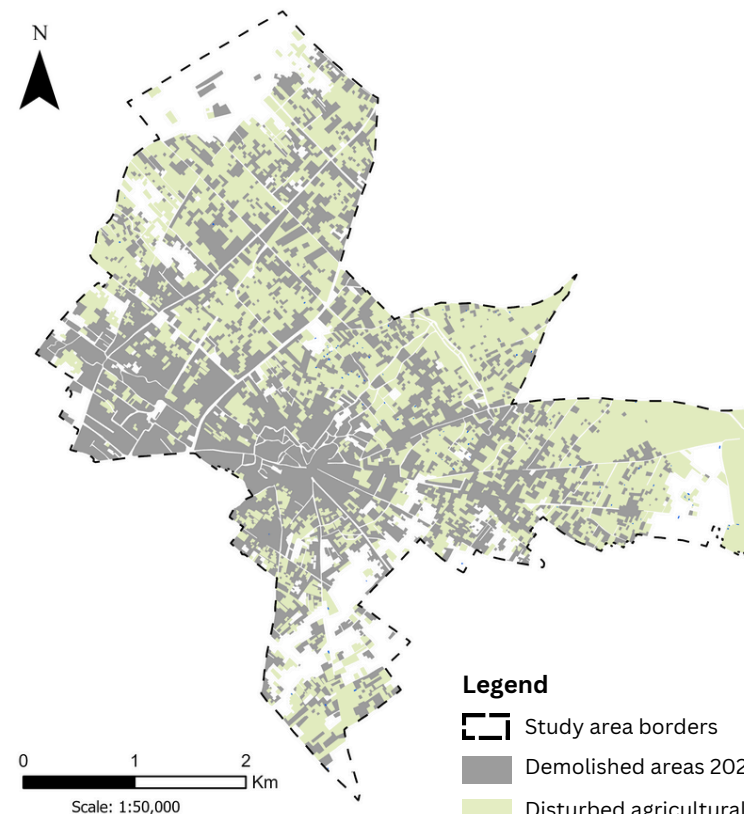
Disturbed Agricultural Lands:
39.63% of the total study area.

Total Disturbed Land:
76.51% of the total study area.

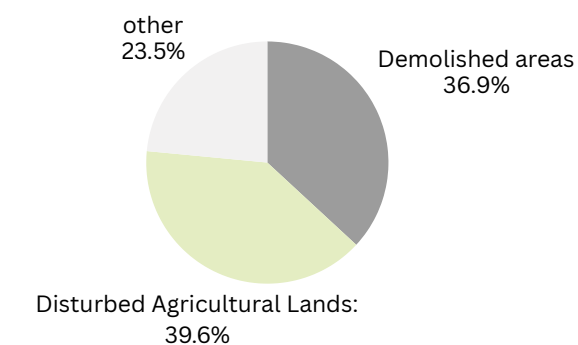
Aerial Photos for the Study Area : 2021 vs. 2024

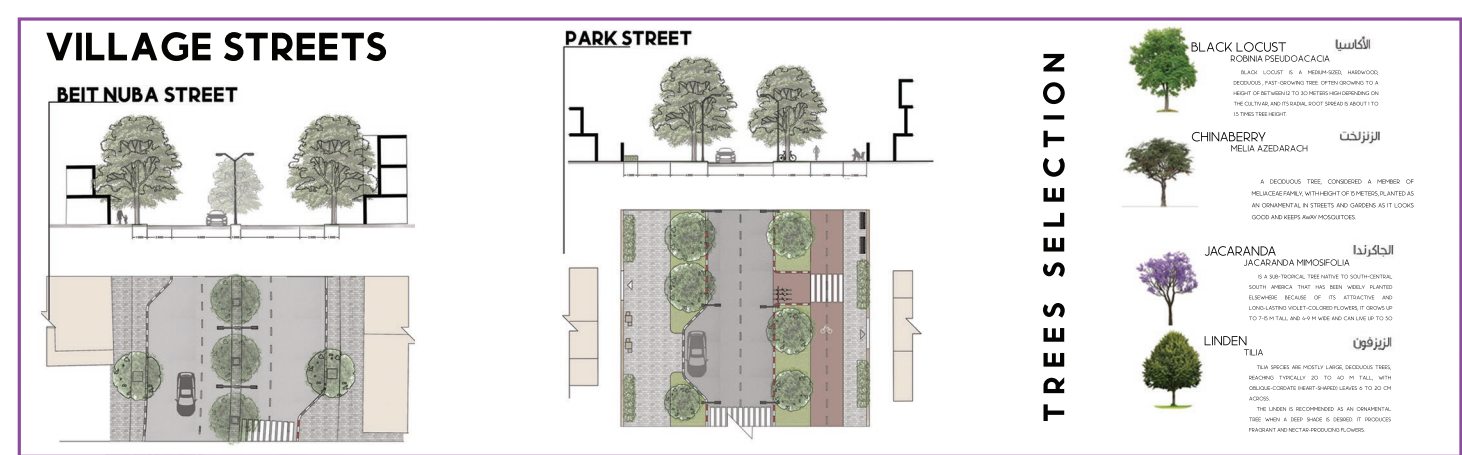
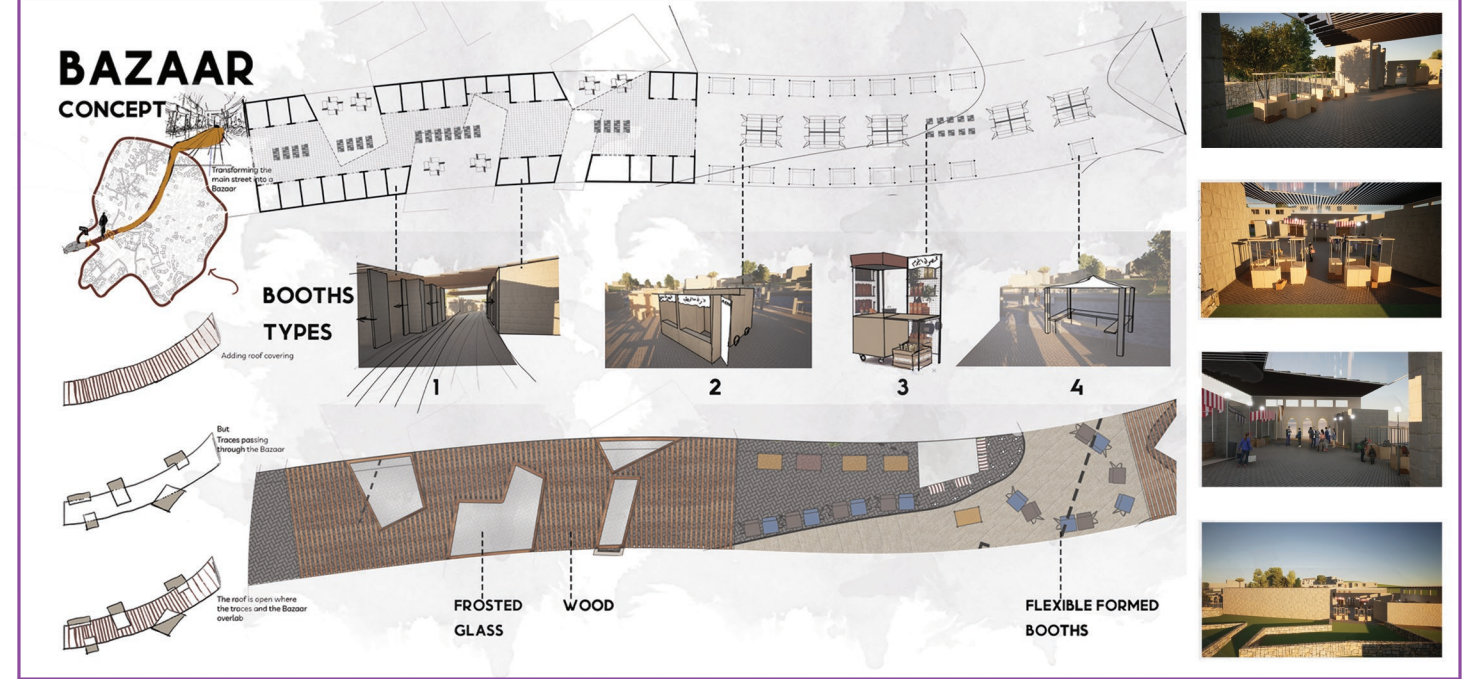


Results : Landscape Disturbance



This indicates that over **three-quarters** of the study area has been impacted by war-related destruction, severely affecting both infrastructure and agricultural production.





Country/City Palestine, Ramallah
 University / School Birzeit University
 Academic year 2023-2024
 Title of the project The Reconstruction and Revival of "Imwas" Village.
 Authors Hala Abu-Helal and Namaa Al-Bool

Title of the project	The Reconstruction and Revival of “Imwas” Village.
Authors	Hala Abu-Helal and Namaa Al-Bool
Title of the course	Graduation Project
Academic year	2023-2024
Teaching Staff	Dr. Samar AlNazer
Department / Section / Program of belonging	Department of Architectural Engineering and Planning Bachelors of Architectural Engineering
University / School	Birzeit University



Written statement, short description of the project in English, no more than 250 words

Imwas is a Palestinian village that was destroyed and its people displaced during the 1967 war. After the destruction, recreational parks were built over its ruins, as an act of “Greenwashing” . The village had a strategic location linking four major cities and held historical and religious value. It was once known for its self-sufficiency, rich resources, and strong ties with nearby villages. This project aims to rebuild Imwas as a living space that respects its history and identity and landscape while taking modern needs into consideration. The approach is based on community participation and careful attention to site and context.

The design works on three scales: the whole village plan, a detailed plan for the old village, and a detailed area called “Al-Qa’a”, which was the main square in the village. The old built-up area borders were identified as the old village, Agricultural area was preserved with the light industrial area near it, and new residential areas were planned around the old village. A main road connects these three areas together, and the highway (street 3) that breaks through the old village was transformed into a pedestrian bazaar.

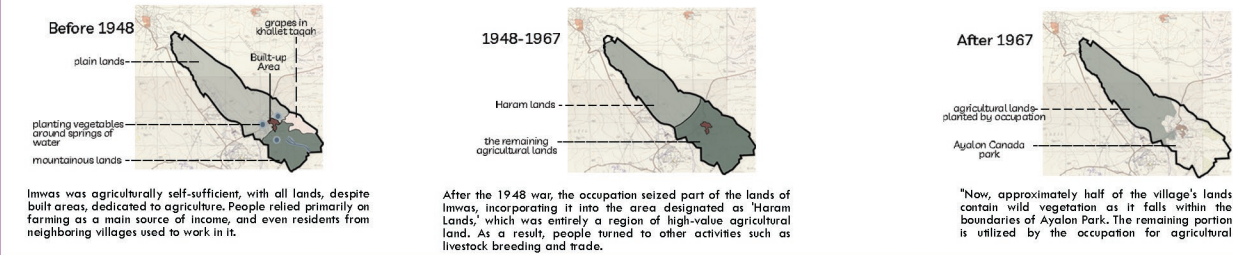
In the old village, the destroyed buildings were preserved as traces that created an open-air museum, new buildings match the traditional style. Streets follow the natural slope of the land. The “Qa’a” area includes a bazaar, public plaza, museum, and mixed-use housing, reviving Imwas as a livable, memory-rich village.

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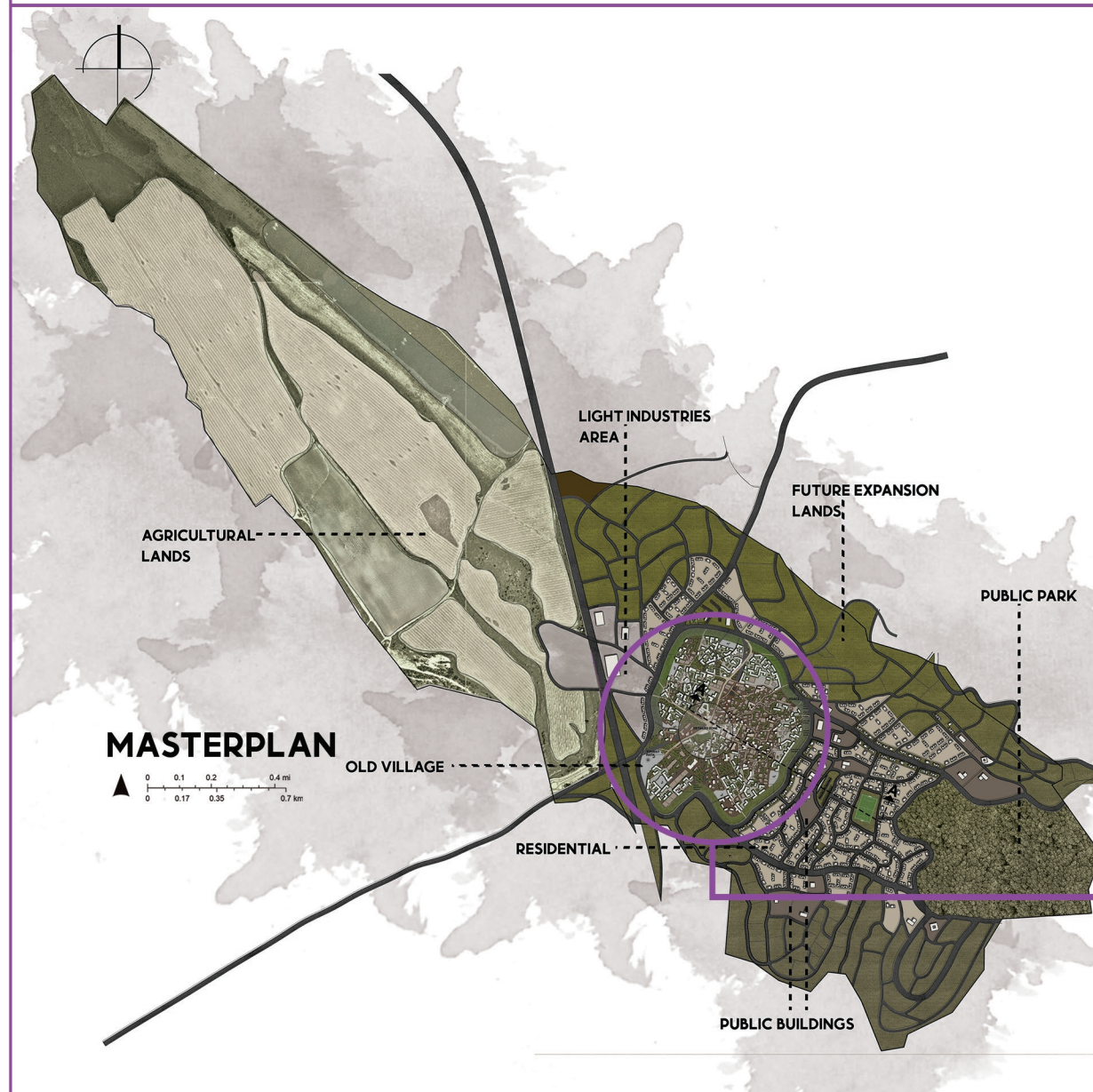
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HISTORICAL CONTEXT

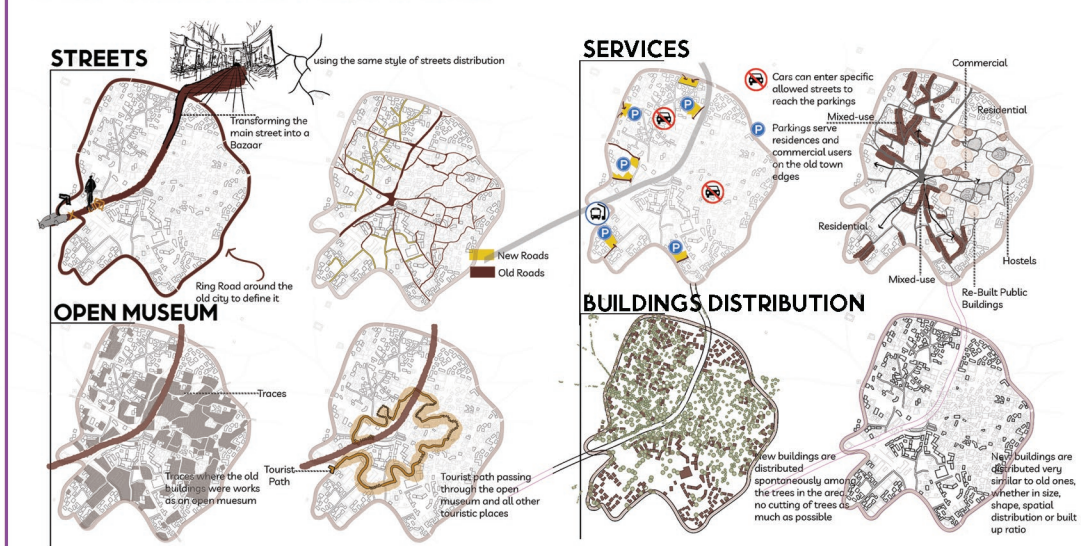


VILLAGE PLANNING

HOW ARE THE MAIN ZONES DISTRIBUTED?



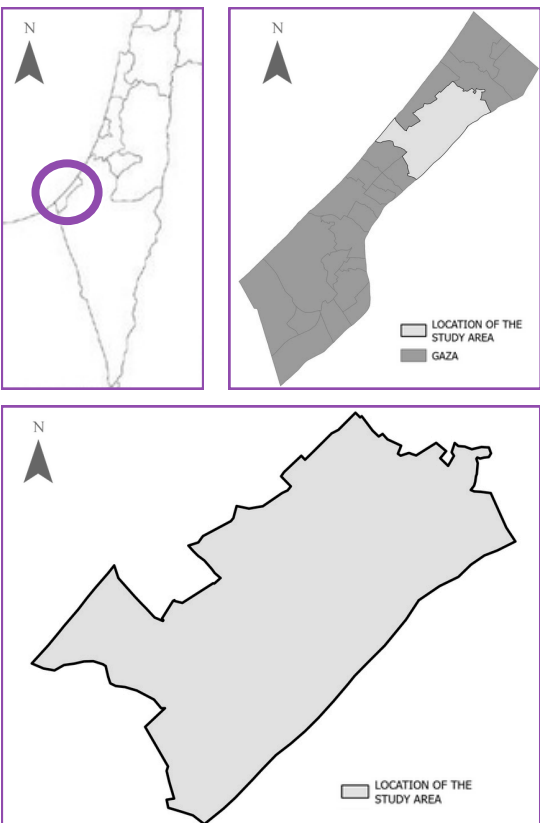
OLD VILLAGE PLANNING



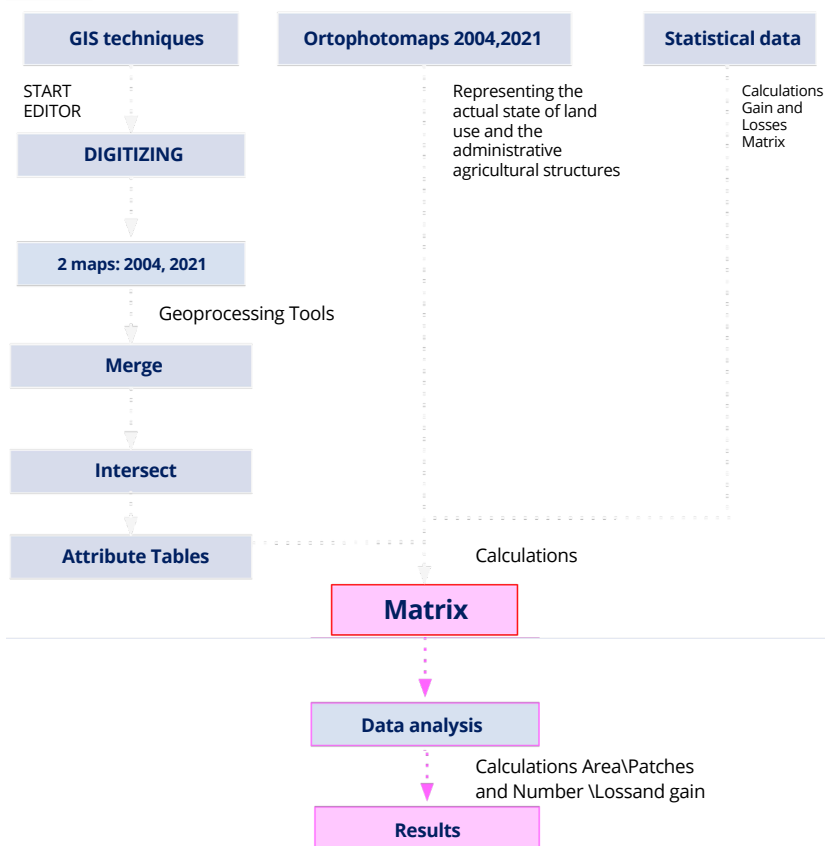
OLD VILLAGE MASTER PLAN



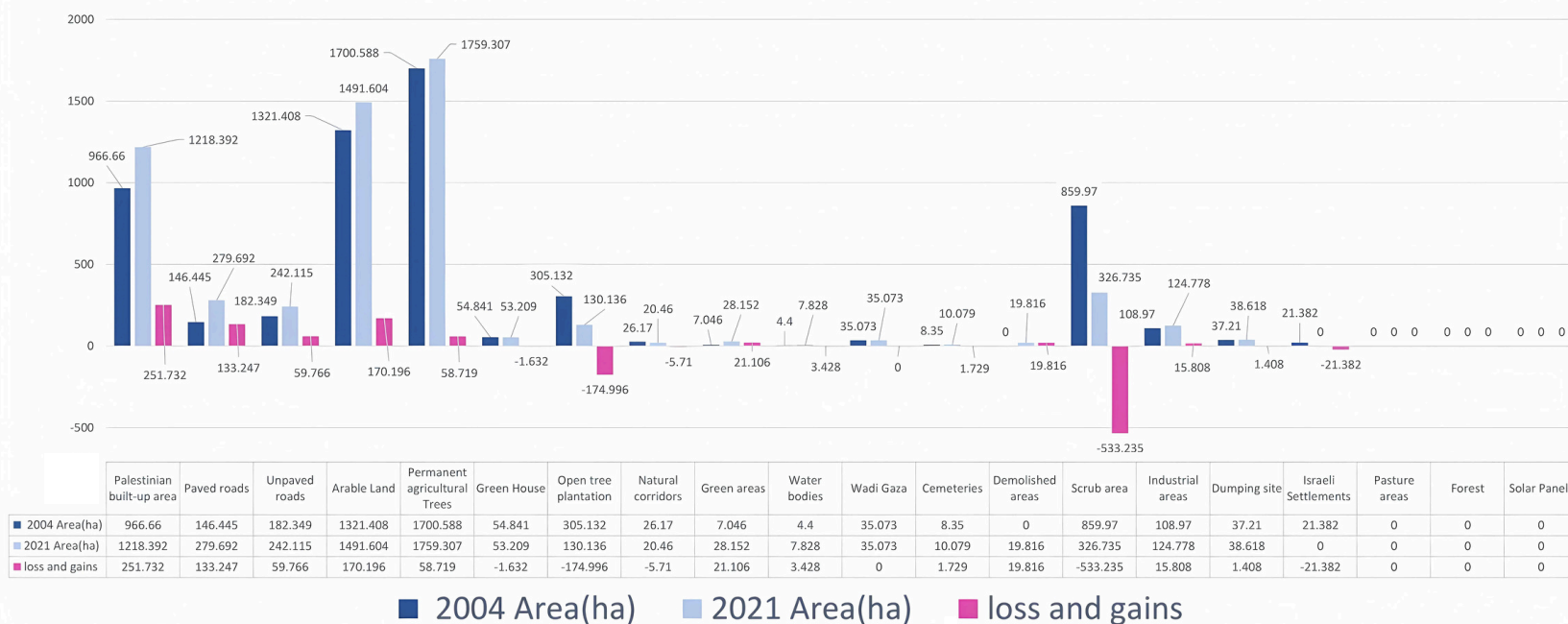
Study Area Location



Methodology

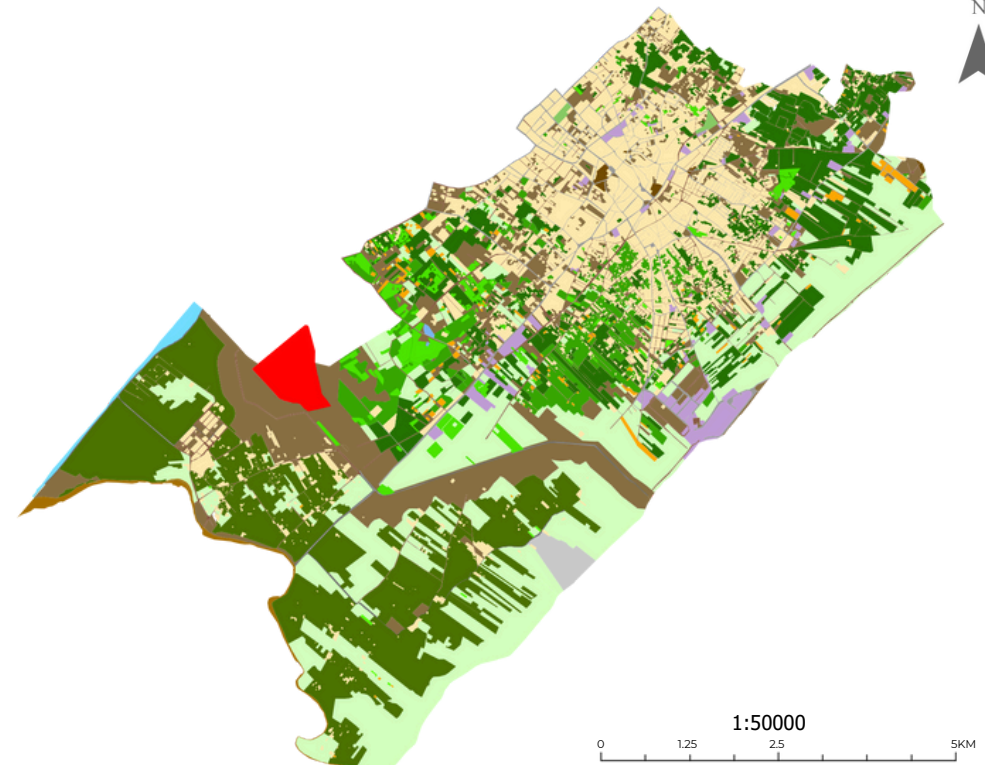


Results



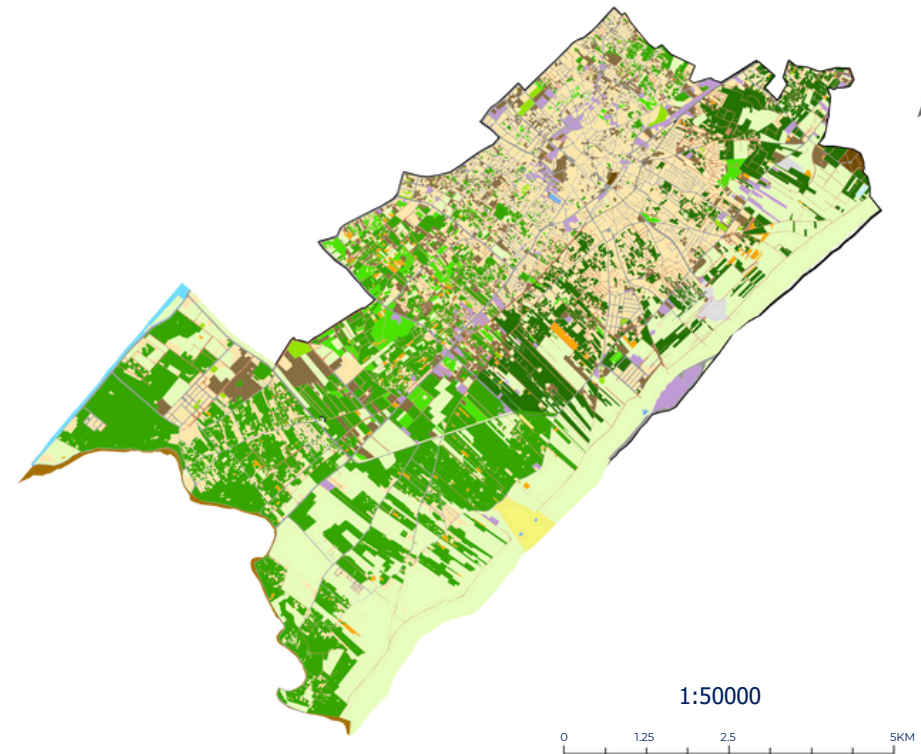
Gaza 2004

- Paved roads
- Unpaved roads
- costline
- dumping
- Israeli Settlements
- Industrial area
- Demolished areas
- Water bodies
- Green areas
- palestinian residential areas
- Permanent agricultural trees
- Scrub area
- Green houses
- Arable lands
- Cemeteries
- Open tree plantation
- Wadi gaza



Gaza 2021

- paved roads
- unpaved roads
- Green areas
- Wadi gaza
- Coast line
- Arable lands
- Green houses
- Industrial area
- Dumping site
- unpaved roads
- Water bodies
- Scrub area
- Palestinian residential areas
- Open tree plantation
- green areas
- demolished areas
- Cemeteries
- Agricultural trees



Country/City
University / School
Academic year
Title of the project
Authors

Palestine\Ramallah
Birzeit University
Fourth Year, First Semester (2024/2025)
The Study Of Landscape Change In GAZA, Palestine
Batool Shihada

Title of the project	The Study Of Landscape Change In GAZA, Palestine
Authors	Batool Shihada
Title of the course	Landscape Ecology
Academic year	Fourth Year, First Semester (2024/2025)
Teaching Staff	Dr.Samar Alnazer
Department / Section / Program of belonging	Department of Architectural Engineering and Planning / Bachelor Program of Engineering In Urban Planning & Design
University / School	Birzeit University



Written statement, short description of the project in English, no more than 250 words

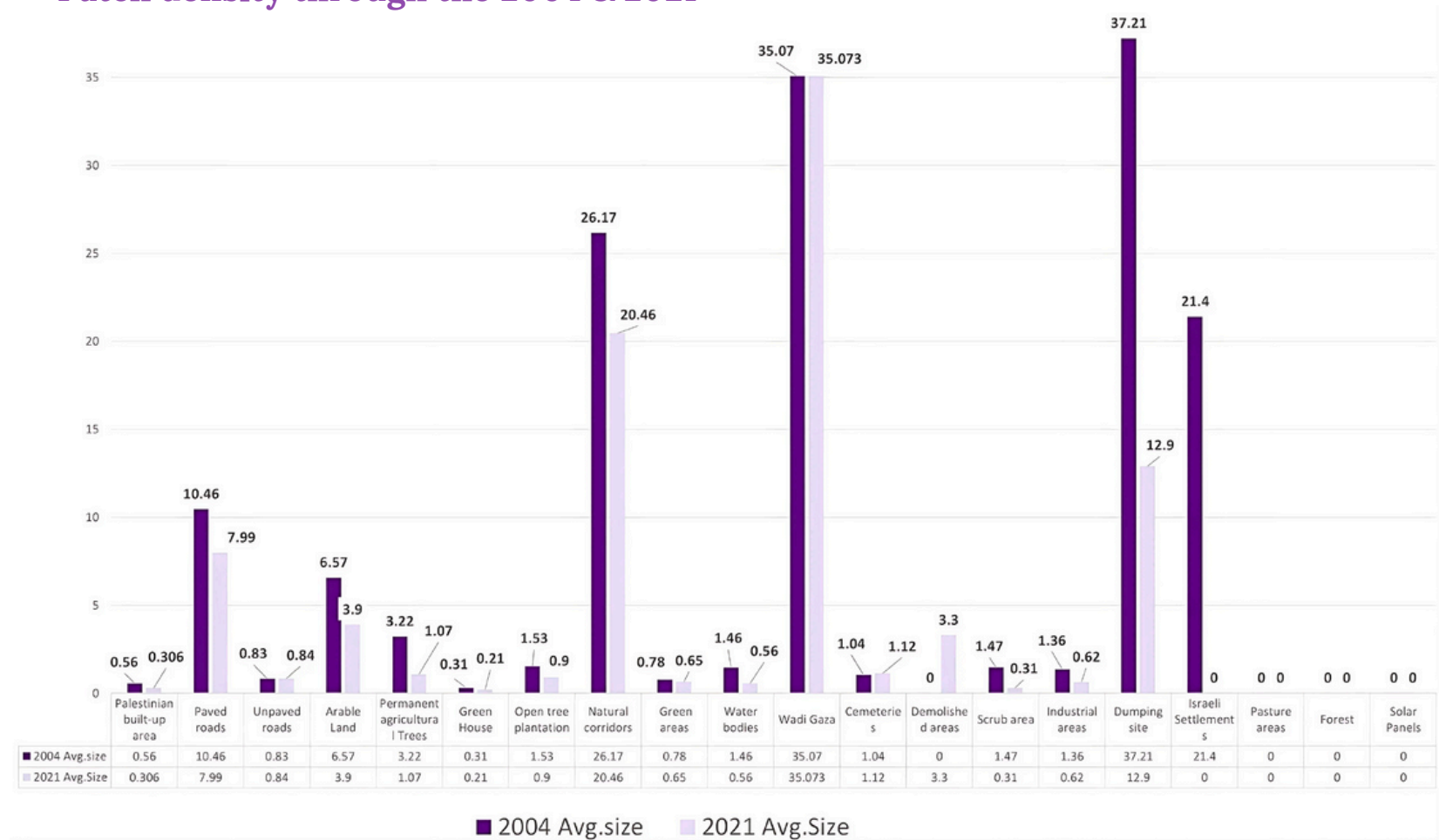
This research investigates landscape transformation in Gaza City and its surroundings, particularly Al-Zahraa, Al-Maghraqa, and Wadi Gaza, between 2004 and 2021. It analyzes ecological and urban changes driven by rapid urbanization, repeated conflicts, and inadequate environmental planning. Using land cover maps generated via ArcGIS and remote sensing data, the study assesses changes in land use and vegetation cover both quantitatively and qualitatively. Findings indicate a marked increase in built-up areas and permanent agricultural land, alongside the loss of scrubland and open tree plantations. Notably, former Israeli settlements have been replaced by dense urban and agricultural developments. The study highlights how geopolitical dynamics such as military operations, checkpoints, and the segregation wall have fragmented habitats, accelerated deforestation, and weakened ecosystem resilience. By integrating spatial analysis with ecological, social, and political contexts, the research reveals the environmental cost of protracted conflict. It explores broader concepts like urbicide, ecocide, and spaciocide, emphasizing the links between territorial transformation and displacement. The findings aim to support sustainable planning, environmental recovery, and adaptive strategies in conflict-affected regions.

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Patch density through the 2004 & 2021



Map2 :Aerial photo 2004



Table 1 : Matrix diagram for the landscape classes areas (2004 vs 2021)

	Total Area 2004(ha)	Palestinian Built-up	Paved roads	Unpaved roads	Arable land	Permanent agricultural Trees	Green House	Open tree plantation	Natural corridors	Green areas	Water bodies	Wadi Gaza	Cemeteries	Demolished areas	Scrub area	Industrial areas	Dumping site	Israeli Settlements	Pasture areas	Forest	Solar Panels
Palestinian Built-up	966.66	755.76	38.32	14.5	6.26	44.6	1.84	6.1	2.09	2.14	0.14	11.89	0.195	3.10	48.86	30.99	0	0	0	0	0
Paved roads	146.445	12.74	110.4	1.79	7.16	3.7	0.15	0.45	0.28	0.55	0.007	3.45	0	0.5	2.97	2.36	0	0	0	0	0
Unpaved roads	182.349	34.98	52.5	53.04	12.72	15.14	0.75	1.12	0.0018	0.79	0.018	0	0.046	0.67	7.75	2.87	0	0	0	0	0
Arable land	1321.408	40.34	13.18	20.71	784.8	363.7	13.5	24.2	0	2.92	0.64	6.32	0.63	6.86	26.34	16.56	0.85	0	0	0	0
Permanent agricultural Trees	1700.588	172.98	22.95	47.29	425.5	900.94	19.9	28.38	0.13	3.1	0.47	8.74	0	4.05	57.89	8.67	0	0	0	0	0
Green House	54.841	6.99	0.27	2.68	14.75	17.7	5.49	0.34	0	0	0	0	0	0.23	5.02	1.37	0	0	0	0	0
Open tree plantation	305.132	43.2	2.6	14.35	29.56	149.1	5.85	39.19	0	0.08	0.007	1.27	0.33	0	18.8	0.79	0	0	0	0	0
Natural corridors	26.17	0.65	1.87	0	5.62	0	0	0	18.03	0	0	0	0	0	0	0	0	0	0	0	0
Green areas	7.046	0.30	0	0	0.38	0.006	0.52	0.24	0	5.07	0	0	0	0	0.57	0	0	0	0	0	0
Water bodies	4.4	0	0	0	0	0.018	0	0.05	0	0	2.3	0.89	0	0	0.57	0.24	0.33	0	0	0	0
Wadi Gaza	35.073	2.99	4.11	3.78	13.98	6.73	0	1	0	0	0.89	0	0	0	1.99	0	0	0	0	0	0
Cemeteries	8.35	0.21	0.1	0	0	0	0	0	0	0	0	0	2.87	0	5.2	0	0	0	0	0	0
Demolished areas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scrub area	859.97	135.7	26.48	74.46	176.37	251.5	5.43	27.3	0	11.07	2.4	3.1	6.16	2.657	120.88	15.43	1.01	0	0	0	0
Industrial areas	108.97	12.10	4.59	8.72	12.6	3.14	0.32	1.6	0	1.11	0.6	0	0	1.88	16.61	45.49	0	0	0	0	0
Dumping site	37.21	0	0.08	0	0.001	0	0	0	0	0.32	0.39	0	0	0	0	0	36.42	0	0	0	0
Israeli Settlements	21.382	0	2.25	0.86	1.9	3.07	0	0	0	0	0	0	0	0	13.25	0	0	0	0	0	0
Pasture areas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar Panels	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Area 2021(ha)	5785.994	1218.392	279.7	242.115	1491.6	1759.307	53.21	130.136	20.46	28.15	7.828	35.073	10.079	19.82	326.7	124.778	38.618	0	0	0	0

Map3 :Aerial photo 2021

