AMERICAN UNIVERSITY OF BEIRUT

RETHINKING PLANNING TOOLS THROUGH THE ECOLOGICAL LANDSCAPE DESIGN APPROACH: SAIDA CASE STUDY

by

SALWA MOHAMAD-YASSINE AL-SABBAGH

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AN ABSTRACT OF THE THESIS OF

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The rapidly growing urban sprawl along the Lebanese coast is eroding the distinctiveness of this landscape and threatening its ecological sustainability. Furthermore, permanent negative environmental repercussions are inflicted on its natural resources, undermining the urban ecology and degrading the quality of living in cities. Despite these alarming trends, the Lebanese urban planning framework (including 'regulatory tools' and 'operational tools') fails to accommodate growing global concerns for sustainable urban development and green urban strategies. This thesis introduces the methodology of ecological landscape design arguing that its holistic framework and careful account of local contexts can complement current planning tools towards greater sensitivity to the natural and cultural context of cities.

In order to show the validity of this tool and demonstrate its positive potentials, the thesis takes for case study the city of Saida (South Lebanon). Saida is one of the few Lebanese coastal cities to retain an agricultural and cultural heritage. The city is currently undergoing a second land pooling development, the East Wastani Project, which will reorganize the property landscape to allow for a transformation of the valued agricultural lands and heritage landscapes, north of the historic city, into residential and commercial urban quarters. So far, advocacy efforts as well as the Urban Sustainable Development Strategy 2012-14 commissioned by the municipality have convinced public actors of the necessity to supplement this operational intervention with the revised land use plan. Yet, none of these tools explicitly incorporates ecological landscape design, leaving severe concerns that the area of East Wastani will be disfigured, in line with earlier urbanization trends.

By applying the Ecological Landscape Design approach, the thesis begins by identifying Ecological Landscape Associations, key urban landscape components in the city and the East Wastani site. It then moves to propose a Landscape Character Zone plan and recommendations to protect and integrate these components into the current intervention. The thesis concludes by zooming out from Saida with recommendations on existing Lebanese planning tools that prioritize ecological integrity, minimize environmental degradation, protect urban distinctiveness and provide for quality living in future planning.

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ABBREVIATIONS

BTUTP: Bureau Technique d'Urbanisme et de Travaux Publics

DGU: Direction General d’Urbanisme

ELA: Landscape Ecological Association

FAR: Floor to Area Ratio (Surface Exploitation)

LCZ: Landscape Character Zone

LPS: Land Pooling and Subdivision

TER: Total Exploitation Ration

UoM: Union of Municipalities of Saida and Zahrani

USUDS: Saida’s Urban Sustainable Development Strategy

CHAPTER I:

INTRODUCTION

A. Lebanese Coastal Cities

The rapid growth of Lebanese coastal cities is resulting in continuous urban and peri-urban expansions that are degrading and fragmenting the coastal landscape. Cities and villages are merging to form one visually homogeneous built fabric strip, undermining Mediterranean littoral ecologies and causing the loss of the coast's local specificities. Ad-hoc urban sprawl is, furthermore, taking over fertile agricultural strips and scrublands that constitute important environmental and economic assets for the country, thus destroying its cultural and natural landscapes. Even more alarming is that much of these negative environmental repercussions are irreparable, challenging the future sustainability of living environment along the entire Lebanese coast.

How does the Lebanese planning framework address these environmental concerns? A rapid assessment of the current framework reveals a heavy reliance on outdated planning tools. Rigid versions of master planning and building codes borrow heavily from the early frameworks of modernist planning. Clearly, policymakers have not yet accounted for the "green" concept in urban design and planning and continue to be blind to the positive impacts of ecologically based approaches to urban design and planning. This is not to claim that modernist planners are the only culprits in this context or that an ecologically sensible approach can address all social, political, and economic challenges. Rather, the thesis argues that despite these challenges, an awareness of ecological factors and their integration in a wider framework of planning

would produce considerable improvements to the livability of Lebanese cities. This is in line with contemporary landscape and design practices everywhere.

B. Thesis Position and Argument

1. *Position*

As an urban designer trained in landscape ecological design and planning, I am advocating the "*right to landscape*". The concept was introduced by landscape architects and scholars to advocate for the role of landscape (form and function) in achieving justice and human wellbeing in natural and urban landscapes (Egoz, Makhzoumi, & Pungetti, 2011). As defined by the Cambridge Center for Landscape and People, the right to landscape looks to "integrate the spiritual and cultural values of land and local communities into landscape and nature conservation and socio-economical needs into sustainable development; and to support biological and cultural diversity as well as awareness and understanding of, and respect for, landscape and nature" (Egoz, Makhzoumi, & Pungetti, 2011, p. 1).

Hence, in an attempt to secure the wellbeing of communities, the right to landscape advocates for the entitlement of a community to a healthy physical environment (i.e. clean air, water, nature within the city, preserved natural heritage); psychologically and spiritually meaningful landscapes (i.e. sacred sites, scenery, aesthetics fulfillment, sense of belonging, cultural heritage); social and economic wellbeing (livelihood opportunities, freedom of expression, social justice); ecologically-healthy, accessible, and enjoyable landscapes; and sustainably managed natural resources.

My aim is to investigate how an ecological landscape approach to planning and design secures the right to landscape and to sustainable urban development.

2. *Argument*

I argue that to ensure long term sustainability, regulate and protect landscape character specificity, guidelines can be introduced into existing Lebanese regulatory and operational planning tools to account for the protection of the ecological characteristics and enhancement of the livability of the areas being regulated.

Using the holistic ecological landscape planning approach, a comprehensive investigation of the ecological layers making up both the natural and built landscapes of the city-region can offer guidance to revise the Lebanese planning tools, both regulatory and operational, in order to: (i) preserve fragile ecosystems, such as ravine and orchard landscapes, and (ii) protect existing cultural landscape character that maintains social practices and enhances the quality of life.

3. *Significance*

The thesis is of methodological and applied significance:

First this study examines the possibility of integrating the ecological landscape planning and design approach (Makhzoumi & Pungetti, 1999) into the urban planning and design discipline to develop tools that protect and shape the natural and urban settings. The coupling of these two disciplines is currently an important topic in urban theoretical research and practice as it proposes an alternative dimension to thinking about urban development and the improvement of urban quality living.

Second, the thesis has important practical repercussions for the city of Saida, where operational and regulatory design and planning interventions are underway. It hopes to inform the ongoing interventions in ways that account for the ecological landscape approach outlined above.

Finally, the significance extends beyond Saida to derive from the case study a conceptual model whereby the ecological landscape thinking could be integrated within the Lebanese planning framework and provide a preliminary revision of existing planning regulations.

C. Thesis Background and Context

1. *The Modernist Approach to Planning*

In most developing countries, planning systems are either inherited from colonial governments, predominantly French in the case of Lebanon, or imported models from the West that have remained unchanged and disregarded cultural, political or spatial context (Watson, 2009).

The modernist approach initially aimed at the development of "beautiful cities" and the amelioration of the living conditions through health and hygienic standards. This approach generated various models of urban development that integrate different parts and functions of a city (housing, transport, industry, agriculture, forestry etc...) such as *La Ville Radieuse* of Le Courbusier and the *Garden City* of Ebenezer Howard. These models focused on the segregation of land uses (industry, housing, agriculture, transport, forestry etc..), distribution of densities and interconnectivity between the different parts through traffic channels with an emphasis on the green spaces as isolated entities within the city (parks) or at the edges (green-belt). These models failed to

achieve the intended goals and resulted in fragmentation of the landscape, excessive use and pollution of environmental resources, disruption of natural ecosystems, and the loss of local tradition and sense of place.

On the other hand, the normalization of this approach produced master plans, land use plans and zoning plans that determined the distribution of uses and densities and the communication axes. As Turner (1998) notes, "Cities were seen as nodes with definable land use zones, axial communication lines and density gradient from center to periphery" (p. 11). Because the modernist approach was functionalist, it aimed at regulating quantifiable functions such as traffic flow, flooding, and densities and prioritized them over natural and social processes. (Turner, 1998)

The methods evolved to become restrictive and unresponsive to rapid changes and to the complex dynamics of the 21st century urbanism. In the context of most developed countries, its critics and the advent of the urban greening concepts in urban design ushered a more flexible and higher sensitivity to ecological and social contexts. While, in many developing countries, the modernist approach was confined to earlier, rigid versions, rarely taking into account environmental and natural resources or sustainable management of resources. Rather, the modernist methods set the ground for real estate development and dictated the types of possible urban morphologies produced. This was exacerbated by the frequent collusion between politicians and real estate developers who look at natural and built environments as sources of profit making not as assets to enhance livability. Lebanon falls clearly within the latter issue. With a regulatory planning framework strongly rooted in the early modernist tradition, the country's planning and building regulations continue to be limited and limiting. The next section and Chapter two discuss these factors more comprehensively.

2. *Lebanese Urban Planning and Regulatory Framework*

The current framework for urban planning in Lebanon was introduced during the mandate of President Fouad Shehab, in 1959 (Verdeil, 2009). At the time, the main planning agency, the *Direction General d'Urbanism*e (DGU), was established, and the first urban planning law, *Loi de l'Urbanisme,* was adopted in 1964. The urban planning regulatory framework introduced a set of regulatory (e.g. master plans, building law) and operational tools (e.g. land pooling tool) that consistently borrowed from the Modernist French framework of a decade earlier.

To date, the DGU remains the main planning agency entrusted with the articulation of urban plans and building regulations; however, the agency's role is typically confined to regulatory interventions, while operational interventions such as strategic urban design projects are managed from the Council for Development and Reconstruction (CDR), the executive arm of the Council of Ministers.

Over the past two decades, owing particularly to the effort of international development agencies such as the European Union (EU), the Agence Française de Développement, UNDP, UN-Habitat and others, the DGU has attempted to introduce, in partnership with local authorities, innovative planning tools such as the strategic spatial planning. Typically articulated at the level of local (Municipal) and regional authorities (Unions of Municipalities), these strategic plans have introduced an element of development theory and sometimes awareness to cultural, ecological, and social factors to be accounted for in the process of planning. Yet, much of this effort has remained isolated from the main tools of traditional planning, meaning that master plans and/or operational interventions such as land pooling and subdivision projects have rarely been revised to account for this effort.

As a landscape architect trained in urban design, my challenge is to bridge the two disciplines by introducing revisions to existing operational and regulatory tools that require them to account for the ecological and landscape values of the areas being developed and respect the long term sustainability and livability of the region.

D. Thesis Methodology

1. *Methodological Framework*

The research tackles, on one hand, a critique of the modernist functionalist planning regulation vis-à-vis development on the ground and its consequences. On the other hand, it examines the ecological landscape design approach in planning through the case study of Saida.

The adopted methodology is iterative between the approach of ecological landscape design and of urban planning and design. The principles of Ecological Landscape Associations (ELAs), and Landscape Character Zones (LCZs) (Makhzoumi & Pungetti, 1999), and concepts of patches, corridors and boundaries (Forman, Dramstad, & Oslan, 1996) are the foundations for analyzing and proposing solutions. They will be used to revise and rethink existing planning tools and regulations as well as understand current on-ground dynamics.

2. *Saida Case Study*

In order to investigate the viability and effectiveness of the method outlined above, the study takes-up the city of Saida at three scales: regional, municipal, and district (of Wastani). Several reasons justify my selection of Saida as case study for this thesis:

First, the general threat of ad-hock urban sprawl damaging the Lebanese coastal landscape: Peri-urban development is fragmenting Saida's agricultural lands in a manner that impedes cultural practices, degrades its ecological and environmental resources through poor management practices, and destroys the aesthetic and visual landscape character by reducing green areas and quality of life.

Second, the immediate threat represented by the East Wastani land pooling and subdivision (LPS) project on Saida's northern extensive agricultural enclave. It is the second LPS project in the city, the first being the 1980 West Wastani LPS. The large and controversial East Wastani LPS project is located in the eastern section of Wastani district and constitutes approximately 30% of the city area. The LPS project is being considered due to the possible cancelation of the bypass project amended in the Master plan of 1967. The latter was one of the major causes for the freezing development in the area of East Wastani. However, The LPS project is being envisioned in a manner that hinders sustainable growth of the city and jeopardizes the city's social, cultural and natural landscapes.

Third, professional engagement in the city of Saida: in the last three years, I have had the opportunity to be part of a municipality project (Saida's Sustainable Urban Development Strategy: USUDS) and two design and planning workshops tackling the East Wastani LPS. This professional engagement enabled me to appreciate the landscape of Saida, to have access to data and documentation that I used to build up material for the thesis.

3. ***Data Collection***

This research draws on (a) academic research and site surveys; (b) professional engagement.

a. Academic Research and Surveys

The academic research and site surveys include:

- **Historical data:** about the city of Saida from the Ottoman period until today, collected in the form of archival documents, historical maps, aerial photographs, master-plans, zoning and cadastral maps.

- **Urban planning regulations**: in terms of legislative text, decrees, zoning regulations, urban codes and critique with an emphasis on the land pooling and subdivision in Lebanon. The source is the municipality and DGU, the authorities responsible for planning regulation, planning visions and projects

- **Case studies**: Regional and local cases, mainly theses concerned with ecology as a basis for conducting research and addressing peri-urban fragmentation.

- **Interviews**: (a) with academicians, municipal employees and expert in local planning policies, asking for their input on legislation and policymaking; (b) with key stakeholders and decision makers such as: municipality members, private developers, and landowners.

- **Fieldwork**: to document current site conditions (through photographic surveys) and produce qualitative and quantitative maps, detailing the existing urban fabric and land-use dynamics.

b. Professional Engagement

- *The USUDS experience*: I was part of the USUDS expert team, "Landscape, Environment and Ecology" component lead by consultant Makhzoumi. The USUDS research adopted ecological landscape approach to conceptualize environmental and ecological concerns in a spatial and physical manner. We conducted fieldwork and analysis and proposed strategic objectives, strategies and action plans. Along with the other experts of the team, we produced reports that document all of the research. As the USUDS based its strategic framework on the holistic and understanding of the city through a multidisciplinary approach (economics, urban planning and design, cultural heritage, environment), I will refer to this research many times in the analysis of the city and the site.

- *Lil-Madina Workshop* (April 2014), organized by a voluntary team of local and external professionals who work on projects related to the city, its ecological and environmental health. The workshop included field investigations, documentation, production of fieldwork mapping and proposed an urban design scheme for the site in question.

- *Al Wastani and the Future Urbanization of Saida Workshop* (June 2014) meant to come up with creative solutions through joining efforts between different architecture and urban design students and professors of various Lebanese Universities. The charette generated conceptual design for the redevelopment of East Wastani and suggested different modes of thinking and approaches to guide the project. They include: safeguarding ecological landscapes, encouraging public green spaces, adopting innovative urban agricultural strategies, and enhancing connectivity and accessibility of the site.

4. *Case Study Profile*

Saida, the third largest city in Lebanon with 110,000 residents is located on the Lebanese coast 45km south of Beirut and is bound along its eastern limits by the foothills of western Mount Lebanon (Fig. 1). The historic city of Saida was recognized in the accounts of scholars and travelers for its strip of prosperous agricultural landscapes located in the flat plain and its remarkable scent of orange blossom in the spring (USUDS, 2013). Today, Saida's landscape is being jeopardized by the ad-hoc urban development and peri-urban sprawl.

Fig. 1: Satellite image showing Saida in its regional context (Source: Municipality of Saida, 2013)

a. Saida Location and History

Saida's strategic location made it a coastal historic city occupied by many empires and civilizations. Archeologists identify Saida as one of the oldest human settlements and date it back to earlier than the Neolithic era. Diverse traces of Phoenician, Assyrian, Babylonian, Egyptian, Roman, Byzantine, Mamluk and Ottoman civilizations have marked the city and count as part of its rich cultural heritage. Saida is also a holy city that was mentioned many times in the Old Testament[1] and was a center for ancient Phoenician gods (e.g. Eshmun, the son of Goddess Ashtar, Ba'al Sidon) (USUDS, 2013).

The geomorphology and location made the city of Saida the main port linking the Middle East/ Levant and the Mediterranean. Up until the 1970's, the city lived on trade of agricultural produce and commerce, fishing as well as agriculture. The city's first Master plan took these important factors in the vision for the city; however, they were given less importance in the plans that followed.

b. Urban planning in Saida

Saida has witnessed three types of planning approaches: (1) governmental planning strategies (Ecochard plan, 1967 and 1995 Master-plans); (2) localized public

1 The name of 'Sidon' is the son of Canaan (grand son of Noah): "And Canaan begat Sidon his first born" (Genesis 10:15, 19). "Greater Saidon" was referred as first home of Phoenicians on the coast of Canaan where extensive commercial activities was performed and the extent to wish Joshua have conquered and pushed back his enemies. (Joshua 11:8; 19:28). Jesus, and Elias visited Saida: "Leaving that place, Jesus withdrew to the region of Tyr and Sidon" (Mathew 15:21)

urban planning projects (to note that of Wastani 1982 – 1990's and currently East-Wastani); and (3) a strategic framework (2012- 2014, USUDS in collaboration with Medcities).

i. General planning strategies

The city has been subject to a series of master plans, typically zoning/landuse plans that were developed since the late 1950's in order to guide its growth. The first master plan was articulated by the French planner Michel Ecochard, who was invited in 1958 to propose a master plan for the city. His proposal focused on the preservation of the agricultural landscapes in the plain of Saida and directed new developments and extensions outside the city's municipal boundaries, toward the eastern hills. Ecochard's plan was replaced by the master plan of 1967 (Decree 9017/67) that intended to plan land uses for the Municipal boundaries of Saida with its suburbs[2]. Likely owing to real estate pressures that were already notoriously powerful at the time, the plan reversed the "agricultural" landuse designation of the city's plain (designated by Ecochard) and allowed instead for low-density residential developments. The plan of 1967 determined eight zones with different land uses and densities and set out major North-South transportation axes and public institutions and was coupled with a set of building regulations and a landuse/density table. Almost 30 years later (and after a lengthy civil war), the 1967 master plan was again revised in 1995 (Decree 6552/95). It changed zones and land use distribution, raised exploitation factors, modified the pooling

2 The suburbs included the municipalities of Darb el Sim, Mieh w Mieh, Haret Saida, Hilalieh, and the villages of Bramieh and Bqosta.

criteria, and covered only the municipality of Saida and Haret Saida. The zones defined in the plan follow large strips of land in between major highways and streets and have little relevance to the land's natural features. While the ordinance that ratified the plan specified the need to preserve natural vistas and views, the plan provide for neither (See Appendix I for more information on the Ecochard, 1967 and 1995 Master plans).

ii. Localized public planning projects

In an attempt to execute the infrastructural projects and encourage urban growth, the municipality of Saida opted for an LPS project in West Wastani in 1982. The project pooled and subdivided an area of 70 hectares at the northern section of the city. Unlike the elongated agricultural lots, the new plot layout provided geometrically defined square lots. The area was planned for its built development without consideration for the cultural landscape or the green character. It was a major contributor to the landscape and urban transformation as it accelerated the rate of fragmentation through modifying parcels' layout, introducing new road infrastructure, enhancing exploitation factors, and allowing multifunctional land-uses. (See Chapter 2)

iii. Saida's Urban Sustainable Development Strategy (USUDS)

The USUDS challenges the idea of dictating developmental regulations through the master plan and allows the articulation a spatial framework with a vision and strategic objectives. All future master plans, projects and regulations need to include the shared vision of the USUDS and be in line with its recommendations. The strategy allows flexibility in the development directions to provide responsiveness and adaptability to the changing dynamics, and it requires a revision every five years. "The

USUDS Project aims at promoting economic development in Saida drawing on the city's rich historical cultural heritage, its strategic location relative to the capital Beirut as the portal to South Lebanon and the Mediterranean world" (USUDS, 2013)

The project vision is to improve the socioeconomic conditions as well as provide quality of living through: healthy environment, integrity of Saida's terrestrial riparian and marine ecosystems, equitable amenity services and good standard public green spaces within the urban fabric.

c. Saida's 20th century Urban Growth

Following the urban regulatory frameworks presented above, one can examine the implications and dynamics of the city's urban growth.

i. Saida's Urban (built-up) Expansion

Until the 1940's Saida city was still confined within its walls surrounded by the orchard landscape (Fig. 2). The city's urban expansion outside its historic walls started with a mix-use commercial center developed following the establishment of the road network outside the old city that majorly connected the city to the hills and its hinterlands. The city's expansion coincides roughly with Lebanon's independence (1943) and the gradual establishment of modern planning tools –particularly with the establishment of the Ecochard plan (1956) and the 1967 Master plan.

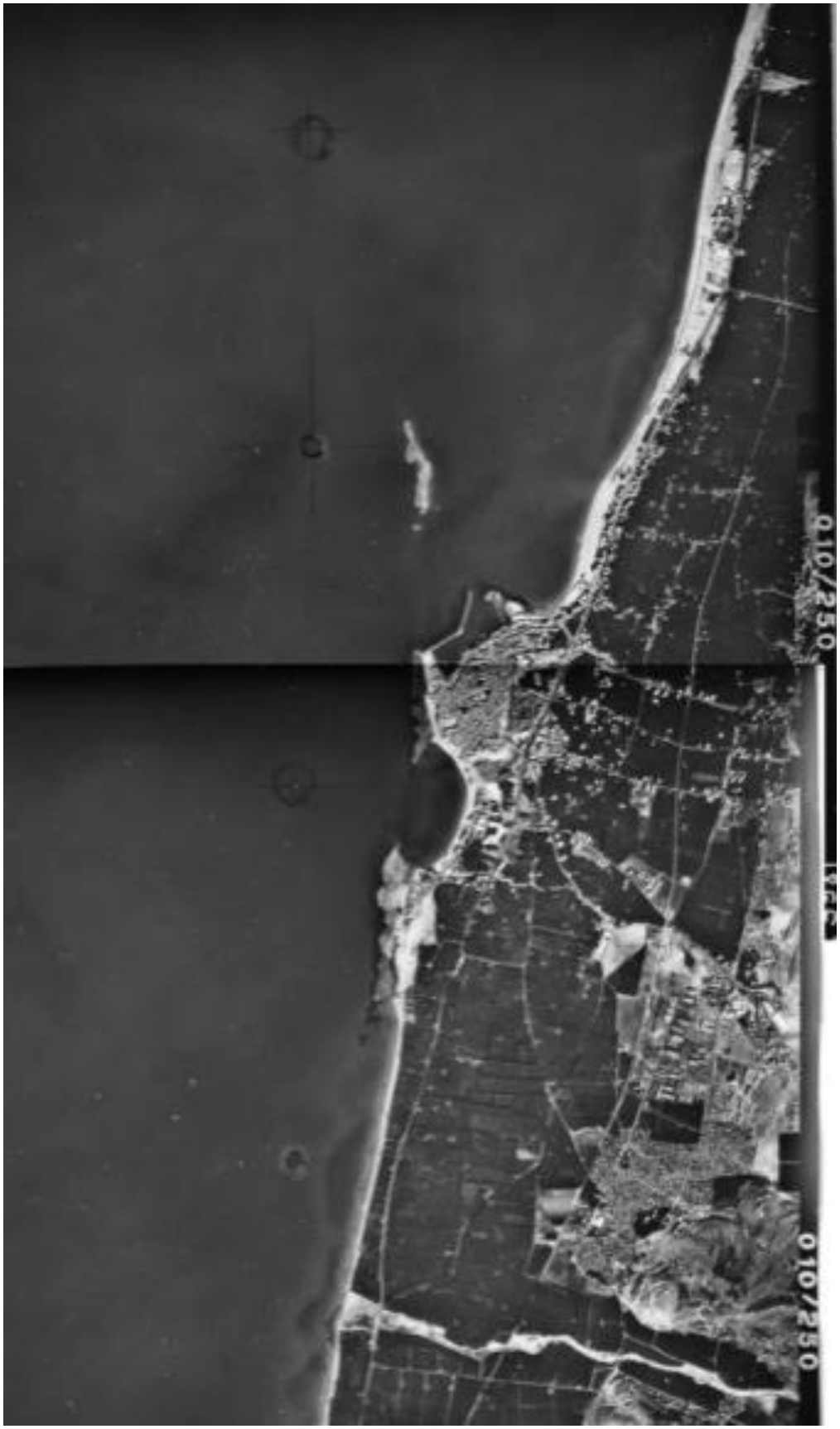

Fig. 2: Aerial photograph, Saida 1966 (Lebanese Army Aerial photography, AUB)

In the 1970's the city rapid residential development occurred outside Municipal Saida on the adjacent Eastern municipalities of the foothills (Fig. 3). This development can be explained by the fact that the 1967 plan gave Saida districts: Wastani and Dekerman[3] a comparatively low exploitation factors compared to the factors of the municipalities Abra and Hilalieh, encouraging the sprawl outside the city boundaries. In that context, the former mayor of Saida, Ahmad El-Kalash states that even though Wastani was not designated as agricultural zone, it remained as such because (a) orchard production was still important economically and socially, and (b) it was not appealing for residential development in the presence of better living environments and development opportunities in the adjacent hills of Abra, Bramieh and Hilalieh meaning higher exploitation ratio, cheaper land prices, cleaner and cooler air, less humidity, less noise pollution, overview to the sea and to green area (El-Kalash, 2013).

Fig. 3: Saida city urban sprawl ((Paquet, 2005), modified to show the how the urban sprawl happened before 1980's)

3 Saida has three administrative districts: The Old city, Dekerman and Wastani

As a result, the prices of land increased in the eastern municipalities, pushing citizens who couldn't afford a house in the hills to build in the Wastani plain. Violations of urban building regulations became a common practice due to irregular lot shapes and absence of state supervision particularly during the years of civil war (1975 -1990) (El-Kalash, 2013). The urbanization dynamics increased land value in Wastani, and owing to speculative practices, the real estate market proved more economically profitable than agricultural functions.

In addition, during the war, agricultural productivity and profitability in Saida diminished due to the decline in international trade of citrus, which became progressively more important in the south on the coast of Zahrani. As a result, most tenants working in Wastani orchards left to work in the south, leaving lands awaiting development and decreasing in their economic viability (BTUTP, 1981).

In 1979, in effort to modernize the city and to reaffirm its position as center of Saida Caza and South of Lebanon Mouhafaza[4], the municipality took the decision to execute infrastructure, public services and amenities projects (i.e. roads, infrastructure, schools, hospitals, and administrative buildings) included in the amendments of Saida 1967 Master Plan (Approved by the decree 9016/1967). Facing the fear of uncontrolled sprawl following the establishment of the Eastern Boulevard, the problems of land acquisition and expropriation, and other problematic issues (See Chapter 2), the municipality opted for West Wastani LPS project.

4 Lebanon is divided into 6 Governorates / "Mouhafaza" to name: North Lebanon, Beirut, Mount Lebanon, South Lebanon, Nabatiyeh and Bekaa. Each is divided into a number of district or Caza.

ii. Urban Fabric

The master plans of the 1967 and the 1995 are zoning plans with general guidelines that indicate land use, density, height, and setbacks and could be translated into a multitude of form and shapes. Thus, the sprawl in Saida occurred without any unified morphology or character. Typologies, ornamental styles, construction details and materials, which are the basis for spatial and visual continuity, were not accounted for. Nonetheless, we can notice continuity in the pattern of urbanization in the developed coastal zone when juxtaposed with the old city, revealing a sharp discontinuity between the new and old urban fabrics.

Urbanization has concentrated along major streets and boulevards, leaving the inner blocks empty. It is consuming green fields on the sides of major roads while fragmenting and leaving patches of no-longer-viable agricultural lands in between. This pattern is highly present in areas of Al-Qanaya and West Wastani.

Herein is a list of the different typologies that constitute the urban fabric of Greater Saida: old city residential houses, 1940's buildings, high-rise multistory apartment buildings, medium-rise multistory apartment buildings, low-rise residential apartment houses or villas, peri-urban extended family buildings and informal settlement or self-developed housing (Camp of Ain El-Helwi).

iii. Infrastructure

The road network (Fig. 4) caused ruptures in the urban fabric and in the pedestrian networks, and encouraged the dependency on the car in the modern section of Saida and the hills. Major roads were planned in the master plan of 1967; some are executed (Maritime Boulevard and Eastern Boulevards), others exist as local roads but

need upgrading (Sultaniyeh) and others are awaiting administrative decisions (Wastani bypass).

Three major North-South arteries cut the city longitudinally and channel the traffic from the South to the capital Beirut and vice versa: Riyad al-Solh Road (1950), the Eastern Boulevard (1980), and the Southern highway/ Maritime Boulevard (2000).

The Wastani bypass is a planned fourth North-South through traffic axis that aims at channeling the traffic coming for the capital city to the south directly, without being integrated with the city traffic network. The project has been recently paused awaiting cancelation. The argument made is that the city is being cut into narrow longitudinal strips due the excess of North-South transportation axes and it would be more efficient to relocate the bypass outside the city municipal boundaries. East-West streets are local roads that connect residents of the hills to city center. The main East-West streets link (1) Al-Najmeh plaza and the municipality building to the eastern suburbs and (2) the Martyrs square to Serail Square, Ain El-Helwi Camp and further to the southeastern suburbs.

Fig. 4: Road Network

E. Thesis Structure

The thesis is broadly structured into two parts: the thesis first explores the urban regulatory framework and the urban dynamics of the investigated case. Second, the thesis offers an ecological landscape understanding of the site and it elaborates an ecological landscape plan that will help in proposing the guidelines and revisions to existing planning regulations (Fig. 5).

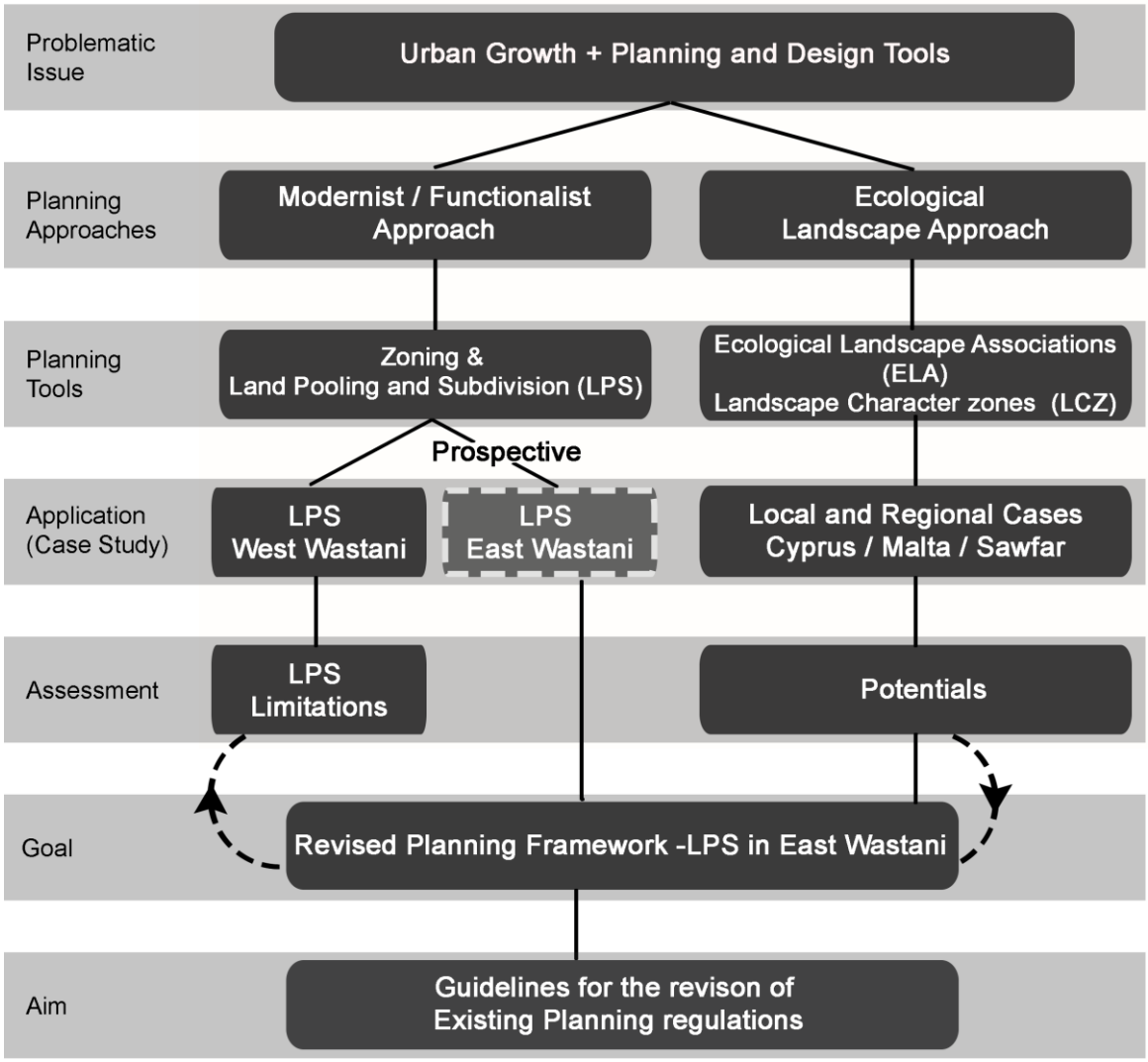

Fig. 5: Thesis Structure

After setting the thesis main argument, context and problematic in this introductory chapter, the first part includes Chapter two, a study of the Lebanese urban planning tools, specifically the operational tool of land pooling and subdivision. It highlights the pros and cons in the way the tool is being applied through the illustrative case study of 1980's West Wastani project.

The second part focuses on the ecological landscape planning approach Chapter three introduces the approach's methodology, strategies and guidelines through literature reviews and case studies to apply them in Chapter four over the case study of Saida. Chapter four studies morphological, ecological, cultural, social, economic and political components according to temporal and spatial dimensions of both Saida's regional and local scales. The thematic mapping of tangible and intangible landscape features of the city will define the interaction between the landscape components and come up with the Ecological Landscape Association (ELAs). Chapter five combines the identified ELAs with specific urban and landscape elements of East Wastani and produces a landscape character zones plan. The planning framework comes up with a set of strategies that inform the planning process in the area to account for an ecologically sensitive and integrative planning solution tailored to the city.

The thesis concludes in Chapter six by examining how the proposed recommendations in Chapter five can be integrated in the existing planning regulations in a way that can enhance their application and reflecting upon the used methodology.

CHAPTER II:

PLANNING TOOLS IN LEBANON: UNDERSTANDING THE REGULATORY FRAMEWORK

The purpose of this chapter is to introduce the context of planning in Lebanon, with a special focus on two types of tools, one operational –the Land Pooling and Subdivision (LPS)- and the other regulatory -the master plan. After a brief description of these tools in the beginning of the chapter, I will move to analyze the impact of their application in the context of the area of West Wastani in Saida, where these tools were applied in a large project designed and implemented during the 1980s-1990s.

A. The planning Framework in Lebanon

The first urban planning law in Lebanon was adopted in 1964 (Verdeil, 2009), and modified in 1983. The urban planning law forms the basis through which public authorities regulate land uses, urban growth and building regulations on the national territories. Within the framework of this law, planners normally distinguish between two types of tools:

- **Regulatory tools:** These tools are introduced in order to design the framework that guides future developments. They include national, general and detailed master plans.

- **Operational tools:** These tools are introduced to enable public authorities to intervene directly in the realization of concrete interventions that directly transform the landscape and/or the built environment. They include land pooling and subdivision projects, real estate companies, etc.

1. *Regulatory Tools*

Regulatory tools are prescriptive and organizational; they set the framework and the main guidelines for the organization and development of areas, such as land use as well as building regulation. Even though they try to specify the preservation of natural and agricultural areas, they are ineffective with regards to addressing criteria and management parameters of natural elements and cultural heritage, because the frameworks focus on the *building* as an isolated unit and dictate *how much one can build* rather than providing a holistic framework that thinks *urban spaces* in an integrated form with the environment and landscape.

Of these tools, one should distinguish between consultative plans that should be taken into consideration (national master plan) and compulsory regulatory plans that must be followed by law (General and Detailed Master Plans).

a. National Planning Strategy

The Lebanese national planning strategy guides the development of lands and covers the entirety of the Lebanese territories. It aims at improving living conditions, addresses the social and economic needs taking into account the issue of sustainability of the living environment and the protection of the heritage and environmental resources.

The 1960's national planning strategy started and was brought down to series of Master plans set by French planners and experts, such as Michel Ecochard, who followed the modernist planning approach. These master plans drew the paths for major infrastructure and highways at the national and local scales that are still being executed. Saida's 1967 master plan is one of these plans that guided the development of the city

and its suburbs and drew up the major transportation axes within the city, until a modified version was issued in 1995 (ref. section B.2).

In the year 2004 and with the efforts of the CDR, a national spatial strategy, the National Physical Master Plan of The Lebanese Territory (SDATL), was produced and eventually adopted in 2009. This strategy constitutes the guiding framework for all general and detailed master plans to follow and is expected to be revised regularly. Unlike previous master plans, this national master plan recognizes the importance of preserving the natural and agricultural landscapes in order to insure the sustainability of the agricultural sector, one of the national economic pillars, and prohibits any built development that harms the natural and architectural landscapes. However, Its role remains consultative, in the sense that planners have to refer to it but, in the absence of strict guidelines, they don't have to abide by it.

b. General and Detailed Master-plans

The planning law includes two types of master plans, which both dictate land uses and building coefficients. The general master plan (التصميم التوجيهي), usually developed at the scale of one or several districts, provides land use and building guidelines, such as exploitation factors, building heights, and lot sizes. The detailed master plans (التصميم التفصيلي) are also sometimes developed and include, in addition to the above regulations, guidelines for individual buildings that dictate the building materials, opening sizes, and others.

The practice in Lebanon often confuses these two tools and produces the 'Master plan' (التصميم التوجيهي و النظام التفصيلي) (Fawaz M. , 2010) in form of a zoning plan, a functionalist organization tool. The Master plan determines the directives of land

development, the nature of development and limitations on building activities. In instances where special ecological or archeological values are identified, the master plan can go as far as preventing construction altogether, but the practice is atypical - particularly when land is held in private property. The Master plan comes with a set of conditions and regulations that:

- Determine urbanized zones taking into account agricultural lands
- Specify land uses as zones of architectural and archeological value, agricultural areas, industrial zone and forests to be preserved.
- Set developmental rights, exploitation ratios (floor to area ratio (FAR) and total exploitation rate, maximum built up area and building heights), densities, transportation network, and public services and amenities.
- Define regulatory framework for public and private land pooling and subdivision, determine surface areas, dimensions of a buildable lots and terms of land subdivision. (Fawaz M. , 2010)

2. *Operational tools: Land Pooling and Subdivision Tool*

Operational tools are designed to directly intervene and shape the built environment. It is possible to identify four main tools in the Lebanese law:

- Expropriation: The act of taking a number of lots (Decree 58/1991) or an area (Article 18 - Decree 55/1977) for the purpose to execute a public project that serves the public good (such as roads).

- Public Land pooling and Subdivision[5] of residential areas (Decree 70/1983): the process of intervening in private property, changing the plot configuration and installing public infrastructure services in order to enhance or prepare an area for urbanization.

- Public Agency

- Real Estate Company (Article 21 - Decree 959/1965)

For the purpose of this research, I am going to elaborate only on the Land Pooling and Subdivision tool.

The '**Land Pooling and Subdivision'** (LPS) tool is one of the main tools of operational urbanism in the Lebanese legislation .The Legislative Decree 70/1983 of public LPS in urbanized areas was first issued in 1954 and later modified in 9/9/1983, as part of the revised Urban Planning Law. It consists of 9 chapters and 25 articles, including later amendments (Article 9, in 13/3/1985). The decree specifies the acceptable reasons for undertaking an LPS project, the necessary preparatory steps, the required documentation and valuation of lots, the procedures of lot amalgamation and subdivision, new lot distribution as well as government and municipal rights.

Once an LPS project is developed by a public agency (typically the DGU, with the permission and involvement of the Municipality), it allows the agency to pool all (public and private) lots in a given area of intervention and to re-subdivide them in a geometry that responds better to the demands of urbanization.

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5 In the Lebanese urban planning law, LPS is divided into two categories, depending on whether the lots are subdivided by a public or private parties: (1) Public LPS (ضم و فرز عام) (2) Private LPS (ضم و فرز خاص). Given my interest in public planning in this thesis, I only focus on the first type in this thesis.

The geometry of the lots, their sizes and organization have to conform to the Master plan's guidelines in effect at the time of the pooling. In the process, public authorities are allowed to appropriate up to 25% of the total areas that are incorporated in the public project as a form of in-kind development tax. These public properties are used to allow for the installation of shared public amenities such as roads, gardens, and public service infrastructure but could also include lots earmarked for other forms of amenities such as hospitals, schools, etc. It is also generally expected that an urban infrastructural network is implemented for the whole the zone (road network, water infrastructure, sewage network, lighting and electricity, parking, gardens and open/ green areas) (Fawaz M. , 2005; Fawaz M. , 2010). In order to determine the geometry and size of these lots, planners are legally required to rely on the approved land-use master plan for the area. In Lebanon, these Master plans almost inevitably assume an orthogonal, gridded layout with self-standing objects in the center of individual lots. This reliance on the master plan typically limits the effects of the land pooling and the possibilities it can generate, given the generic and monolithic framework in which it is embedded.

Mohamad Fawaz, former officer of the DGU, explains that land subdivision should be viewed as more than a simple process of re-arranging land into smaller lots. It is rather an urban design method that sets the ground for a new area of development, an urbanization that would enhance the functions of the city and improve its livability. (Fawaz M. , 2005)

After introducing the different regulatory and organizational tools of urban planning in Lebanon, the following section studies the impact of such a planning framework over the city of Saida by analyzing the 1980's LPS project of West Wastani.

B. The Impact of Planning Tools: Case Study from Saida (Lebanon)

In order to illustrate the application of the LPS tool in relation to a fixed adopted master plan, I took the West Wastani LPS project in the city of Saida. The analysis of this project was informed by: (a) reports presented by the former Mayor of Saida Ahmad El-Kalash; (b) reports by the BTUTP consultancy office responsible for the works; (c) interviews with the planner Mustafa Fawaz and the previous Mayor Ahmad El-Kalash; and (d) my own survey and fieldwork in the area.

1. *Context of the Project*

The West Wastani LPS project is a large-scale intervention located in the northwestern end of Saida that took approximately ten years to be finalized. The Wastani district is bound by the Awali River to north and the city center (old city and periphery) to the south. In line with the decision of the municipality to execute the amended infrastructural projects notably the Eastern Boulevard, the municipality, in consultation with the DGU, decided to introduce a large urbanization project in the Wastani area. At the time, the majority of the 235 hectares of Wastani consisted of large orchard fields that formed the green belt at the eastern boundary of municipal Saida, a buffer between the city and the adjacent eastern hills. The project targeted the western side of the district and extended over an area of 887,000m^2 (Fig. 6).

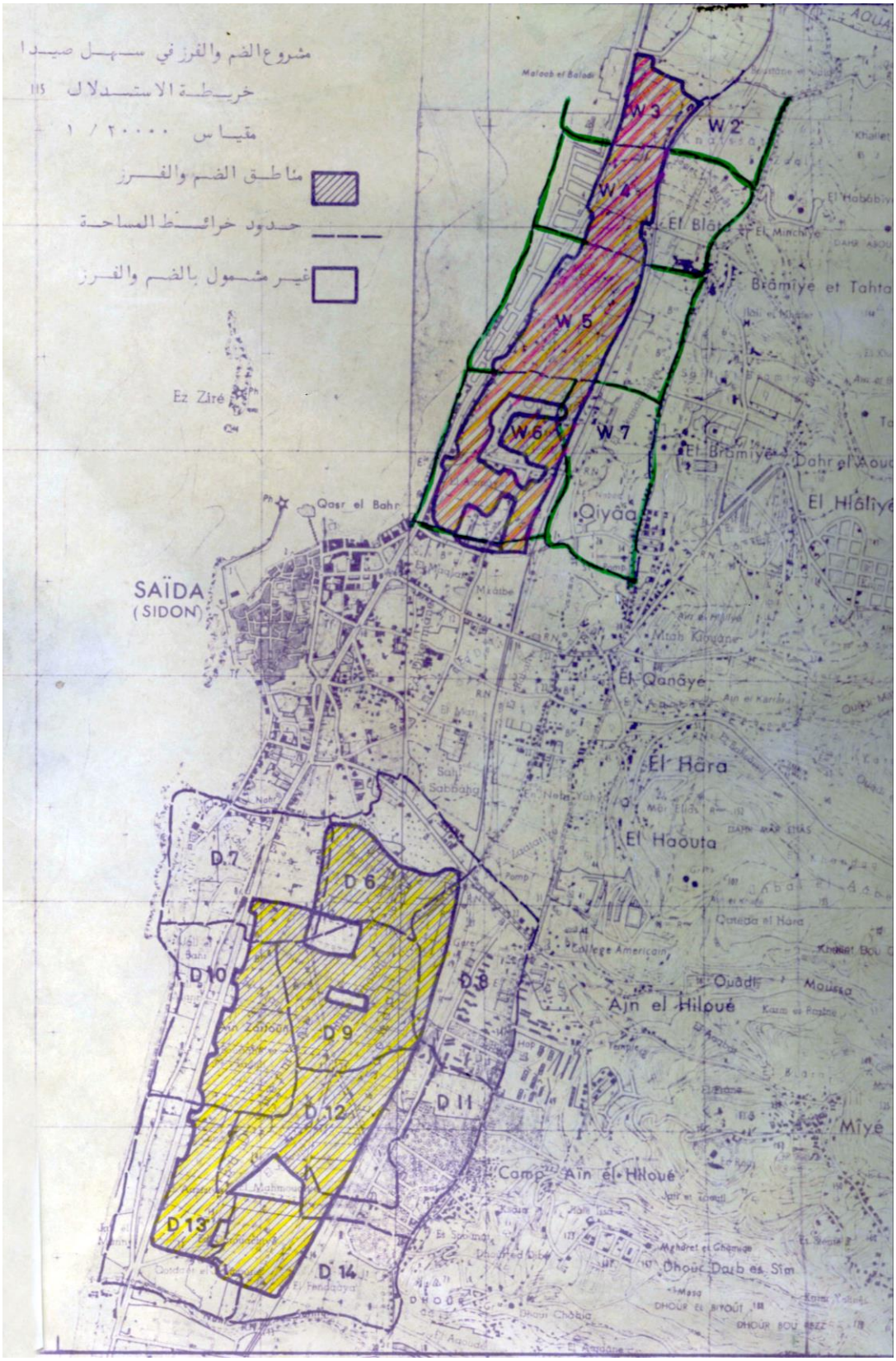


Fig. 6: Location Map of LPS projects, Saida, 1981, in red Zone of Wastani (DGU)

The factors that pushed for the establishment of the West Wastani LPS project can be grouped in three categories: (a) urban context; (b) socio-economic context; and (c) relationship between main decision makers (political context).

a. Urban Situation

- Rapid urbanization had taken place in Municipalities east of the city, typically on the hills surrounding the city, leaving the plains of Saida "undeveloped".
- A projection of urban growth leads the planners and city officials to project that the density of 70-persons/ hectare in the area would increase to reach 200persons/ hectare.
- The actual lot geometry in the area followed a longitudinal form, typical of agricultural zone. According to the master plan then in effect. 50% of the lots in the West-Wastani area couldn't be built without some form of lot pooling and reorganization.
- The city lacked proper road infrastructure and public services (e.g. schools, hospitals, and administrative buildings) and the municipality neither owned sufficient land reserves nor possessed the purchasing power to acquire the large tracts of land needed for these developments.
- The city was planning a new boulevard to cross the city's North/South axis but lacked the funding to expropriate the land and feared the sprawl that would result from an uncontrolled urbanization along the new artery (El Kalash, 2005).

b. Socio-economic Context

- The agricultural productivity was declining leading to poor economic feasibility of maintaining the agricultural function in the absence of proper incentives and given the lure of lucrative real estate developments.

- Social objections and financial constraints pushed against the use of the Expropriation law " قانون الاستملاك " for the development of the Eastern Boulevard.[6]

- Conflicts over property rights due to unresolved complicated inheritance issues and clouded property record generated frequent conflicts and entangled public projects into family conflicts.

c. Relationship Between Main Decision Makers

The coordination and tight relations between the main political, governmental and planning actors created a favorable political environment that was vital in the acceleration of decision-making and execution of West Wastani LPS. The main actors were:

- Ahmad El Kalash, Mayor of Saida
- Mohamad Fawaz, DGU officer, friends with the Mayor
- Mustafa Fawaz, planner BTUTP consultancy office, hired to implement infrastructural works who proposed the LPS project as a strategy to implement the large boulevard and control future urbanization in the area;

6 In 1978 -1979, the Boulevard project started by "laying hand" and expropriating lots that were valued in 1967 what devaluated property price as valuation was conducted in 1967 for agricultural lots.

- Raffic Hariri, political figure and major financer of developmental projects for Saida, prior to his election as Prime Minister.

The planner, the DGU officer and the Mayor, had received similar training as civil engineers/*urbanistes*, in the French Modernist tradition of planning, had worked with the same actors in the field (e.g. Michel Ecochard) and followed similar influences.

The process for the LPS project usually starts by issuing a proposal from the municipality explaining the LPS project intentions, followed by the approval of the DGU and issuance of the decree from the Ministry of Works and Transportation. Ordinarily, this is a long process that usually requires approvals, negotiations and agreements among all parties involved. Unfortunately, in Lebanon, this process is hardly ever successfully completed because of political disagreements and conflict of interests between the parties. In the case of the West Wastani project, however, the shared "premises" held by the actors and their tightly intersecting visions and relations allowed the project to go through the issuance of the LPS proposal by the Mayor, the appointment of the planner and the approval and execution of the design.

Given the urban, socio-economic and political circumstances stated above and to answer the municipality's concerns, Mohamad Fawaz –then Head of the DGU, proposed to the Saida mayor the LPS as a replacement for expropriation (El-Kalash, 2013). The tool seemed at the time like a win-win solution, as it granted the municipality the area it needed to develop the highway through the 25% free expropriation, while keeping some entitlement to property owners in the area and guiding the future urbanization that would inevitably happen along the highway axes.

2. *The Project Elements*

a. The Master Plan of 1967

The Master plan is the governing framework of any LPS project. It outlines a set of regulations that the planners are entitled to follow regarding plot dimensions, street dimensions, characteristics of a buildable lot, etc. It is important to note that the typical practice in Lebanon is not to allow for two planning interventions, i.e. master plan and LPS, to occur simultaneously in order to avoid a collusion of interests. Rather, public authorities have typically insisted that these steps must be done at separate intervals in order to avoid any kind of corruption in the planning intervention.

In 1970's -1980's, the time of West Wastani LPS project, the Master plan in effect was the 1967 Master Plan (Fig. 7) approved by Decree 9016/1967 and covering municipal Saida and its suburbs (Bqosta, Bramieh, Hilalieh, Haret Saida, Mieh w Mieh, and Darb el Sim,).

The 1967 Master plan noted the following regulations:

- Eight Zones (A,B,C,D,E,F,G,I1,I2) each with specific land use: archeological, residential, residential/commercial, tourism/ sports/ hotels, and Industrial types 1 and 2.
- Building regulations, exploitation ratios, land pooling and subdivision guidelines (road width, setback, exceptions) for each of the zones.
- The planned road network including the Eastern Boulevard; the Maritime Boulevard; the bypass of East Wastani.
- Suggested areas for the construction of public services: schools, hospitals and parks.

The master plan of 1967 for Saida amounted to a set of requirements for street alignment, land uses and public services: it didn't include any urban qualitative criteria, such architectural typologies, details or material. Additionally, it canceled all previous master plans and planning regulations, notably the 1957 plan.

The West Wastani project fell majorly in zone F (0.6 TER, 20% FAR) , while its remaining parts belonged to zones B (4.2 TER, 60% FAR) and D (1.2 TER, 30% FAR)[7].

7 TER: Total Exploitation Ratio, FAR: Floor to Area Ratio/ Total Surface Exploitation

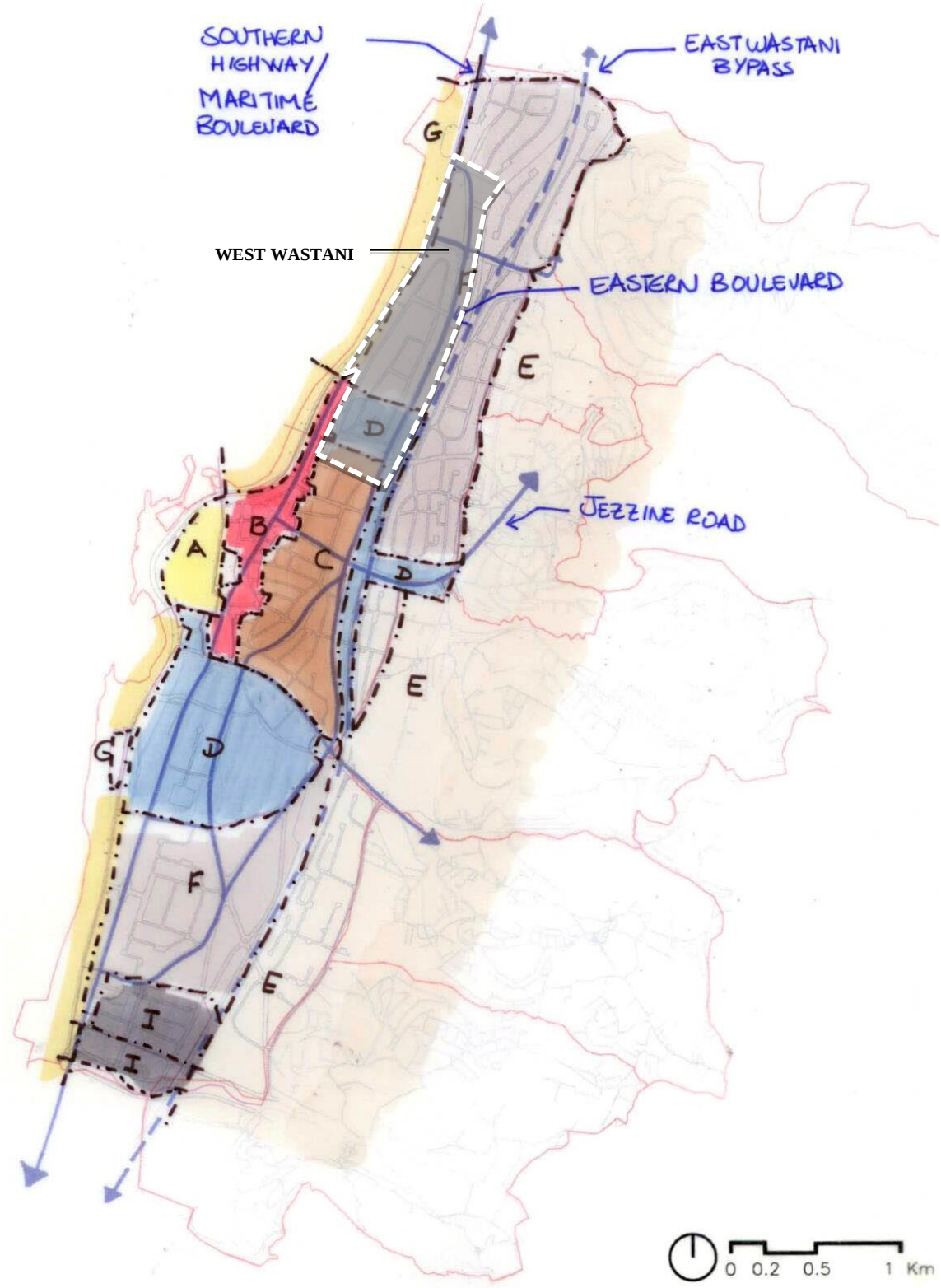


Fig. 7: 1967 Master Plan (Developed based on information from, DGU)

b. Wastani site characteristics

According to the assessment conducted by the technical team of BTUTP Consultancy office (BTUTP, 1981), the zone of West Wastani to be planned was characterized by:

- Narrow longitudinal plots oriented East-West following the irrigation canals with overlapping boundaries and an average lot dimension of 280m long and 10m wide.
- 190 out of 443 lots (43%) were not valid for built-up as they were either narrower that the minimum façade length required or smaller than the minimum buildable lot area dictated by the 1967 Master plan.
- Existing residential apartment buildings had an average area of 115 m^2 and the overall density was as low as 20m^2/capita
- A road infrastructure characterized by small, "right of access" (i.e. private driveways) or agriculture service roads, in zigzag patterns.

c. Project Steps

The Municipality issued Decision 39 of LPS for the Wastani area on 13/6/1979. The project was officially launched on 13/3/1982 by Decree number 4966 according to Decree 70/1983 of public LPS (El Kalash, 2005). The project scope covered the execution of the public projects of the Eastern Boulevard, schools, a hospital, and public gardens amended in the master plan of 1967. Table 2 of Appendix II, shows the legal steps and details for the project in comparison with amendments of the LPS Decree.

Following the issuance of the LPS Decree for West Wastani the consultancy team conducted the analysis required by the Decree and necessary for conceptualizing the plan. It included:

- Complete survey of the existing area
- Survey of the cadastral state of the lots in subject for re-parceling
- Valuation of lands and assets
- Inventory of ownership and shares
- Infrastructure study

The project was prepared with the approval of the DGU: 25% of the total private property was deducted, plans were approved, and valuation of new lots was done taking into account the improvements resulting out of LPS.

d. Project Guidelines

The municipality provided the consultancy office with the following set of guidelines (El Kalash, 2005):

- Establish connectivity through a hierarchy of road network linked to the existing network at project peripheries.
- Design a road network that allows rainwater drainage by gravity and eases the establishment of infrastructure.
- Insure needed portion of public property for the road network.
- Comply with regulations stated in the master plan 9016/1967 for what concern the 75% area to be subdivided into approximately equal residential sized lots of a regular geometry.

- Consider the minimum allowed lot sizes for small owners of existing buildings and lots.
- Integrate existing facilities such as playgrounds, sports field, schools, administrative offices, and businesses with the new lot boundaries.
- Provide as much as possible gardens and public facilities.
- Preserve watercourses and canals.

e. Project Results

The produced plan (Fig. 8) resulted in a new layout for West Wastani zone that drastically changed the site morphology (Fig. 9). Table 1 compares the cadastral and real estate status before and after the LPS.

Fig. 8: West Wastani LPS plan. The green color refer to public properties, the blue and orange refer for public domain (streets), and the yellow for the 75% new subdivided private lots (El Kalash, 2005).

Fig. 9: Section of Wastani Cadastral Map before (left) and after (right) LPS (BTUTP, 1981)

Table 1: Comparative table before and after West Wastani LPS

	Before Pooling		**After Pooling**	
	Area (hectares)	% of Project area	Area (hectares)	% of Project area
Project Area[1]	82.2936	100%	82.2936	100%
Private Property	71.0402	85%	52.9848	64%
Municipal property	0.3775	Less than 1%	6.8058	8%
Public Domain (roads, water courses and plazas)	10.7	14%	22.2276	27%
Total lot area Property [2]	71.4177	86%	60,066	73%
Total number of lots	443 lots			373 lot

[1] the initial project area is 88.7 hectares as mentioned in Kalash report however 6.5 hectares were excluded as built-up areas.

[2] Out of the 53.9848 exist 0.2754 hectares of 16 small lots to be joined with surrounding lots outside project area.

The project provided the municipality with the needed area to establish the Eastern Boulevard, a road network and installation of infrastructure. It also provided five large parcels with a total area of 6.8 hectares divided as such: two public schools, a public hospital (the Turkish hospital), a justice palace, and one public garden (2.2 hectares) (Fig. 10).

Fig. 10: The Justice Palace and the lot reserved for the public garden

The determinant factors of the proposed layout plan such as lot sizes, building dimensions, and the distribution of the green spaces and service, as confirmed by the planner, are first determined by the Master plan and the corresponding building regulation and only then, in the little margin that is left to the planner to decide on, by the planner's experience and universal standards (Fawaz M. , 2011).

In what concerns the lot and apartment sizes, the percentages of built-up were determined by the decree, while the plot sizes were determined by three different parameters: (a) Zoning regulation that determined minimum lot area; (b) market practices that showed that acceptable lot sizes ranged between 1000 and 2000 m^2; and

(c) existing apartment area and density (two apartments/floor and with 150 m^2 as average apartment area for a family of 5). The proposed plot dimensions by the BTUTP office are herein compared in Table 2 with the 9016/1967 regulations to show how they conform.

Table 2: Comparative table of the new parceled lot dimensions as per 1967 Master plan and BTUTP Proposal

	Master Plan 9016/1967		**BTUTP Proposal**	
Zone	Min Area (m^2)	Min Façade (m)	Average Area (m^2)	Façade (m)
C	800	15	1200	30
D	1000	20	1200	30
F	1500	22	1750	30

The re-allocation of the lots back to the owners was "as much as possible placed in the nearest location to the original site that matched the value of the original lot" (El-Kalash, 2013); however, the major determinate was the new lot value which should be as near as possible to the original one. The assessment of the initial lot depended on its conditions (façade width, depth, distance from street, trees and other factors) while the assessment of the new lots varied according to its location (on 2 or 3 streets, on a roundabout, overlooking a garden). Existing built-up areas were excluded from the project, except when buildings were in poor condition and earmarked for demolition.

The public amenities and services distribution followed the layout of the road network, based on standards related to maneuvering, accessibility and traffic. The location of the different services was highly related to the accessibility of the residence

to them, and the planner's experience determined the plot sizes rather than international standards (i.e. standards of m^2/capita of green spaces).

Finally, street layout was studied to prevent heavy urban congestion and to leave corridors for air circulation and sun exposure. Recommendations to landscape streets and roundabouts were set by the planner as a way to maintain the green image of the city.

C. Critical Assessment of LPS

After presenting the project context and outcomes, this section will include the critical assessment of the LPS tool through evaluating the LPS experience in West Wastani, pointing out the tool's potentials and deducing its limitations and drawbacks.

1. *West Wastani: Success Story?*

The perception of the project varies among citizens and political actors. To some, notably land landowners, the Municipality and political figures, the project is a success story that is worth repeating over East Wastani. Others, however, decry the project as having forcefully appropriated the properties of small landowners and destroyed the city's character. In sum, my own analysis of the project is equally ambivalent as I can clearly see that the project has had important advantages but that these were undermined by severe limitations. I further see that it would have been possible to mitigate some of these limitations, particularly if more urban and ecological design considerations had been introduced in the design and reorganization of the area.

So what are the advantages of the project?

The first advantage of the project is that it managed to provide public agencies with the needed lands not only to develop the large boulevard they had designed but it also secured a proper road infrastructure and a number of public lands useful for the development of public amenities. In addition, the LPS project prevented this area from falling into the typical scenario of sprawling urbanization witnessed elsewhere in Lebanon through reorganizing the lots in the geometric blocks to be developed in a coherent fashion, answering the important end of tool. In that sense, the new organization avoided longitudinal and poorly shaped lots typically developed for agriculture use and not valid for built-up according to the existing regulations, and it also limited the sprawl of unregulated buildings of poor architecture. Finally, the new lot arrangement and the new set of large corner lots attracted large commercial development, relieved this zone from the stagnant profitability out of orchard production, and increased the land prices from 50$/$m^2$ in 1980 up to 1500-2000$ in 2005.

These factors are widely perceived as success stories by municipal actors and many city dwellers given that the project came as a win-win solution: El-Kalash stated, “By lot pooling and subdivision the owners are happy as their lands are transformed into lots valid for development, their financial value has increased, no more left over lots resulting of road construction and finally the municipality acquired free land to execute public services projects. Everyone is satisfied” (El-Kalash, 2013).

Despite these advantages, the project has severe limitations:

First, from an equity perspective, many of the small landowners (who owned parcels smaller than 1200m^2) were constrained to sell their lots because they could not

cover the monetary difference to acquire an individual lot or didn't which to partner with others.

Second, confined by the logic of the Master plan (that dated back to the 1960s) the design came to redefine urban blocks with new boundaries that do not relate to the known clusters or neighborhoods and lacked any sensitivity to the ecological, cultural and social reality of the area. The design imposed over the natural landscape the modern gridded pattern encouraging the development of an individual building in the middle of a fenced lot accompanied with a vehicular model of wide streets. The project had lead to major repercussions on the environmental, social and cultural factors: it (a) buried waterways, (b) erased footpaths and historical plot boundaries defining neighborhoods, (c) rendered pedestrian mobility and connectivity impossible, and (d) destroyed agricultural morphology. In that sense, West Wastani project failed to achieve character and harmony within the produced fabric and destroyed the area landscape character: the orchards irrigated through the irrigation canal system and the living clusters of interconnected neighborhoods identified per orchard names such as Qamleh and Bustan Al-Kabir.

Third, without any regulatory framework to impose green constraints and respect for the ecological and cultural practices, no attention was given to existing natural features. The allocated amenity open space was confined in one public garden accounting for only 10% of the gained public domain, while remaining area was used for built-up services (30%) and road infrastructure (60%). The result is an amenity space of poor quality confined in one large, fenced public garden, disconnected from any other amenity network and remaining until today a vacant land, as its execution cost is very high. The design also transformed the natural seasonal watercourses into

culverts discharging sewage into the sea, destroying their ecological integrity and erasing part of Saida's natural and cultural heritage.

Moreover, the results were particularly alarming, as the area's urbanization didn't follow automatically. The produced fabric encouraged commercial development rather than residential especially edging the boulevard. While the main artery eventually developed along the desired model of the highway/mall strip, the lots behind remained un-built, their agricultural function interrupted because of the rupture of waterways, while residential sprawl continued to boom in the hills of Sharhabil, and Bramieh. After 30 years, out of the 373 new lots, around 190 plots remain undeveloped; thus less than 57% of the plots are developed (Fig. 11). The only impact this project caused from the perspective of real estate is that it raised lot values 40 times and encouraged real estate transaction and speculation over 'terrain vague'.

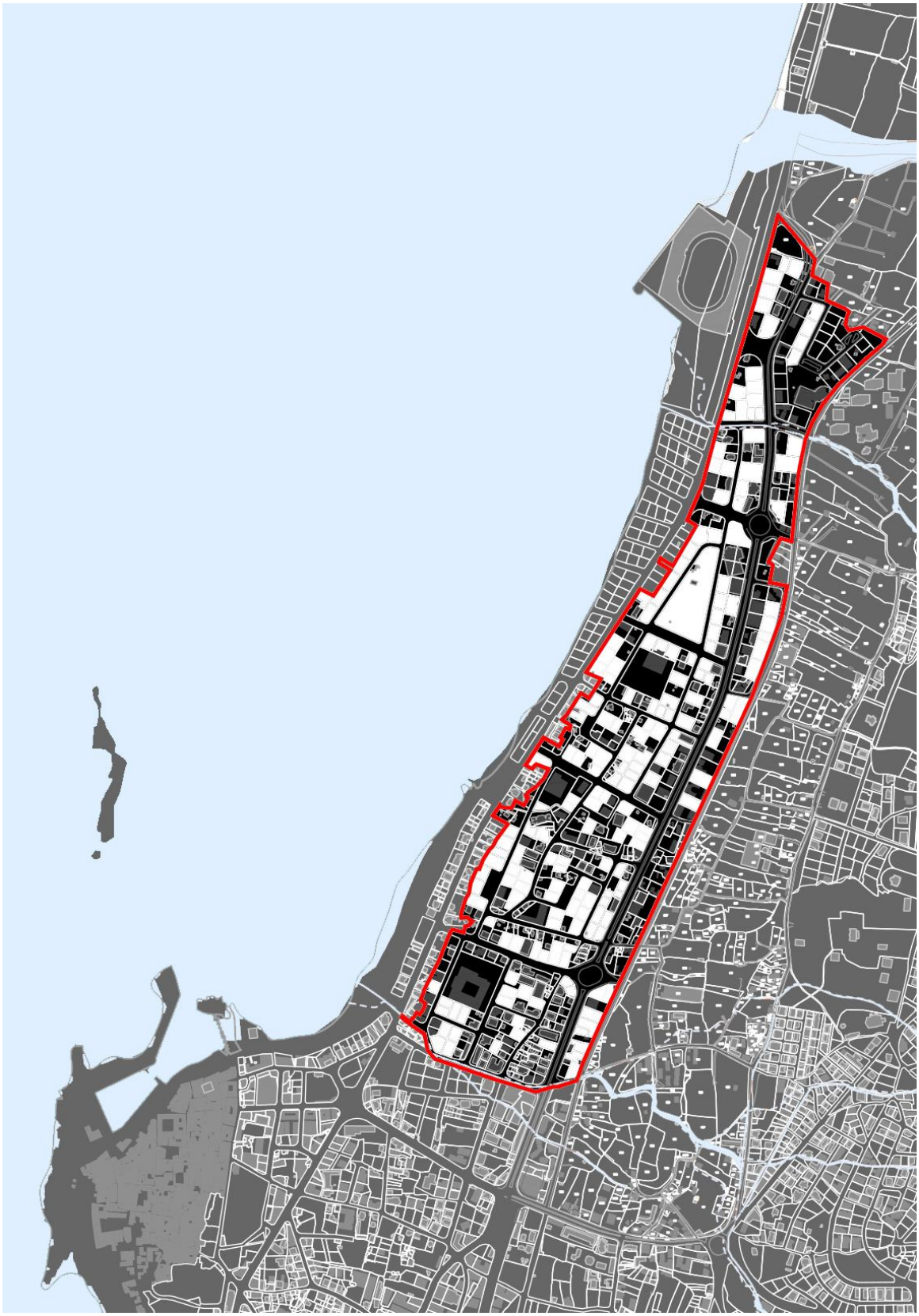


Fig. 11 Built V/s Un-built -Wastani 1980 lot pooling and subdivision project

2. *LPS Tool Potentials*

Proponents of the LPS tool argue that it has several sensible benefits. They debate that the tool can achieve values of order, equity and economic profitability. In summary, the positive aspects of the LPS tool are:

- Organizing the lots in ways that facilitate building developments in line with current urban needs, especially when proper infrastructure is installed in the area to be developed.

- Enabling the execution of a main transportation network without expropriation costs for public authorities.

- Transforming non-buildable plots (classified as such per the zoning regulations due to their dimensions or area) to developable geometric rectangular lots equally distributed along roads. This results in a certain coherence in development, realizes equity in "right to development" and access to "public services", achieves "order" and uniformity in urban form and increases economic profitability through a rise in lot value and price.

- Solving conflicts over accessibility, prevalence and multiple ownerships (due to inheritance issues) through defining boundaries and shares… particularly in cases when such conflicts indeed exist.

The outlined potentials are valid, practical and useful from a developmental point of view; however they maybe debatable according to the standing position of the reviewer and the assessment of West Wastani is a proof of that.

3. *LPS Tool Limitations*

After presenting an assessment of the West Wastani LPS project the limitations of the LPS tool with the Master plan framework can be organized under 4 headings: (a) 1decontextualized intervention; (b) economic profitability and market speculation; (c) distribution of public green areas; (d) external regulatory limitations.

a. <u>De-contextualized Intervention</u>

Concerning the tool directives and applicability, the major drawback of the LPS tool is that it limits the study area to a simple boundaries delineating assets with direct economic value (built structures and number of productive tress/ orchards) undermining the intangible assets of natural (topography, watercourses, view corridors) and socio-cultural (connectivity, existing fabric, social ties, rural/urban life styles, sense of place and belonging) heritage. In addition, the DGU have noted that LPS projects are done in isolation from their context meaning planners target a specific zone without closely considering its surroundings. Even though the DGU had required the planner to present an urban context appraisal of the area to be planned (Fawaz M. , 2010); no real guiding framework has been set to help the planner to form a context appraisal that could influence the design.

Even more, the planners are required to fit within the pre-set Master plan guidelines that determine the spatial framework of the newly subdivided lots independent from LPS. The lot shapes and sizes are dictated by the respective zone regulation set depending on intended land use and which are similar for most of the Lebanese cities.

Finally, public LPS projects are usually carried out in large areas, which constitute a portion of one large zone or more. Pursuing the above, the geometric often-orthogonal subdivisions usually applied in LPS result in small, homogenous, equally sized lots that produce a monotonous grid over a large area typically imposed on the existing landscape. The homogenous grid is similar to any other build fabric in Lebanon, different from the existing traditional fabric, thus disrupting physical continuity, impacting livelihoods and cultural habits, and not responding to the site's geomorphological features.

b. Economic Profitability and Market Speculation

Economic profitability is the major reason used to justify the success of LPS projects; however, it is highly problematic and controversial. It encourages the treatment of property as liquefiable assets subject to market needs and demands. Although highly favored from a real estate perspective, this attitude disrupts the balance in the economic activity of the city by channeling all investments into the real estate domain rather than feeding them into a continuous economic chain.

Mohamad Fawaz (2010) commented on the economics of the Lebanese real estate market dynamics. He states that the established subdivision projects are a surplus to urban growth needs; some of it remains undeveloped for many years. These projects are executed before they become needed and result in the deterioration of their infrastructure. The financial losses constitute a burden at the national economy and are noted as money is spent on unneeded /unused infrastructure deteriorating over time.

c. Distribution of Public Green Areas

Even though the LPS degree allocates 25% to the public domain, it is loose in defining its distribution. The distribution is left for the municipality to allocate over the total of built (institutions) and un-built (gardens, roads) services together. Unfortunately, in most projects, the largest share of this area will be assigned to roads and second in priority come the public institutions leaving a negligible portion for public green areas. These are usually residual spaces or isolated gardens that have little or no significance in ecological or recreational terms. Unfortunately, this approach to open spaces as fenced parks is an outdated concept with respect to the new conceptualization of green open spaces as networks.

d. External Regulatory Limitations

Many problems emerge from the way the LPS tool is practiced rather than from the text of the law itself; some problems are more the result of the planning framework within which the tool operates.

i. The Planning Framework: the Master plan

First, the master plans in use are not revised: some plans date back more than 30 years without having been revised. Given the rapid changing urbanization dynamics, the master plans become outdated and unresponsive to any existing factors what renders their applications alarming after a period of time. It is worth reiterating here that the version of master planning that is adopted in Lebanon doesn't fit the model of regular revisions; rather the plans are static and do not consider progressive urbanization, such

as phased development by determining zones to be urbanized and other at later stage, once the early ones have reached saturation.

Concerning the zoning tool, it initially aims at maintaining the rural character, however, zoning contributed to the fragmentation of landscape and "increased the costs per household of providing public services and infrastructure" (LaGro, 1994, p. 153). Zoning has been criticized for not adequately responding to the dynamic of land use, and for preventing the efficient spatial allocation of economic activities through market forces (LaGro, 1994). Khayyat (1999) affirms that zoning is a general model that does not look into specificity of the existing urban landscape (social, cultural and physical context). In order to control sprawl the applied strategy is to work with development factors (densities) and to define areas and patterns of development. By that, it directs the urban dynamics to the real estate market, disregarding any provision to the preservation of natural and environmental assets.

Third, the Master plan that is in most cases an expression of the detailed master plan, is the actual conception of the guidelines, and is limited to regulating the buildable spaces (Land pooling and subdivision, exploitation factors and densities) without any given criteria or justification for such parameters. In addition, these guidelines think only at the level of the buildings as typically free standing objects in the middle of lots, and do think of the resulting fabric at the scale of neighborhood (character, architectural details, public space definition, landscape and environmental factors). The resulting fabric is generic, characterless, homogenous and monotonous.

ii. Lack of Taxation Control

Lack of taxation and other regulatory legislation on real estate in Lebanon has pushed most LPS projects in the direction of producing more lots for the market rather than addressing the need for housing development. The result is the formation of small buildable lots awaiting development, which remain as 'terrain vague' for some time. This process encourages the transformation of lots into market products, intensifies land speculations and the transaction of lots in the real estate market, and leads to the increase in prices despite lack of development.

iii. Inability to Develop Proper Urban Design Framework

In theory, LPS projects can be the "starting ground for the establishment of a new / part of a city" (Fawaz M. , 2010, p. 76); however, the major limitation of this tool lies in its incapacity to revise the regulation or to provide tailored and detailed urban design guidelines for the area planned. The only way to obtain detailed guidelines is through a revision of the city's Master plan, which is a lengthy process done apart from LPS project.

In the case of West Wastani, the municipality request in 1995 to modify the zoning came in order to improve the city's development and to promote and attract development into the LPS zone.

4. *Conclusion*

In an attempt to revise the LPS guidelines and ameliorate its performance, Mohamad Fawaz (Fawaz M. , 2010), out of his experience within the DGU, recommended that LPS projects should be coupled with an environmental assessment of

the local contexts; should be avoided if located far from urbanized areas to prevent scattered sprawl and undeveloped subdivided lots; and should not occur in area with a distinct landscape and natural features, or within fertile agriculture zones. In what concerns public gardens and services distribution, he stated that allocating leftover plots, which are usually unbuildable, irregularly shaped, should not be acceptable. Gardens must be properly distributed and shaped in a manner that properly serves the community. Mohamad Fawaz concluded by suggesting that undeveloped LPS projects should be revised and enhanced before deciding on new ones.

However, these revisions, even though important, are insufficient to ensure a proper application of an LPS project in a manner that respects ecological, cultural and social integrity, preserves environmental assets and landscape heritage, and provides sustainable development.

One of the major problems lies within the tool generality and its operational framework. The key is to find a framework that deals with the site in a holistic manner, balances between economical, ecological and social values and achieves an integrative design and sustainable development that is responsive to the needs of the city. The following chapter will examine the Ecological Landscape Approach (ELA) as a method of reading and writing the urban landscape and as a holistic framework for the application of the LPS tool.

CHAPTER III:

ECOLOGICAL LANDSCAPE PLANNING THEORIES

In the Middle East region, 20th century urban modernist planning tools are used to regulate urban sprawl. The previous chapter discussed extensively the LPS tool, a regulatory instrument for organizing urban fabric and providing infrastructure and public amenities services. This tool operates as part of an outdated prescriptive urban regulatory framework inherited from the post-colonial modernist planning. This framework is found inadequate to respond to existing urban and environmental concerns. Hence, emerged the need for other approaches that ensures sustainable development and recognize natural and cultural dimensions.

This chapter is going to: (a) present a take on modernist urban design and planning approaches and discuss the importance of environmental and sustainable approaches; (b) consider the ecological landscape approach as holistic and integrative methodology towards sustainable urban planning and design; and (c) define the ecological landscape methodology as a tool to read and write the urban landscape using Ecological Landscape Associations (ELA) and Landscape Character Zones (LCZ).

A. Shifting Paradigms of Modernist Planning and Design

1. *Environment and Urbanization*

Historically the process of human settlement was done in harmony with the landscape as the natural environment shaped settlements through topography, geomorphology, hydrology, climate and soil. Cities adapted to the location and evolved

gradually to make best use of natural resources. For example, humans favored locations around waterways to ease the communication and access to irrigation, adapted to the topography and developed terraces to make best use out of unbuildable areas for food production. However human intervention on the natural environment became intense as a result of the inevitable urban growth. To develop the modernist vision of "great cities", human interventions disregarded natural obstacles, alienated itself from environmental values and followed economic rather than environmental and social imperatives.

The spatial expansion of urban spaces has been governed by modernist regulatory tools such as land use and zoning master plans, merging the city and its peri-urban / rural landscape into one continuous urbanized block at increasing and rapid rates. According to the UN-Habitat, it is projected that in 2050, 7 over 10 people will be living in urban agglomerations[8]. For Lebanon, 90% of the population will live in coastal cities (Makhzoumi, 2014). This process is causing drastic transformation of the natural landscape, altering natural processes and posing serious environmental challenges. According to LaGro (1994), "Large-lot zoning, a regulatory mechanism that aimed at maintaining rural character, [is contributing] to the fragmentation of forests and farmland, and increase[ing] the coast per household of providing public services and infrastructure" (p. 153).

8 Urban agglomeration designates "the population of a built-up or densely populated area containing the city proper, suburbs and continuously settled commuter areas or adjoining territory inhabited at urban levels of residential density.

Damage to the environment increases the threat to the quality and health of the living environment. James LaGro, in his article *Population growth beyond urban fringes*, explains that the pattern and the spatial distribution produce residential and commercial development that eventually destroys the ecological integrity and landscape scenic distinctiveness through interrupting visual, physical and ecological corridors. He points out that "The land use changes and the produced environmental impact are not confined to that parcel or to the area of intervention and usually they include flooding, soil erosion, air and water pollution, wildlife habitat fragmentation and blight of scenic vistas." (LaGro, 1994, p. 154)

2. *Landscape Ecology, Ecological Landscape Planning, Urban Design & Landscape Urbanism.*

The issue of sustainability and environmental health became a pressing concern to urban planning, which pushed for new concepts to emerge (Fig. 12). Planners and environmentalists such as Ian McHarg and Michel Hough saw potential in the ecological outlook to protect and enhance natural features and processes as well as secure sustainable development.

On one hand, *Ecology* is defined as "a branch of science concerned with the interrelationship of organisms and their environments" (Merriam-Webster), thus similarly the interactions between human and the natural environment over time form the *Urban Ecology*. On the other hand, *Urban Design* is defined as "the science dedicated for enhancing the quality of physical environment in cites" (Hough, 2004, p. 5) and designing the built environment. Therefore, planners understood the Urban Ecology as part of the natural ecosystem varying from local to regional scales; and

looked at the natural systems shaping and composing the built-up environment. They derived values that could be integrated into the planning of the urban environment, promote sustainable developments and secure good quality of urban living.

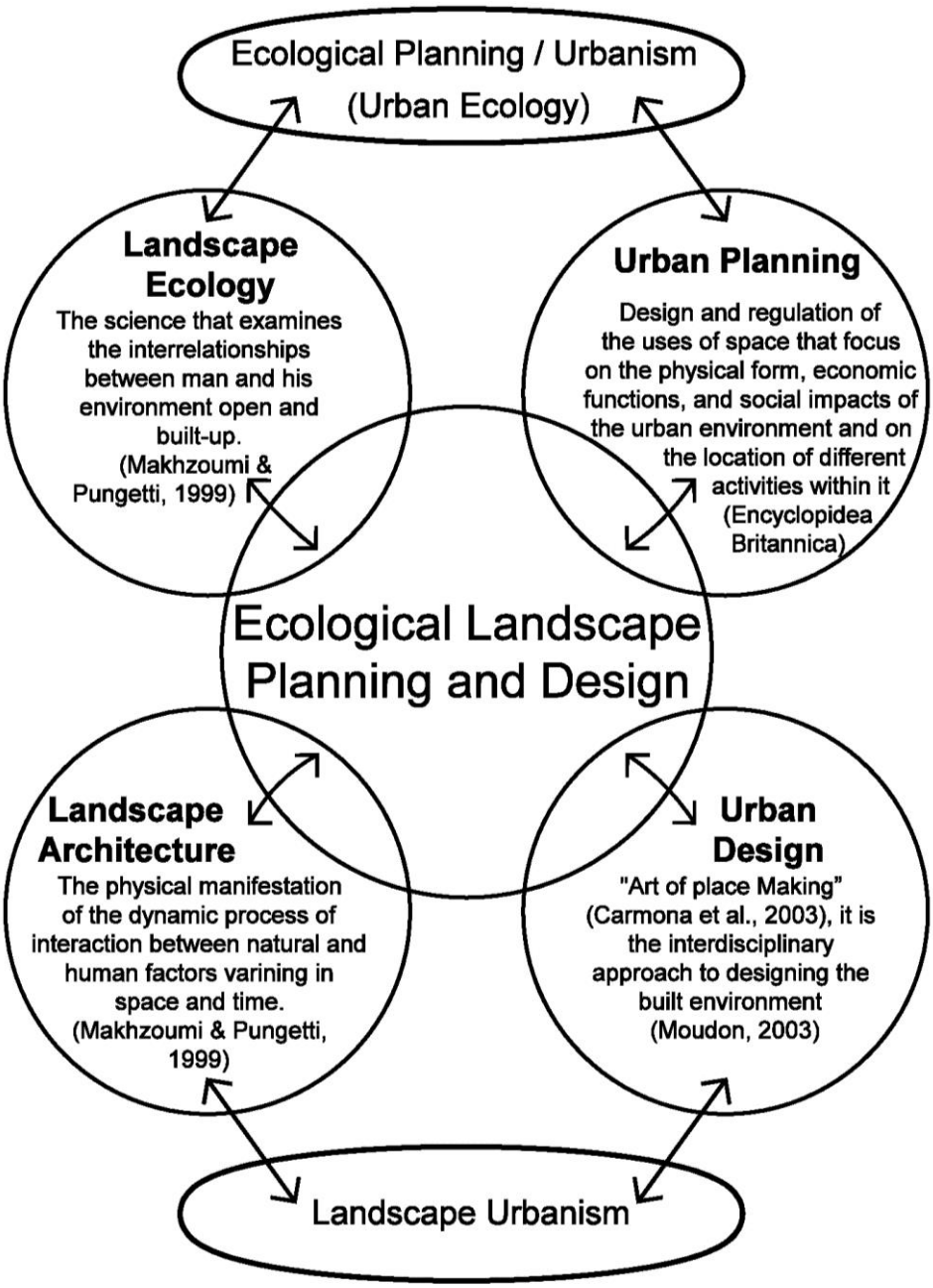


Fig. 12: Urban, Landscape and Ecological Approaches

McHarg, Hough and Forman investigated ecological approaches that address the issue of social, natural and economical sustainability of future urban growth and guided the development of strategies that allowed a better understanding of the ecological and urban conditions (Watson, 2009; Wheeler & Beatley, 2009). In this perspective, McHarg was the first to introduce the concept of ecological design to the urban planning discipline so that it embraces ways of protecting and enhancing the natural features and processes within urbanized environments (Makhzoumi & Pungetti, 1999, p. 188). Similarly to Hough, Ann Spirn (2004) in "City and Nature" defined urban ecology as part of nature not external to it. She examined natural forces that shape the physical landscape to develop tools that are adapted to particular environment, climate and culture for the purpose of designing the most urban of settings.

The influence of the landscape ecology onto urban planning and design translated into many ecological urbanism concepts and regulations to name ecological planning, green urbanism, sustainable urbanism, eco-cities, LEED certification, environmental laws etc. However it failed to address the urban dynamics as it focused only on the protection and preservation of the environmental and natural aspects (non-urban spaces) and remained mostly theoretical (Makhzoumi & Pungetti, 1999, p. 189).

From another perspective emerged the concept of *Landscape Urbanism* (Waldheim, 2006), where landscape architects and urban designers considered the landscape as the larger framework or "the fundamental building block for urban design". It integrates landscape ecology, the science, defined by McHarg, with the formalist design approach to create designs of urban spaces inspired from ecological systems and processes. However, unlike ecological landscape planning, landscape urbanism does not respond or integrate ecological process; rather it deals with them as a

component in the site like infrastructure. It is still a relatively new concept in progress and in experimentation.

In order to achieve sustainable development, the balance between ecological, physical, economic and social dimensions is a must, rather than favoring one dimension on the expense of others. Stephen Wheeler (2009), in the *Sustainable Urban Design Development Reader*, explains that it is also important to understand how different urban design tools complement each other at different scales of the landscape and that urban planning systems must balance between landowner's right to development and the public rights to health, safety and welfare of the living environment.

Forman (1996) argued that sustainability of living environments (natural and urban) could be ensured through the ecological landscape planning approach as both the ecological planning and landscape design disciplines have emphasized on conservation, protection and appropriate use of natural resources. Forman developed a system of patches-corridors-matrix and discussed the different forms of connectivity and exchange of elements between these spatial components. James LaGro (1994) complemented Forman's theory and noted that "landscape ecological infrastructure performs regulation, production and information functions that are essential to human safety and well-being" (p. 153). LaGro added that it is important to investigate the relationship dynamics between landscape structure and function. He also stressed on the importance of the integrity of the landscape ecosystem to insure ecological protection and justify land-use policies. He proposed three guiding concepts to land-use policies: (a) "minimize fragmentation of the ecological infrastructure"; (b) "restore, where practical, severed linkages in the ecological infrastructure"; (c) "guide new development to locations near existing urban centers"(p.143).

Leitao, in his article *Applying landscape ecological concepts and metrics in sustainable planning* (2002), also emphasized on the importance of understanding the processes of landscape ecosystems formation and took the concept further to look for new tools that help in the application of this approach into sustainable spatial planning. Leitao used the structure proposed by Forman made out of three principles: (a) Pattern of distribution (patches); (b) flow of biotic factors (corridors) and (c) the process of formation over time (mosaic and connectivity); he then applied a matrix to explore the potential for incorporating these principles into ecological planning tools.

Furthermore, Makhzoumi (1999), in *Ecological Landscape Design and Planning*, developed a system that helps understand the dynamics and processes of formation among the different landscape components and grouped them into associations that can later be used by the designer to propose a creative and integrative solution for physical planning. Olaf Bastian (2001) elaborates that the ecological landscape approach is based "on population dynamics, patch-corridors-matrix models, greenways, connectivity, ecological infrastructure, habitat network, ecological barriers [...] to form the basis for ecological quality and stability" (p.760). Makhzoumi adds that this approach, being holistic, can serve as a framework "to provide a tool for sustainable planning and management" (Makhzoumi & Pungetti, 2008, p. 340). The approach presented by Makhzoumi is going to be further elaborated in the purpose of its application as the theoretical framework of this thesis.

B. Ecological Landscape Planning

1. *Ecological Landscape Approach*

The emergence of the ecological landscape framework started from the term "Landscape"; its Dutch origins *landschap*, designated the cultural and natural processes of creating a territory, it is thus considered as the physical manifestation of the urban ecology: the interaction between human and nature. Makhzoumi adds that the word 'landscape' is used to define at the same time scenery, a specific place, and an expression of culture. It is the combination of the natural environment, the geomorphological and physical processes of the site that conditions the cultural attitude of "the sense of place" to produce "place of people": "Landscape accordingly can be defined as the place which human inhabit and organize as a system of functional form and spaces. It is a synthetic space of shaped systems functioning to serve the community and respond to their needs" (Makhzoumi & Pungetti, 1999, pp. 5-6).

Being the "place of people", landscape incorporates the economical, socio-cultural values (community's present and/or past life, sense of identity, heritage, infrastructure, economy, and demographics) with the environmental values (habitat for wildlife, repository of genetic and species diversity), to gives the Landscape discipline a holistic edge. Ecology influenced the landscape approach and gave it a systematic dimension in which the relationships and interaction among humans and nature can be studied in a hierarchical manner structured spatially and temporally. It breaks the formal interpretation of static elements composing a site through understanding the process of formation /ecosystems in a dynamic manner transcending boundaries and scales. Hence, Landscape becomes the tangible physical manifestation of the abstract concepts of the environment and its ecosystems that incorporates all levels of interactions between

ecological, social, cultural, economic and physical aspects onto the natural, semi – natural, peri-urban and urban scales over time.

With a landscape framing, the socio-cultural aspects along with environmental and ecosystems dimensions become easily integrated into strategic planning. The interactions of natural, urban and cultural factors are studied, assessed and combined into a system of landscape units operating at different scales that can be translated into future lines of intervention harmonized with ecological principles and meeting the socio-cultural and ecological needs (LaGro, 1994; Makhzoumi & Pungetti, 1999).

Consequently the ecological landscape approach is a dynamic and holistic urban framework that understands the existing situations; prioritizes the ecological integrity; minimize environmental degradation, guides urban development and responds to pressuring environmental and urban needs (Fig. 13) (Makhzoumi & Pungetti, 1999).

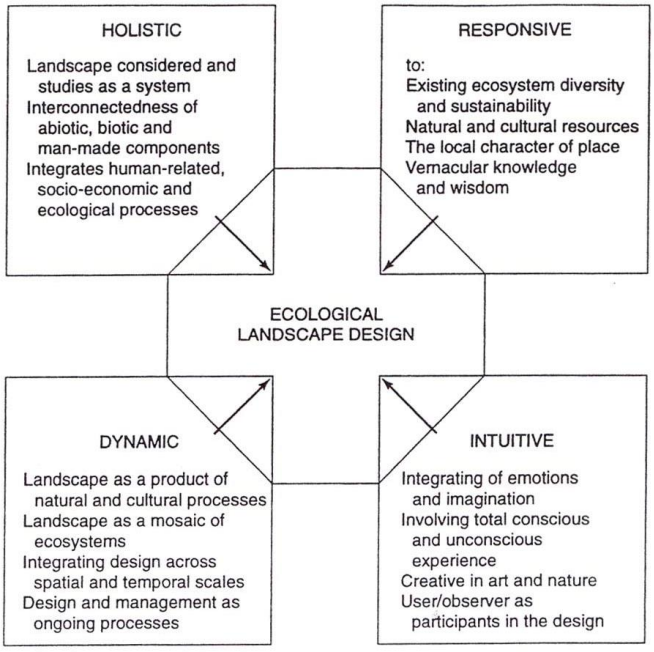


Fig. 13: The Ecological Landscape Design Framework (Makhzoumi & Pungetti, 1999, p. 196)

Ecological landscape planning integrates the ecological perspective into the urban planning discipline through analyzing abiotic, biotic and cultural aspects over spatial and temporal dimensions. It examines the human attitudes vis a vis landscape systems, outlining their functions and understanding patterns of the natural habitats and the development of landscape. This framework allows the ecological landscape approach the ability to respond to constraints and opportunities of the context whether natural or cultural or a combination of both. It also employs natural and cultural attitudes as one of the primary determinants for planning rather than focusing only on land use densities and transportation. And finally, the relatedness of a given landscape to its larger context is essential as the landscape and its composing elements are part of continuous geographical and geomorphological ecosystems. They might be manifested in at a local scale but are interrelated to larger contexts. Therefore, it is illogical to understand the landscape in isolation of its regional contexts and hence the importance of the spatial hierarchal organization of the system (Makhzoumi & Pungetti, 1999).

2. *Ecological Landscape Methodology*

The Ecological landscape methodology is based on three lines of investigation:

First, it understands and assesses the biotic, abiotic and cultural components through temporal and spatial dimensions.

Second, it categorize the different processes into heterogeneous units on different scales from regional to local in form of Ecological Landscape Associations (Forman, 1996 and Makhzoumi, 1999).

Third, it uses these associations in creative design and problem solving to identify Landscape Character Zone.

a. Ecological Landscape Assessment

The aim of ecological landscape assessment is to understand the relationship between the natural and cultural heritage as well as aesthetic values of a certain place in order to appreciate the interplay among the complex landscape processes and patterns across different level of spatial hierarchy and along a temporal continuum (Fig. 14), (Makhzoumi & Pungetti, 1999).

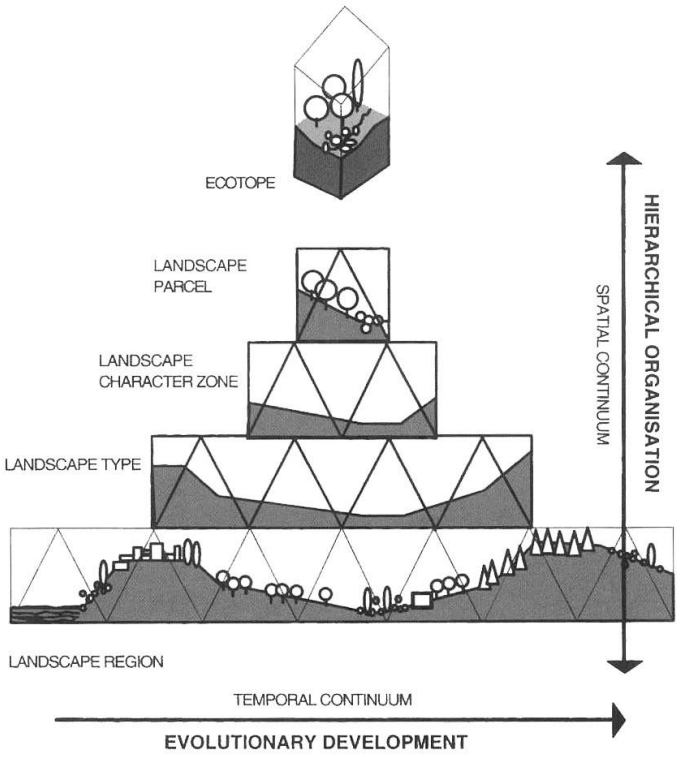


Fig. 14: Spatial Hierarchy and Temporal continuum of the Ecological Landscape components (Makhzoumi, 2000, p. 339).

In the same line Makhzoumi argues that "each landscape has a distinct character as a result of the way local people have related to the physical and natural environment" (Makhzoumi & Pungetti, 1999, p. 101). This reflects on the production of culture specific landscape heritage and produces site-specific landscape characters.

The ecological landscape assessment focuses on the concepts of holism and interdisciplinarity to achieve a compressive understanding of both social/cultural development and natural conservation in order to provide responsive tools that direct environmental protection and urban development. The comprehensive assessment of the landscape is done through an investigative framework of site reconnaissance, desk and field surveys and data compilation and analysis. The site reconnaissance is done over five steps (Table 3) that are complementary, flexible and interchangeable depending on the site. They constitute a landscape classification, description, history, legislative framework and evaluation. The five steps are mapped and studied in order to apprehend the complex landscape ecosystem, its structure and the interactions among its different layers (Makhzoumi & Pungetti, 1999).

Table 3: Reconnaissance survey (Makhzoumi & Pungetti, 1999, p. 105)

The five main steps of the reconnaissance survey		
Landscape classification	Landscape region Landscape types Landscape character zones Landscape parcels Landscape element	Geographic Bound. Landuse/ecological particularities Homogenous characteristic: soil land use Physical borer (road, path, trees, water)
Landscape Description	Abiotic features Biotic features Human features	Climate, geology, soil, geomorphology, water Vegetation, wild life, landuse
Landscape History	Past landuse Cultural heritage Historical ecotopes Architopes	Cultural features
Landscape Legislation	Laws Plans Protected areas Manager institutions	Policy of site management: number of parks, nature reserves, protected areas etc., to identify the gaps and propose further direction to take (preservation/conservation)
Landscape Evaluation	Landscape elements Visual evaluation Aesthetic perception Psychological perception	Subjective perception of the present landscape

For the case of East Wastani/ Saida, the investigative framework includes:

- Researching available data about the site/region in published documents, archival records, published literature, historic travelers' journals and existing surveys as well as studies about the different social, natural, urban, economic, cultural, historical information. A primary resource is the descriptive memory reports produced recently by the USUDS team.
- Cartographic analysis of existing biotic and abiotic factors (geomorphology, hydrology, geology, soil, fauna and flora).
- Aerial and satellite image comparison and study that informs about settlement patterns and evolutions.
- Field works, social perception and mental mapping of the site that helps in determining socio-cultural values, livelihoods and intangible heritage elements of the site as well as defining the sense of place relative to the city and region.
- Connectivity analysis of the existing dynamics between the site, the city and the region to understand the relationships between the urban, peri-urban and rural levels.

b. Ecological Landscape Associations

Ecological Landscape Associations (ELA) is a conceptual and operational method based on the comprehensive ecological landscape assessment. The associations designate the patterns and processes of interactions of two or more landscape components (abiotic, biotic and cultural) and validate the association through a historical and evolutionary assessment on both spatial hierarchy and temporal scale. These associations form the 'building blocks' of ecological landscape planning and

design (Fig. 15). They are core spatial units of the landscape that attract the designer's attention to successful associations of the existing landscape that could be used as a morphological matrix and problem solving attributes (Makhzoumi & Pungetti, 1999).

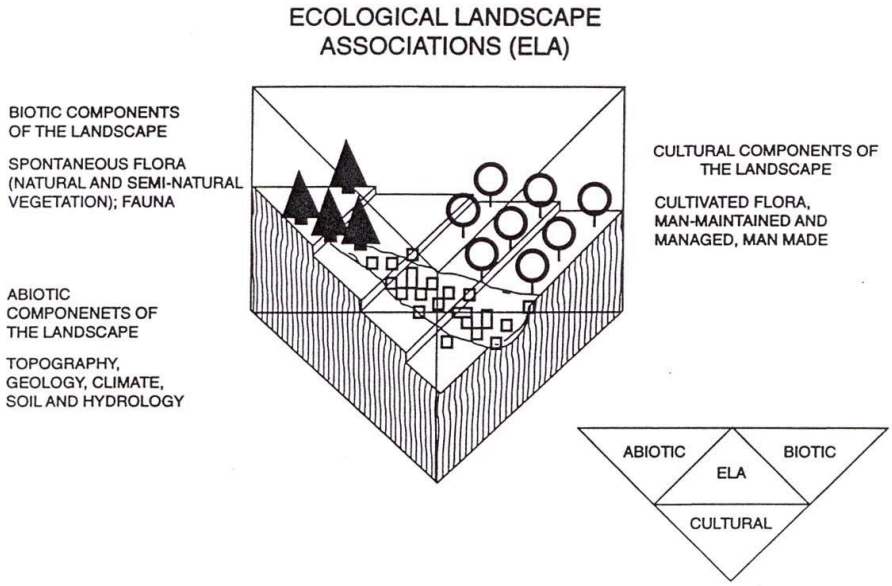


Fig. 15: Schematic illustration of the Ecological Landscape Association methodology. (Makhzoumi & Pungetti, 1999, p. 212)

In summary the ELA investigative methodological framework helps in:

- Establishing an ecological understanding of the landscape,
- Locating the ecological landscape associations,
- Determining the location pattern of the associations, that is the spatial pattern of the landscape (Makhzoumi & Pungetti, 1999)

This thesis will employ the ecological landscape methodology as an investigative method to construct a comprehensive, holistic and integrative understanding of the site, as well as to identify the basic units composing the landscape of East Wastani and the region.

ELA is “a framework for understanding the landscape and a tool for designing it” (Makhzoumi and Pungetti, p.214). ELAs do not replace conventional urban and landscape planning rather they complement conventional models with concepts gained from ecological understanding of the landscape that serve as directives in the planning process. The challenge lies in the aim of this research: to come out with ways that this framework can feed into the modernist tool of land pooling and subdivision and help avoid the tool’s shortcomings when applied for the site of East Wastani.

C. Ecological Landscape Planning Application

Combining the ELA reading with urban landscape principles and objectives of sustainable future development for a particular site allows the planner to translate the ELAs into spatial components to be used as design and planning elements. These spatial elements can be complemented with Forman (1995) landscape ecology structural components and Lynch’s (1996) urban design elements to identify Landscape Character Zones.

Forman’s theory developed key principles of landscape ecology (the science) into spatial elements to be used in land use planning and landscape architecture. They translate the landscape structure, function and change into patches, corridors and matrix. Lynch, in *The image of The City* (1996), has in turn defined five key spatial elements that define the human perception to the city and he suggested that through understanding these structural elements the planner can reach a more satisfactory design. He defined the paths, edges, districts, nodes and landmarks.

Landscape ecology components and urban design elements overlap in defining some of their spatial elements such as the corridors and path, and complement each

other as with patches and districts, whereby nodes and landmark enrich the composition of the patches and enhances the connectivity and the diversity. This complementarity between the landscape ecology and urban design elements helps bridging the gap between the disciplines and defines an urban/landscape structure within the ecological system. LaGro (1994) emphasizes, "The landscape ecological integrity depends upon this network functional linkages", both ecological and urban and is based the following five guiding principles:

- Holistic framework,
- Multi-functionality,
- Eco-diversity,
- Landscape connectivity, (flow and structure)
- Cultural diversity (Makhzoumi & Pungetti, 2008).

These guiding principles are realized through prominent concepts of greenways and ecological networks. This concept focuses on the linkages and multi-functionality among the different landscape to establish a system that secures long-term sustainable ecological and cultural diversity, integrates contemporary urban developmental dynamics and enhances the regional landscape character.

The USUDS strategic objectives are going to be adopted as guiding principles for the development of LCZ in this research. In what concerns urban and landscape development, USUDS stressed on the following strategies:

- Ensure the continuous diversification if the economic base of the city and the viability of all the sectors to adapt to new economic realities through providing for alternative and diversified land uses in the master plan
- Protect important heritage assets

- Plan for a bleu green infrastructure that serves amenity and promotes sustainable use of environmental needs through: (i) ensuring the ecological integrity of the watercourses and upgrading the watercourses to develop the green corridors; (ii) increasing the per capita allocation of green areas; and (iii) ensuring sustainable management of green areas.

On the other hand LaGro (1994) addressed policies that can be adopted in ecological landscape planning. LaGro states that the policies need to develop: guidelines that (a) minimize the fragmentation of the ecological network; (b) control the timing and phasing of new development by directing urbanization near existing centers; and (c) provide incentives for the restoration riparian landscape and upland linkages in the blue green infrastructure and preservation of the landscape character. The incentives can be applied vis a vis performance standards in form of tax reduction or developmental rights to protect the ecological integrity of landscapes suffering from urbanization pressures.

1. *Case Studies*

Local and regional case studies applied the ecological landscape planning approach elaborated by Makhzoumi and were used to exemplify the application of the ELA methodology.

The first example is the case study presented by Makhzoumi (1999), over the Kyrenia region located in the north of Cyprus. The ecological landscape approach and the ELA methodology were tested on both the regional scale of Kyrenia and at local scale of Dik Burun. Makhzoumi reads the multiple abiotic, biotic and cultural layers of the landscape to build a ‘conceptual design model’ of the regional landscape. The

Kyrenia region is characterized by a “predominantly agro-pastoral society” set in a geomorphological setting of mountains, foothills, cliffs, plains and ravines; forests, maquis, Olive and Carob vegetative cover; and rural/urban settlements. These ecological landscape features are understood as the components of the associations of the ‘conceptual design model’ interacting at different scales. The ELAs formed the building units that helped propose dynamic, interactive policies on the regional scale or interventions on the local scale.

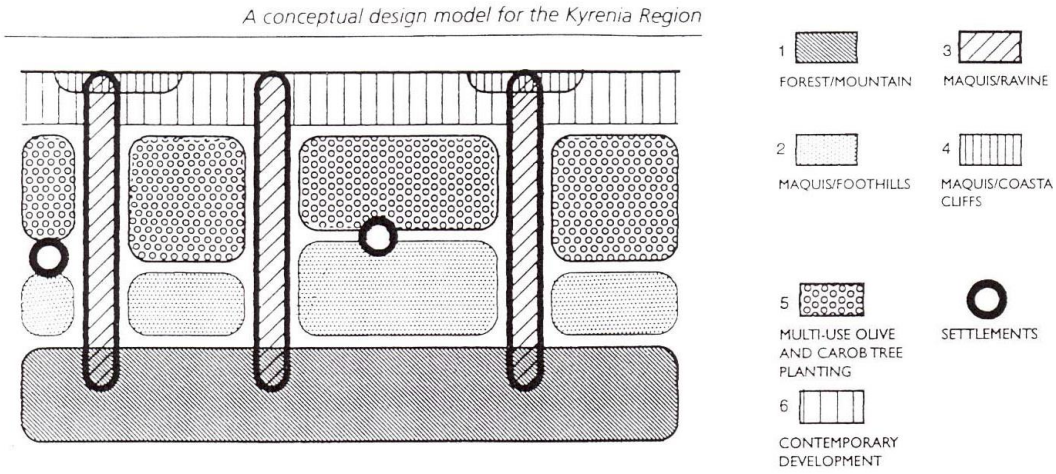


Fig. 16: A conceptual design model for the Kyrenia Region (Makhzoumi & Pungetti, 1999, p. 253).

The Second case study is the one of Bahrija in Malta presented also by Makhzoumi (2000) in her article *Landscape ecology as a foundation for landscape architecture*. The Article focused on testing how the holistic and dynamic framework of the ecological landscape planning can influence the design process at local and regional scale.

The increasing population growth and tourism are posing serious environmental pressures through fragmenting the semi-natural and cultural landscape of

the island. The landscape of Bahrija is heterogeneous in its geomorphological features of hills, coastal cliffs, and rivers with a land cover that varies between scrubland/ maquis, man-made terraces and no built-up settlements. Makhzoumi applied the ELA methodology to define the building block of the future design whereby five ELAs were distinguished. The evaluation of the landscape in context of spatial classification proposed by Forman (1995) designated the ELAs as patches and the green ways as connective corridors. The ecological diversity of the semi-natural and agricultural environments defined in turn a heterogeneous pattern of the mosaic that contributes to the sustainability and conservation of biodiversity and cultural integrity. This study brought to application the influence of the ELA methodology to environmental policies.

Makhzoumi (2000) reflect on the project outcome: "A preliminary landscape master plan was developed to show how the ecological landscape planning can formulate an intermediary course of action" that balances development and environmental protection. "It strives to incorporate contemporary uses without compromising landscape integrity and long-term environmental sustainability while reinforcing the landscape character of the place"(p.176). This master plan (Fig. 17) is conceived as part of the evolutionary process of the landscape, a model representing existing site dynamics that builds on the arrangement of the identified ELAs to define landscape character zones that incorporate regulatory policies and direct future development.

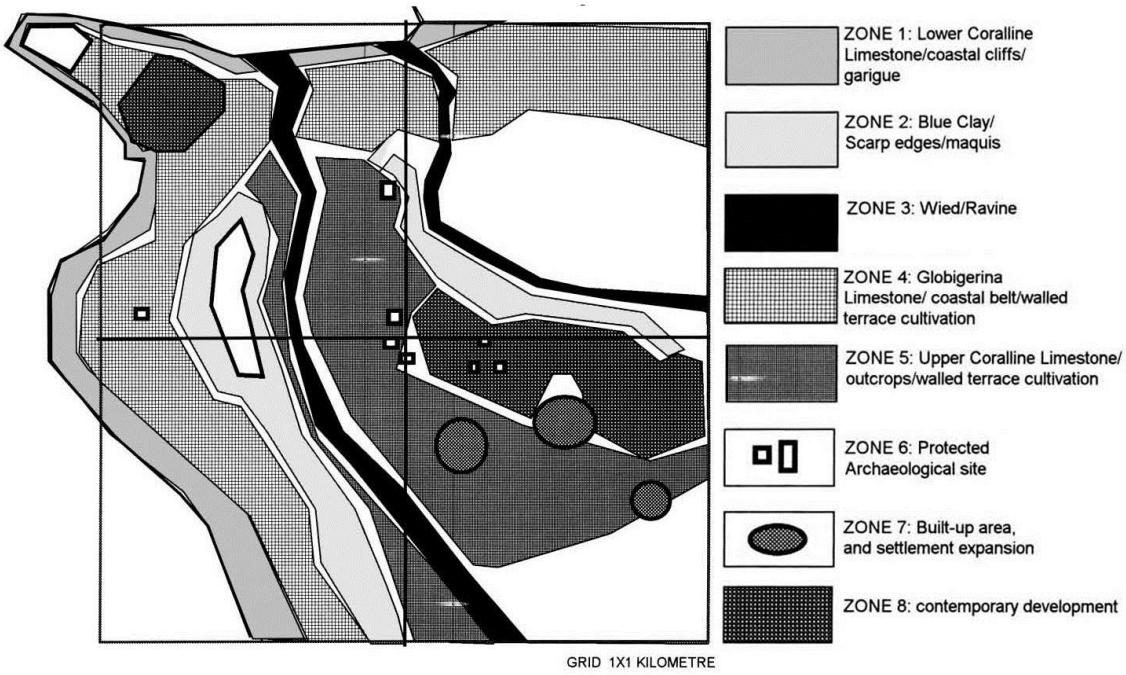


Fig. 17: The preliminary landscape master plan for the Bahrija Project (Makhzoumi, 2000, p. 176).

The key point of the Bahrija case study is the balance that the ecological landscape approach provided between environmental conservation and urban development through the spatial arrangement of the ELA. These landscape components are the spatial units of the physical master plan including interventions ranging from direct protection and conservation of the natural landscape to encouraging tourist development and urbanization to serve human needs.

The last case study is a thesis developed by Fadi Shayya (2007) tackling the case of Sawfar village part of the rural Mediterranean Lebanese mountain context. The ecological landscape planning approach was used as integrative framework for the reading of the landscape transformation and proposing a sound ecological approach that is dynamic and responsive to the rapid co-evolution of the built environment rather than the dominant modernist zoning plan (Shayya, 2007).

The thesis illustrates the application of the ELAs into the understanding of the composition of the rural landscape of Sawfar and the definition of landscape character zones. Once the landscape character zones were coupled with the exiting master plan, it transformed the static zoning strategy into dynamic and flexible tools that adapts and responds to the evolution of the town. The study concluded with guiding proposals over the identified LCZ and urban tools that ensure the application of ecologically sound developmental plans.

2. *Significance*

The three case studies are examples of the interplay of the ecological landscape planning and design approach over varying scales between regional and local contexts, in a rural or semi-natural landscapes. The case of Saida /East Wastani has a similar interplay of scales along the regional, city scale of Saida and the local scale of East Wastani. It takes into account Saida's coastal and foothill landscape in relation to the culture and social practices, dynamic real-estate market, and increasing development and urbanization. This scale-alternating research process helps understand Saida in the context of all affecting dynamics rather than scaling it down to its administrative (legal/municipal) boundaries, and thus ensures ecological landscape continuity and integrity.

The first difference between the above cases and the case of Saida/ East Wastani lies in the context; this thesis will try to apply the ecological landscape planning and design methodology over a peri-urban landscape that is in transformation from rural to urbanized setting.

The second difference is in the planning framework Shayya's thesis examined the effects of the LCZ plan over zoning master plan; however, in this thesis, the approach is going to be used as the guiding framework to direct land pooling and subdivision to influence and overcome limitations.

CHAPTER IV:

ECOLOGICAL LANDSCAPE READING OF SAIDA AND EAST WASTANI

The previous chapter presented the ecological landscape design methodology and its application in urban planning through defining Ecological Landscape Associations (ELA) and Landscape Character Zones (LCZ) that contribute to a holistic and dynamic understanding and guide development towards contextualized and sustainable alternatives. Additionally, this chapter applies the theoretical approach to the case study of the East Wastani site, in Saida.

East Wastani is currently undergoing a spatial planning exercise that is following a classical LPS project. This project has major urban, ecological and social implications on the city and its surrounding. In order to avoid the limitations and the drawbacks faced in the West Wastani 1980's LPS project, there is a need to study East Wastani from a holistic perspective that accounts for the environmental, social, cultural and urban dimensions and ensures physical and environmental integrity, as well as social well-being provided through the ecological landscape approach.

This chapter is concerned with the analysis of the case study and provides a reading of the natural, cultural and urban dimensions of Saida's landscape over two scales:

- The larger context of Saida and the region: Greater Saida (Fig. 18)
- The context of East Wastani (Fig. 19)

A. Greater Saida and East Wastani

1. *USUDS Boundary Definition*

How are the boundaries of the study defined? It is very difficult to confine the landscape to specific limits. As scenery, landscape blurs the boundaries between natural, rural and urban scales and environments. In a broader sense it transcends physical and administrative boundaries and merges the social, political, cultural and natural elements to define a specific and characteristic landscape (Makhzoumi & Pungetti, 1999; Doherty, 2011). Therefore, it is not logical to constrain the study of Saida to its administrative limits, in isolation from its regional surroundings.

The boundary definition of larger Saida in this study draws on the USUDS strategic framework, which was based on the holistic and multidisciplinary understanding of the city that adopted the ecological landscape approach to conceptualize environmental and ecological concerns in a spatial and physical manner. The USUDS stretched their study area to account for the spatial impact of Saida's urban, economic, social, natural and cultural dynamics. The extent of this impact can be defined by the perception of 'Saidawis' of their city boundaries and by "the rapidly sprawling conurbation [that] extends well beyond the municipal boundar[y]" (USUDS , 2013, p. 112). These exceed Municipal Saida limits to include the surrounding hills and villages. However, the larger administrative definition, the Union of Municipalities of Saida and Zahrani (UoM) (16 municipalities), does not correspond to the spatial impact of the dynamics stated above. Therefore, the USUDS proposed the term 'Greater Saida' as an intermediate scale between the UoM and the Municipality of Saida. Greater Saida includes Saida's agglomeration in a total of 12 municipalities including the city and its adjacent eastern hills (Fig. 18).

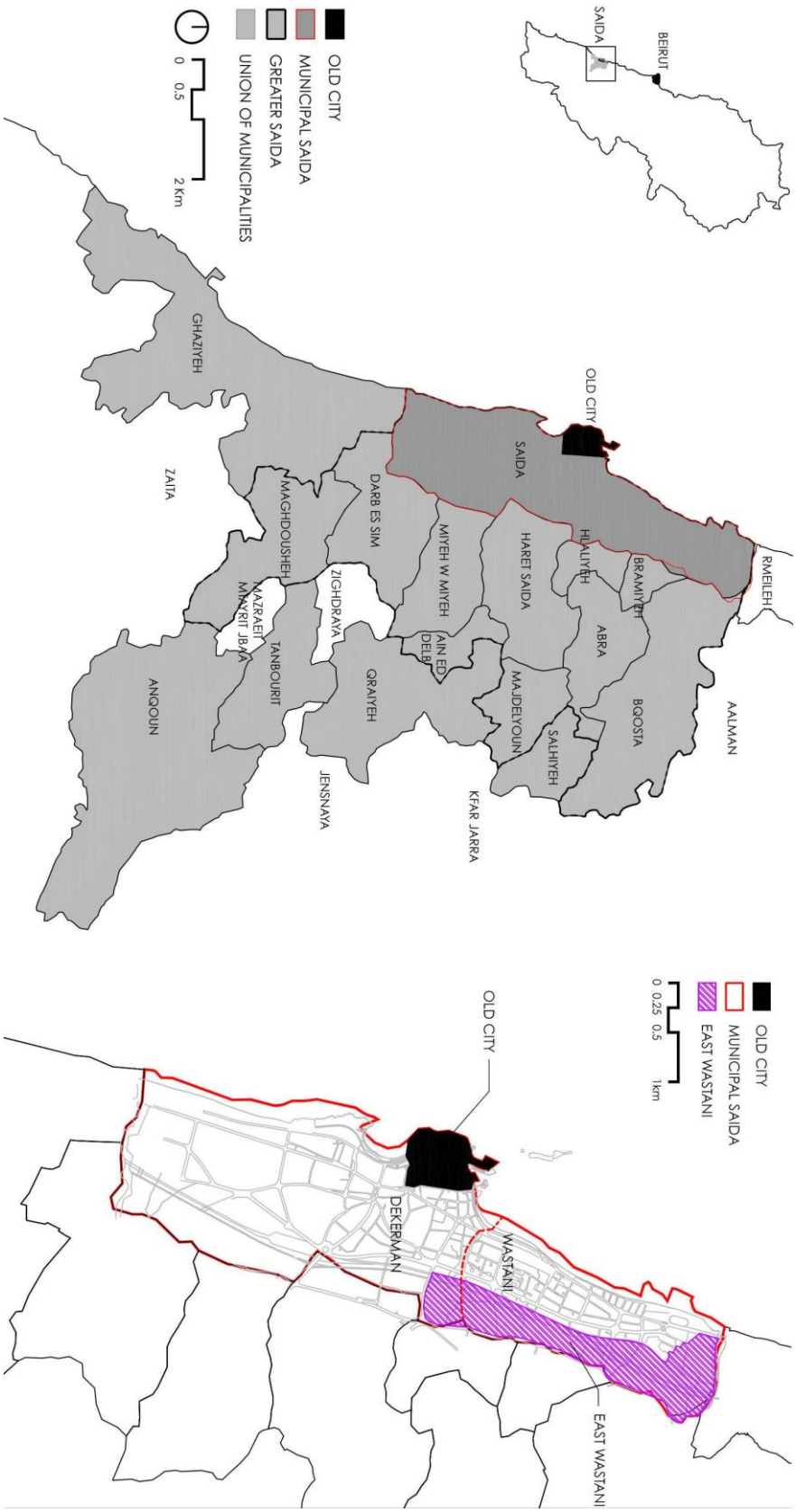


Fig. 18:Map of Union of Municipalities of Saida and Zahrani, Greater Saida, Municipal Saida

East Wastani limits are defined roughly by the LPS project as the zone bounded by the Awali River to the North, the Jezzine Road to the South, the rail way to the West and the Sultaniyeh road to the East (Fig. 19).

For the purpose of this thesis the analysis will cover Greater Saida based on the USUDS reports to have an understanding of the context, while the main focus of this research is going to be on East Wastani. This reading is done in five layers: (1) The geomorphological (abiotic and biotic) components; (2) the climatic and hydrological factors; (3) the vegetative cover, both natural and agricultural; (4) the urban landscape; and lastly (5) the socio-political and economic dynamics governing the urban and agricultural landscapes in Saida and the region.

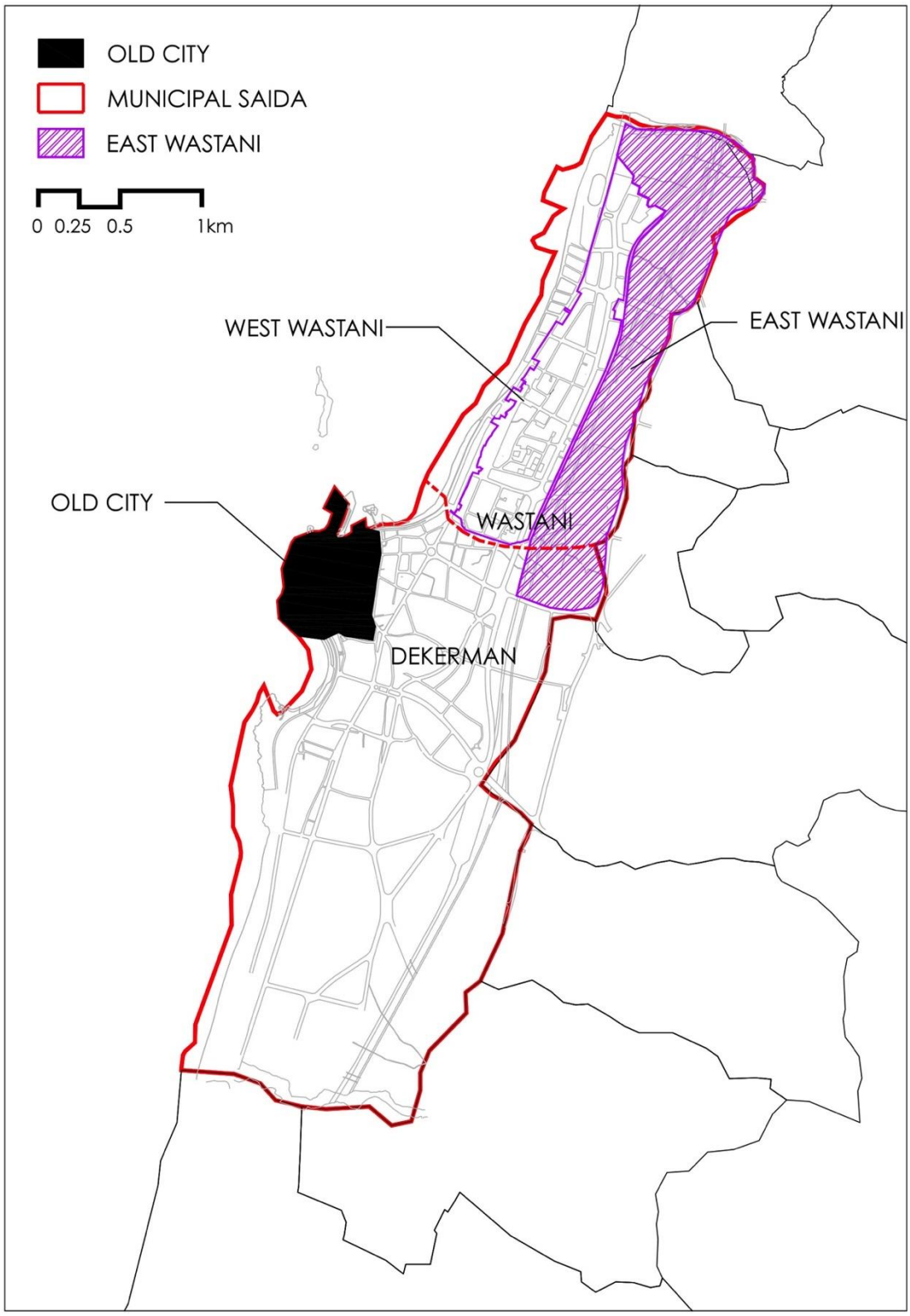


Fig. 19: Map of Saida in its Administrative Context

2. *Geomorphology*

Saida is still preserving its Mediterranean landscape character of scrubland and coastal orchards in its foothills and hinterland. This character distinguishes Saida from the rest of the coastal cities (i.e Beirut). Saida is characterized by a panorama that transits gradually from the Mediterranean Bleu Sea to the coastal plain, the green agricultural hinterland, and the hills (Fig. 20). The rural landscape that historically dominated this panorama and surrounded the old city is still present around the urban agglomeration of Saida, although it is shrinking and degrading.

Fig. 20: Panorama of Saida from the sea, 2012-2013

a. Topography and Geomorphology

The foothills, valleys and ravine corridors are the defining features of Greater Saida's landscape. The foothills of the Mount Lebanon run parallel to the coastline increasing in elevation from the sea eastwards delineating the landscape of the plain. The proximity of the mountains to the sea leaves a narrow elongated coastal plain of 1 to 1.5 km by 7km long defining municipal Saida (745 hectares) and a maximum elevation of 30m.a.s.l.. It then elevates into a series of foothills that reach 300m.a.sl. (Fig. 21).

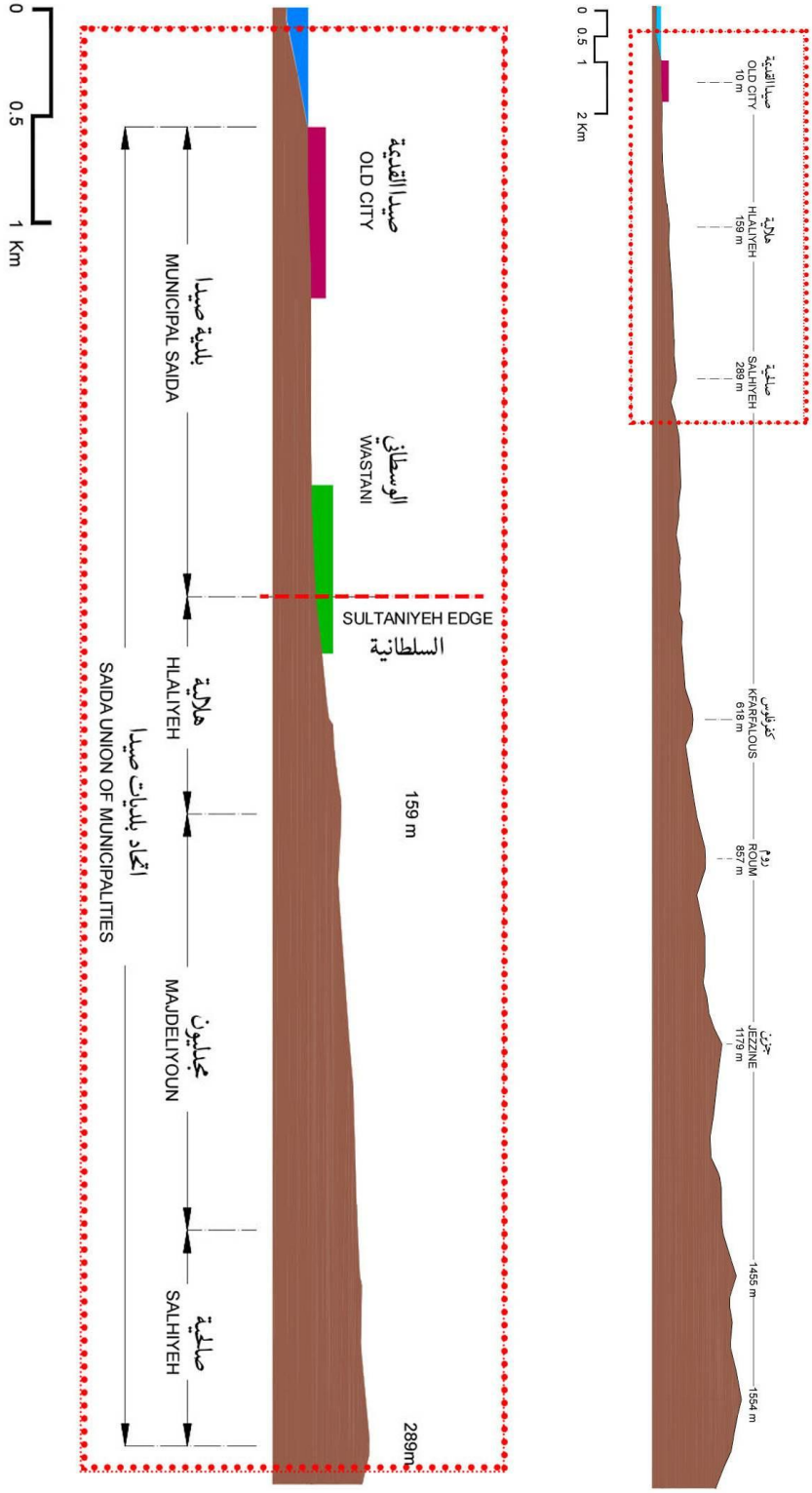


Fig. 21: East-West Transect of Saida region highlighting the gradual descent of Mount Lebanon from Jezzine Peak to foothills, the narrow coastal Plain to the Sea. (Based on USUDS , 2013)

Saida Municipality is delineated to the West by the Mediterranean Sea, the foothills to the East, the Awali River (نهر الاولي) to the North and the Sayniq River (نهر سينيق) to the South. The old city sits on a cuspate foreland[9] in the middle of the elongated coastal plain. In addition to Awali and Sayniq rivers, four seasonal streams have carved their course in the Western Mount Lebanon foothills, in an east west direction, demarcating a series of valleys and hilly peaks (Fig. 22, Fig. 23). These peaks are as follows, starting from the North:

- Sharhabil (شرحبيل) / Bqosta (140 m.a.s.l.)
- Bramieh (برامية) (83 m.a.s.l.)
- Hilalieh (هلالية) (100 m.a.s.l.)
- Abra (عبرا)
- Mar Elias (مارالياس) at Mieh w Mieh (مية و مية)(150 m.a.s.l.)
- Sirob (سيروب)/Darb-es-Sim (درب السيم) (170 m.a.s.l.)

Fig. 22: View towards the South Eastern Foothills Showing the plain of agricultural fields bounded by (right to left) Maghdusheh, Darb-es-Sim, Mieh w Mieh, Majdelioun; peaks. (USUDS , 2013, p. 45)

9 "Cuspate forelands, are geographical features found on coastlines that are created primarily by long shore drift, and that extend outwards from the shoreline in a triangular shape." (Source: Craig-Smith, S. J., Cuspate Forelands. In: M. L. Schwartz, ed. 2005. Encyclopedia of Coastal Science)

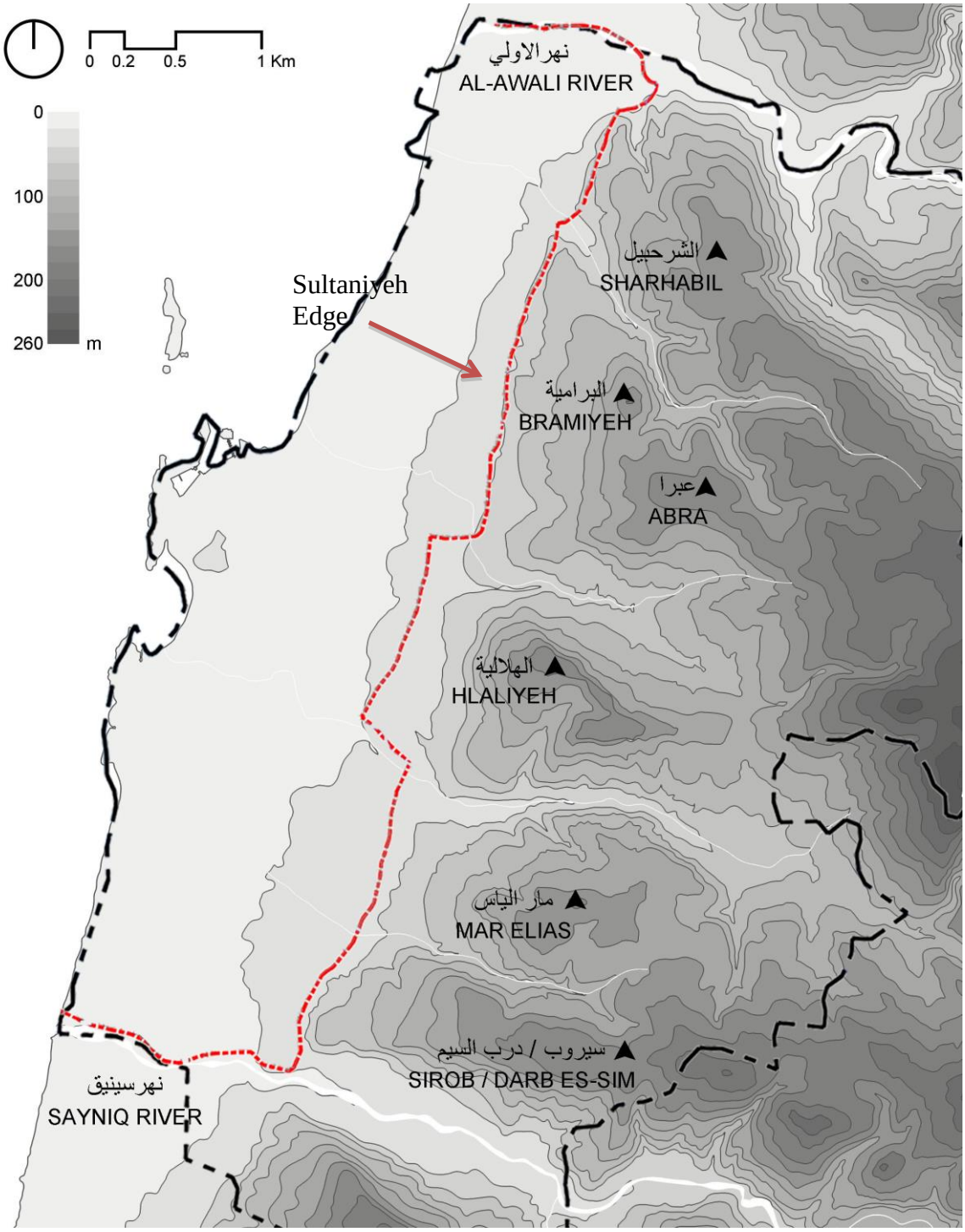


Fig. 23: Topographic heterogeneity that characterizes the natural landscape of Saida (Based on the USUSD, 2013)

The Sultaniyeh road/axis is the geomorphological edge that has historically impacted the natural and cultural components:

- It demarcates the abrupt change in topography between the coastal plain and the foothills; it is the edge separating a slope dropping from more 20% (at Bramiyeh) to 8% on the coastal plain. (European Digital archives on Soil Maps of the Saida. (2014)).
- It demarcates the Khasikieh main canal, as it is the highest topographical point from which water is distributed to the agricultural plains of Saida through a secondary network.
- It separates geological layers and soil types (Fig. 25).
- It is a historical boundary that separated the city from its necropolises during ancient times[10], as well as formed the administrative boundary between the Ottoman state from the "Moutasarifiyat Jabal Loubnan" (متصرفيّة جبل لبنان) and today between Municipality of Saida and other municipalities.

East Wastani is located North of Saida, at the lower end of the foothills, delimited to the East by the Sultaniyeh road and to the west by the railroad, according to the LPS project. The topography slopes down at an average of 6% from Sultaniyeh road to the railway and is remarkably steep at an offset of 50 m from its eastern boundary, primarily in the North (Fig. 24).

10 Phoenician and Roman necropolis where found at its proximity.

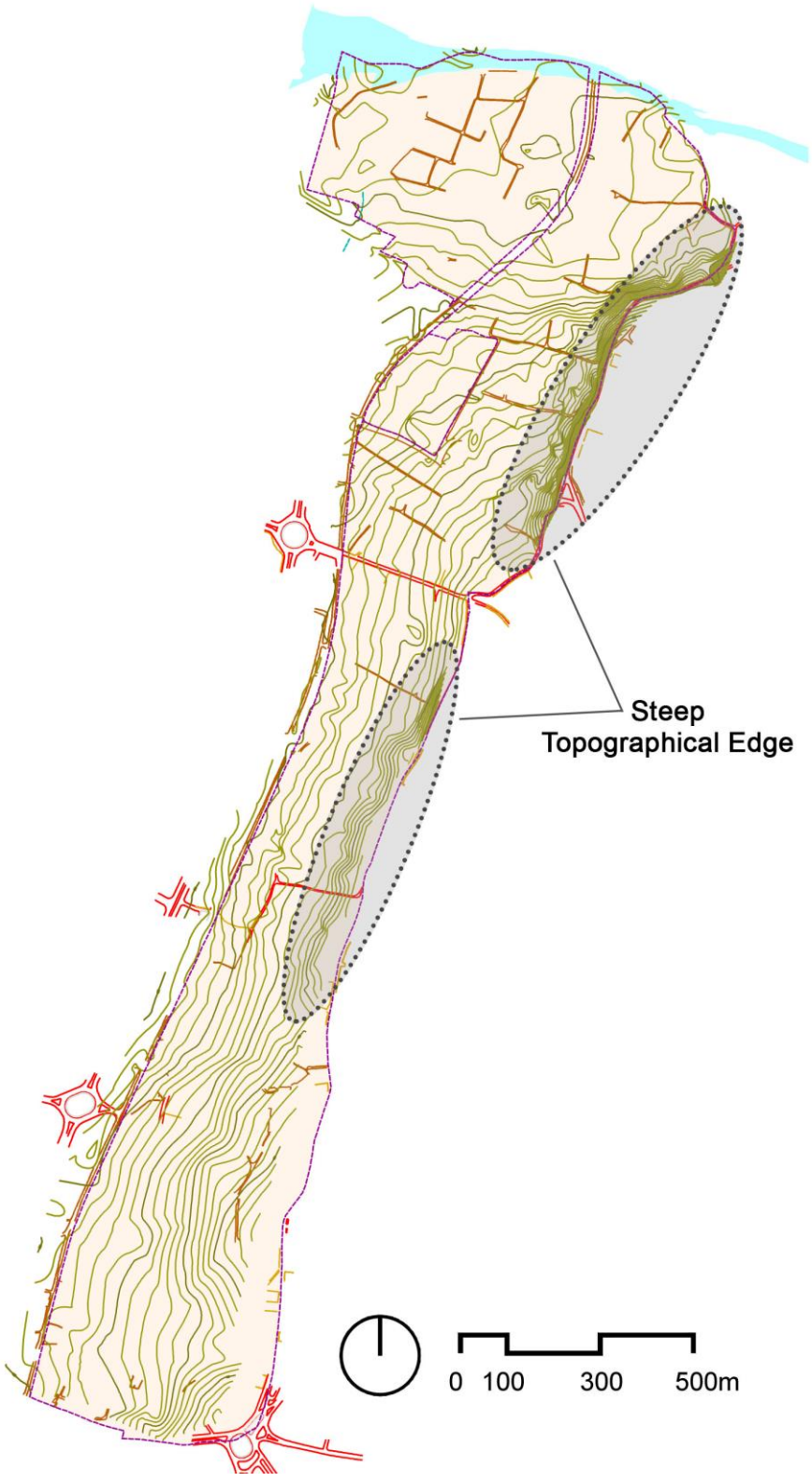


Fig. 24: West Wastani Topography. (Based on BTUTP survey, 2014)

b. Geological Formations and Soils

The large diversity of the Lebanese geological formations, the rough topography and the fluctuating climate are the basis for the formation of a variety of soil types characteristic of the Lebanese landscape (Darwish & Khawlie, 2006). The soil diversity allows for a variety of plant cultivation and land covers forming distinct ecological units. The geological formations of Saida and the region (Fig. 25) can be defined according to the following topographical components: The coastal plain and the foothills:

i. The Coastal Plain:

The coastal plain belongs to the quaternary geological formation characterized by sedimentary calcareous brown soil specific to the coastline stretching from the Ras Sakr to Ras Tapline (El Moujabber & Bou Samra, 2002) (Fig. 26) and deposits of brown or gray mostly clay loamy soils. On the plain, the alluvial-colluvial soil is found to be fertile and ideal for the cultivation of subtropical plants such as citrus, banana and loquat. (Fig. 25,Fig. 26)

ii. The Foothills

The foothills geological formation is divided into two:

- Abra, Bramieh, Hilalieh, Haret Saida, part of Bqosta and Maghdusheh belong to the Eocene period having a calcareous-marl gray brown soil type. Patches of Calcaro- Hortic Anthrosols are found in Bramieh and Hilalieh; this type is developed

through a modification of the Calcaric Fluvisol (characteristic of the area) by deep cultivation and manure use thus indicating long-term agricultural practice[11].

- Mieh w Mieh, Majdelioun, and a stretch of Bqosta belong to the Senonian period while Darb-es-Sim, belongs to the Miocene formation. The soil type for both formations is white marls or clay limestone (particular type for Lebanon "gres du Liban") composed of a mix of Calcaric Leptosols, Calcaric Regosols, Calcaric Cambisols, Humi-Eutric Cambisols and Calcaro- Hortic Anthrosols, that is favorable for the Mediterranean plants tolerant of calcium carbonate such as olive.

East Wastani is part of the coastal plain geomorphology belonging to the quaternary geological formation. It is composed of Eutric Arenosols constituted of deposits of brown or gray mostly clay loamy soils. However, the Sultaniyeh edge is composed of a layer of Rendzic Leprosols that separates Wastani from the adjacent hills of Bramieh, composed of Calcaric Fluvisols, and from Bqosta and Abra, composed of Calcaro-Hortic Anthrosols (Fig. 25) (Darwish & Khawlie, 2006).

11 FAO, World Reference Base for Soil Resource

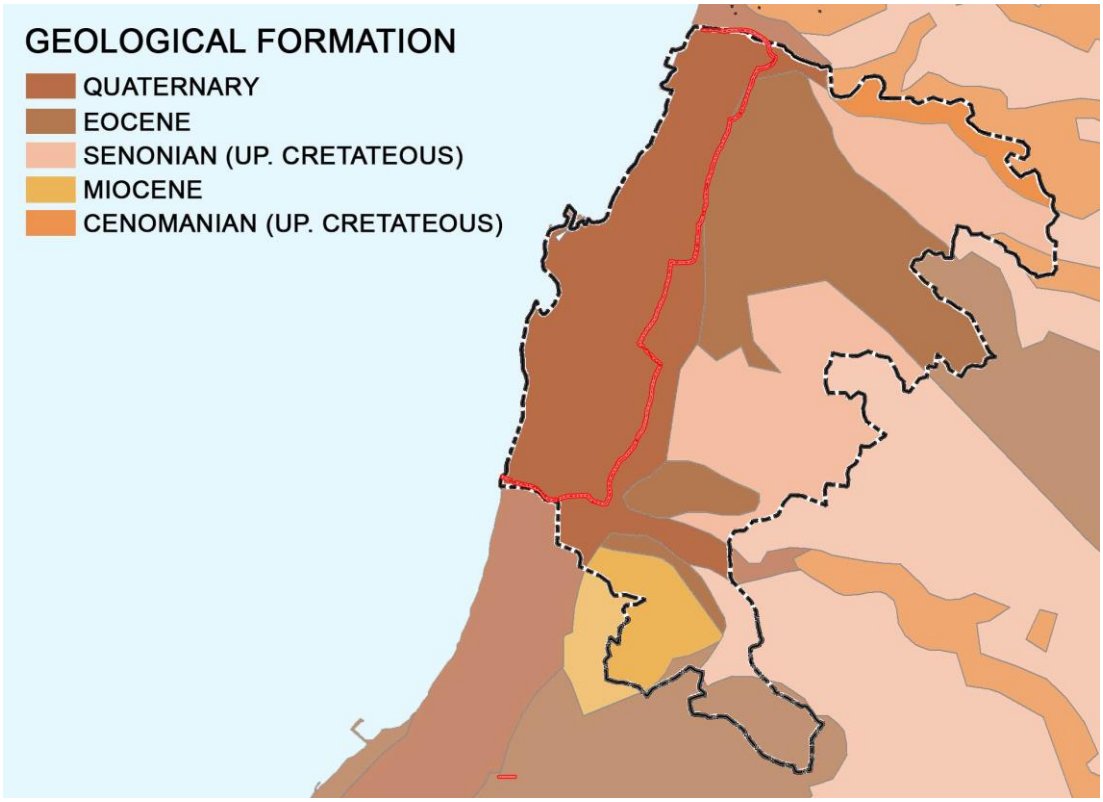


Fig. 25: Greater Saida Geological Formation. (Based on Lebanese Master plan GIS Information, 2009)

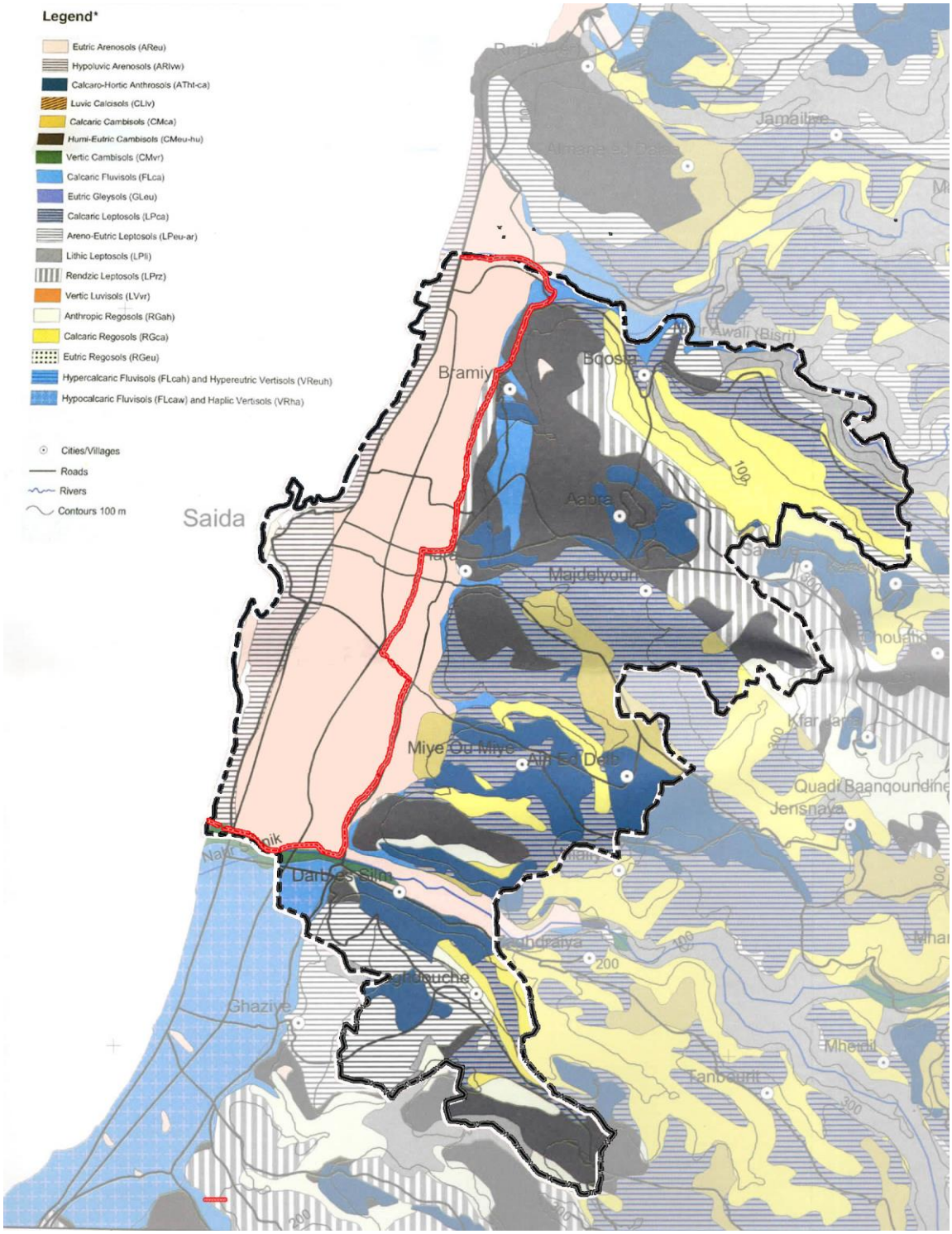


Fig. 26: Greater Saida soil map, (Darwish & Khawlie, 2006).

iii. Marine / Coastal Landscape

Geologically, the shore of Saida is divided between sandy and rocky beaches. Three zones can be identified (El Moujabber & Bou Samra, 2002):

(i) Sandy Beach from Awali River to the Sea castle, a continuation of the coastal beach that starts in Rmeily

(ii) Cohesive sandy rocks from the area of the ancient harbor (current port location), with Ziyreh Island, and Alexander Bay down to Jal Ajram (جل عجرم);

(iii) Sandy beach from Jal Ajram down to Tyr.

The narrow continental shelf of the Lebanese coast gives the sandy shore relatively shallow waters (between 7 to 10m depth) at a distance of 500m from the shoreline. A sudden drop in depth occurs at the rocky side, a morphological feature favored the use of this zone as a natural rocky harbor and made it one of the oldest ports in the Levant (Fig. 27).

Ziyreh Island (جزيرة الزيري) is a geomorphological icon of Saida that served as a natural anchorage for large boats whereby the sea depth in this location exceeds 10m. It was used to unload cargo during Ottoman times and is until today is an important cultural and recreational space for the city.

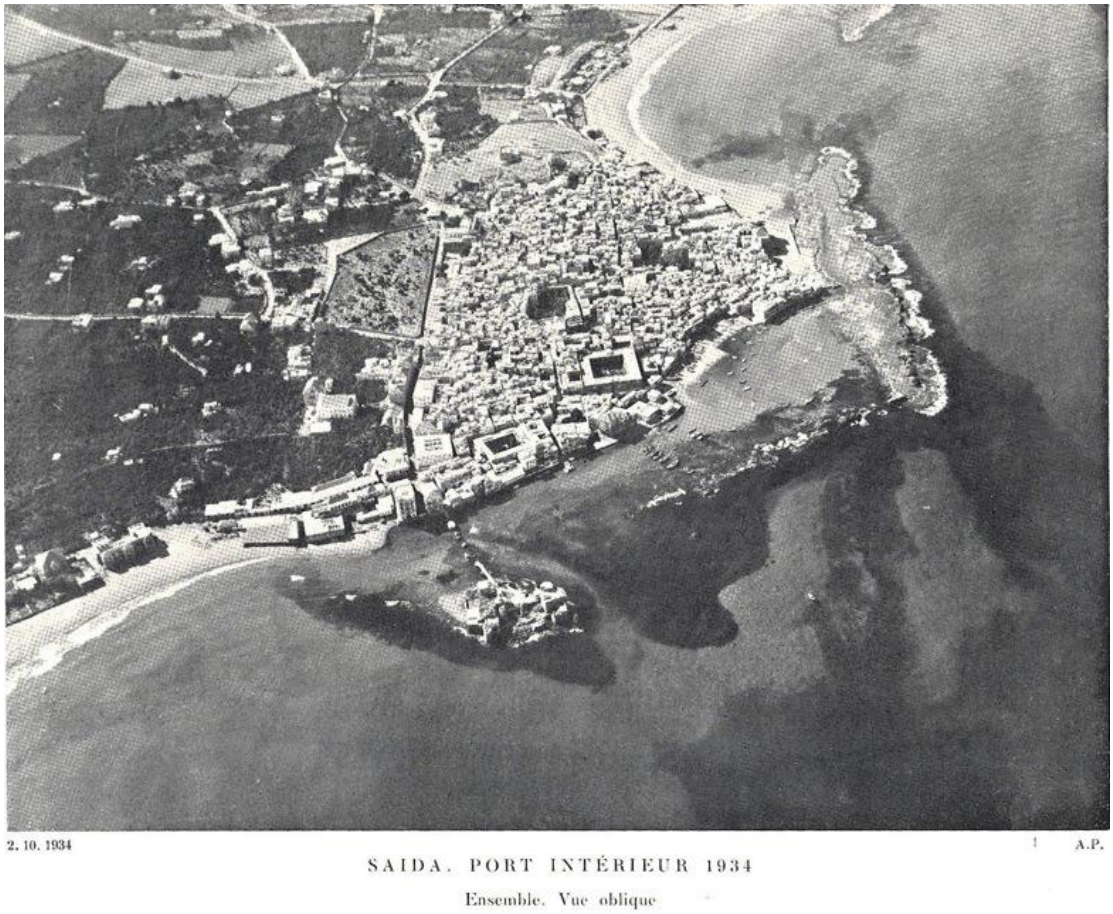


Fig. 27: 1934 Aerial photo of the port of Saida, (Poidebard & J., 1951)

However, since the 1950's, the coast has been subjected to major morphological transformations: expansion of the Saida port; establishment of the Maritime Boulevard eating up parts of the sandy beach; landfill replacing the garbage dump; and the construction a wave break/new port at the Alexander Bay.

Accordingly, the shoreline can be classified in four categories following use and morphology: (a) streams and river estuaries, (b) the sandy beach, (c) the corniche, and (d) the industrial edge including the port and the dump area.

To summarize, the key components of geomorphology include:

- The topographical and geological components of the region resulted in four distinct geomorphological units in the landscape of Greater Saida: the Beach (sandy and rocky), the coastal plain, the riverbeds and the foothills whereby East Wastani lays within the coastal plain, edging the foothills and including riverbeds.
- The Sultaniyeh is clearly defined as morphological edge that separates different geological and topographical features of the sites.
- Visual continuity from the hills to the sea and vice versa showing the landscape morphology of the city.

3. *Climate and Hydrology*

a. Climate

Greater Saida region belongs to the coastal central Mediterranean humid eco-climatic zone, that is considered a moderate climate characterized by a rainy season of 4 to 6 months from October to March/April and an average minimum temperature of 9° C in January (Fig. 28) and an annual rainfall of 600 to 700 mm (Darwish & Khawlie, 2006, p. 279) (Fig. 29). The dry season ranges 5 to 6 months accompanied by a high levels of humidity from May to September and an average maximum of 31°C in August. This period is known for a high evapotranspiration rates and requires frequent irrigation.

Winds in the coastal area are predominantly southwesterly bringing humid air masses in summer and rainfall in winter; and in winter northerly winds bring cool dry breeze with an average speed of 3 to 5 m/sec. The morphology of the coast plays an important role in the climate of the region as the proximity of the hilly landscape to the

sea traps humidity in the coastal plain and condenses it into fog during fall on the foothills. The humidity rate ranges from an average of 66 % in winter to 75 % in the summer.

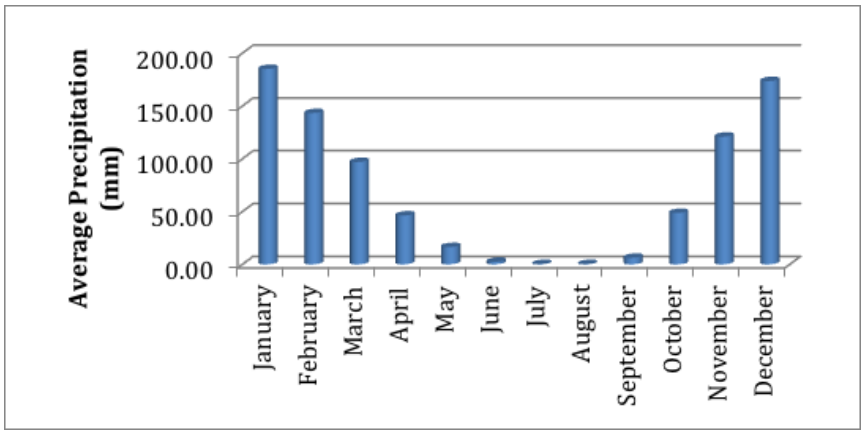


Fig. 28: Average Precipitation distribution along the year (USUDS, 2013, p. 27)

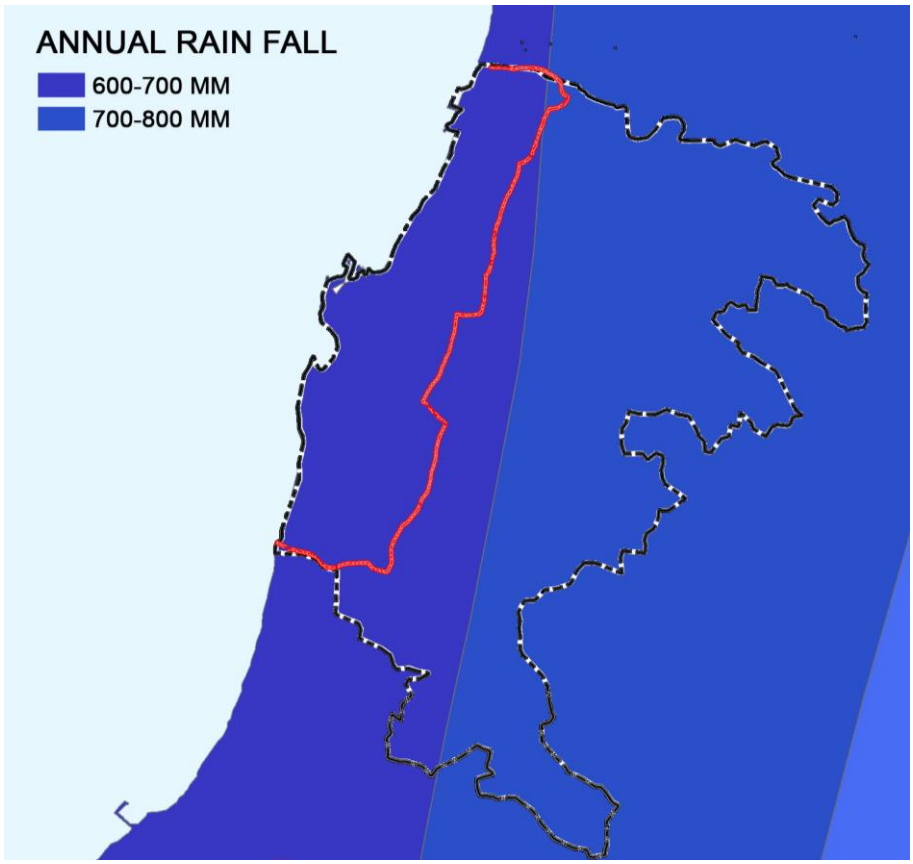


Fig. 29: Greater Saida annual rainfall distribution (Based on Lebanese Master plan GIS Information, 2009)

b. Hydrology

i. Rivers and Streams

"Saida is sitting on a lake" as old Saidawis say when asked about hydrology and water in the city. The city is abundant in water sources found on the coastal plain as well as in the sea and traversed by many rivers and streams. The city stretches between two watershed basins, the Bisri-Awali (بيسري الاولي) to the north and Sayniq (سينيق) to the south, 48 km and 20 km long respectively (USUDS , 2013). The two rivers of Al-Awali and Sayniq form the natural boundaries that bind the municipality of Saida respectively from North and South and they are considered important ecological corridors.

In addition, the four seasonal streams that demarcate the coastal plain and the region are filled to the brim with torrential rains during winter and spring and dry in summer. They cross the rural /urban interface transversally from East to West. Most of the six watercourses spring in the foothills of the Western Lebanese Mountain Chain beyond the eastern boundaries of Greater Saida (Fig. 30). From the north to the south, Abou Ghayyath, Al-Qamleh, Al-Barghouth, 'Ain Al-Zaytoun are part of the collective memory of the city: many recreational activities were directly associated with a stream or a river.

The six waterways made agricultural cultivation possible in the plain as they used to irrigate the fields and fulfill the inhabitants' needs of water. However, today they have ceased to serve as such due to stream water pollution and scarcity.

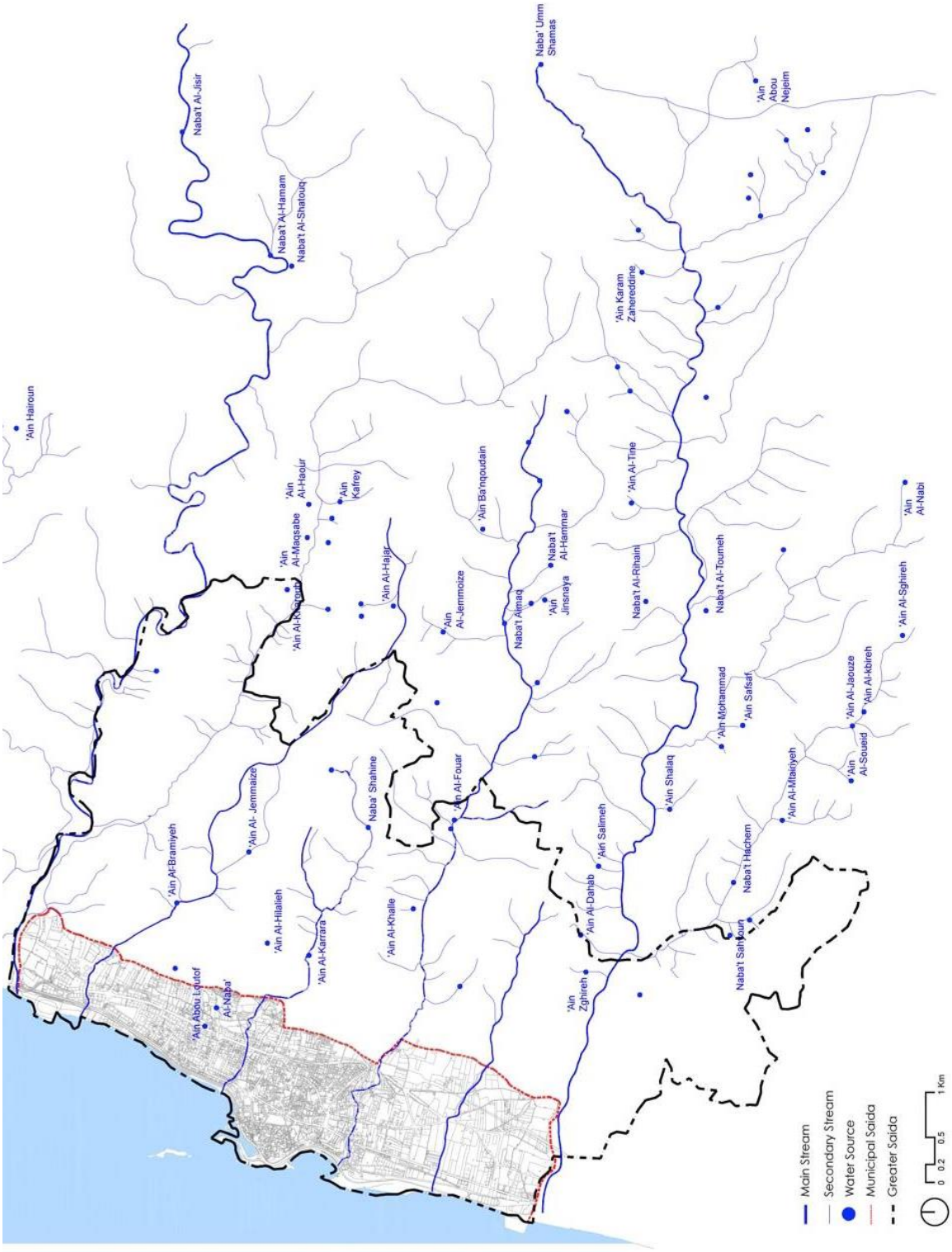


Fig. 30: Greater Saida River to Source Map (Based on USUDS, 2013)

The Area of East Wastani, falls within the Bisri/Al-Awali watershed and embraces the Awali River, Abou Ghayyath and Al- Qamleh streams that define the project boundaries and its landscape character.

- **Al-Awali** originates from Barouk (الباروك) at 1,921 m.a.s.l. as the Barouk River, which converges with the Jezzine River to form the Awali with an average flow of 320 Mm^3. The flow deposits a fine alluvial soil of Marj Bisri (مرج بيسري) covering an area of approximately 295 km^2. The Awali River discharges in the Mediterranean Sea at Ras el Jauniyeh (رأس الجونية)

- **Abou Ghayyath** flows at a rate of 0.58 Mm^3 annually through Wadi Baykat coming from Abra. It covers a catchment area of 4.78 km^2. The land use of the surrounding landscape is as follows: 45% of grassland or abandoned fields, 41% agricultural land, 12% urban areas and about 2% beach.

- **Al-Qamleh** (القملة) flows from Wadi al Qamleh at a rate of 0.58Mm^3 annually, and has drainage area of about 5.2 km^2. Its watershed is characterized with agricultural landuse that is rapidly changing into an urban use. It has two main sources in Majdelioun: the first is in Wadi Qrayeh and the second is Wadi Mashrah.

Currently both Abou Ghayyath and Al-Qamleh are perceived as liabilities for the city of Saida. Sewage is being discharged into the watercourses; inappropriate sizes of inlets and outlets at points of intersection with roads are leading to constant flooding and damage during storms and encroachment is occurring on stream beds. All the stated factors and mismanagement of water resources are leading the municipality to take engineering solutions of channeling the streams in underground culverts rather than addressing the cause of the flooding.

ii. Springs

The plain of Saida and its surrounding hills are rich in water springs, and this richness is manifested by many names and suffixes of places and families associated with them: “el Nabaa” “النبعة”, “ Ain Abou Loutof” “عين ابو لوطف”, “el Sabeaa A’aayoun” “السبع اعين”. The springs are sources of streams, irrigation and drinking water. Ain el Helwi “عين الحلوة” is an example of one source of potable drinking water in Saida; water is pumped and stored in reservoirs on hilltops before being distributed to the city. The reservoir of Mar Elias is another example.

iii. Groundwaters

The major aquifer belongs to the Cenomanian geological formation that is overlain by an argillaceous rocks characterizing the aquifer with relatively shallow waters that do not exceed 150 m in depth and with a yield of 0.25m^3/sec (Darwish & Khawlie, 2006, p. 310). Extensive wells are dug in this area and are mostly used to support irrigation. The increase on water demand for irrigation and drinking water has led to overexploitation of ground waters. This pattern is negatively impacting the shallow aquifer causing decrease in the water table level, drought of springs, seawater intrusion and salination.

iv. Irrigation systems

Two irrigation systems have historically served Saida: “Qanat Al-Khasikieh ” (قناة الخاسقية), a canal system in Wastani, and the system of “Nawa”eer” (نواعير) (water mills and wells) in Dekerman.

At the eastern edge of East Wastani lies “Qanat Al-Khasikieh” (Fig. 31), a Roman system of canals and open irrigation network that was developed to irrigate the orchards by withdrawal of water from the Awali River at 4km East of the coastline at 50m.a.s.l.. It is an irrigation system of aqueducts and canals “qanwat jar” (قنوات جر) that used the force of gravity to distribute water from the primary canal, oriented North-South, at main distribution points referred to as “maksar” (مكسر) to secondary open irrigation furrows oriented East-West. This system was joined with a series of pools built out of sandstone to store water. Qanat Al-Khasikieh is a city cultural heritage feature that was named after the wife of Emir Fakhereddine, Khasikieh, who ordered its renovation in the 17th century[12]. With 7 maksars located along the Sultaniyeh road, Al-Khasikieh water was distributed to irrigate the plains of Saida from Al-Awali to Barghouth, while an elevated aqueduct “Al-qanat al rafi’a” brought water to the old city. This irrigation system is a traditional way of directing and using river and stream water in a sustainable irrigation network of canals.

Many cultural practices are associated with equitable distribution of water to agricultural orchards. The distribution of the water, determined according to the orchard size and irrigation needs, was entrusted to a ‘water guard’ or “Al quanawati” (القنواتي). The latter was appointed by the orchard owners to ensure equitable and efficient use of water resources and collected his yearly fees “from all landowners benefiting from the Khasikieh waters” as Jabri (2012) articulated (USUDS , 2013). This practice has proved successful over time; it is environmentally sustainable and socially just.

12 Historian Talal Majzoub, interview, by Jabri,L. March 9, 2012 in USUDS, 2013.

Unfortunately, today Al-Khasikieh is only functional in small sections North of Saida. The system is being jeopardized, major parts of the network have been destroyed, and sewage is directed to the dysfunctional parts. Al-Khasikieh is a very important cultural heritage element of the city that needs to be preserved.

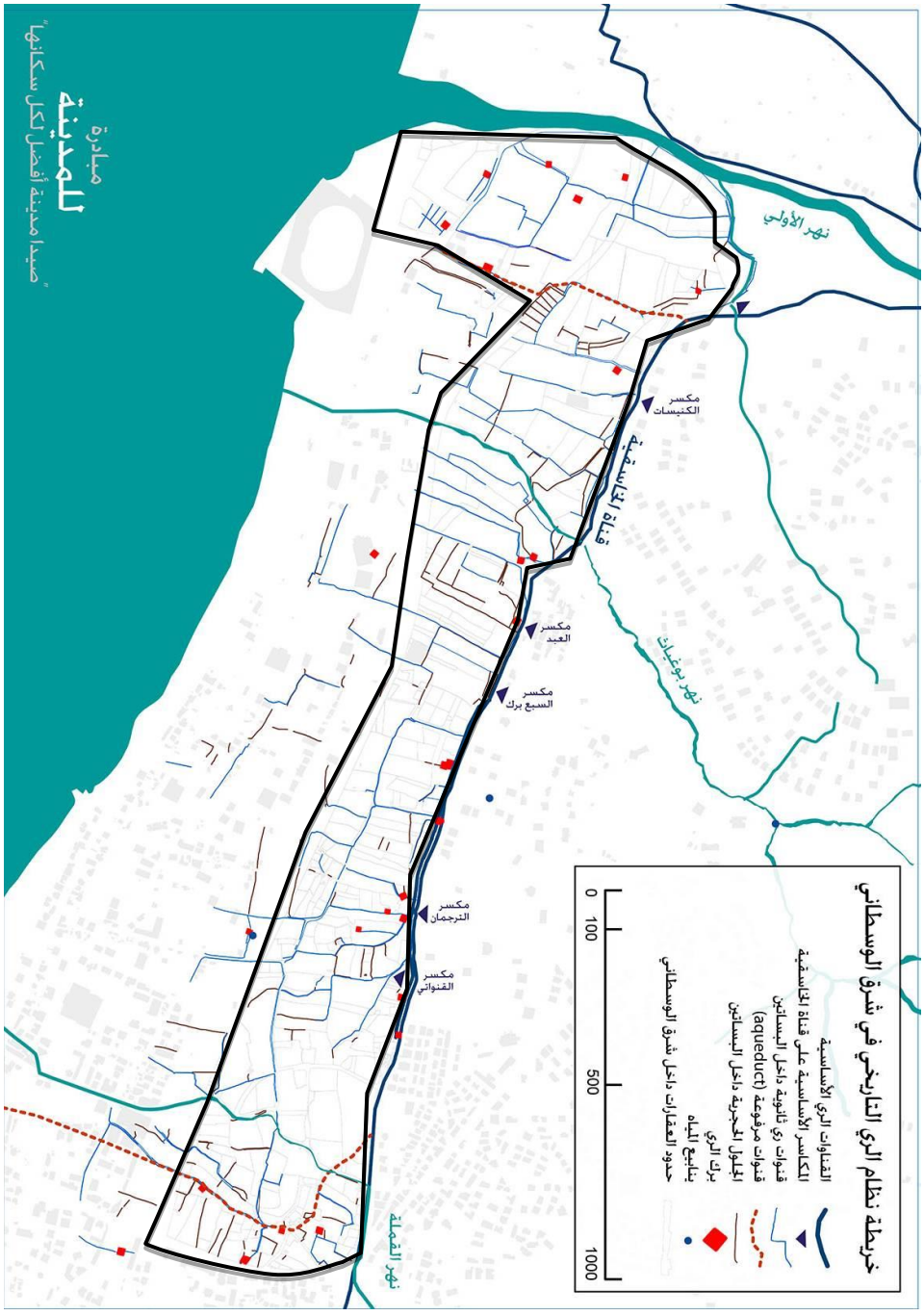


Fig. 31: East Wastani Irrigation Systems (Lil Madina, 2014)

In conclusion, the listed natural and cultural hydrological features are major assets and elements of identity for the city of Saida. Their potentials as green corridors of scale form important recreational and environmental spaces that enhance the quality of living in Saida and its urbanized peripheries. However, they are suffering from the following environmental problems:

- Water shortage, ground-waters excessive withdrawal, seawater intrusion, salination and pollution of aquifers caused by the increased dependency of people on wells for water supply.
- Pollution of rivers and streams due to discharge of effluent and sewage, encroachment and canalization of streams destroying the spatial integrity and the healthy riparian ecosystem.
- Impermeability of the urban land cover increasing stream water runoff causing flooding, physical damage and at the same time wasted resources.

4. *Vegetative Cover*

The previous section presented the different natural components of Saida's ecosystem that in turn allowed for a variety of vegetative cover both natural and agricultural. The natural cover includes the maquis scrubland, in the hills and on all non-built lots, and the riparian plants, while the agricultural landscape includes the orchards on the coastal plain and olive cultivar spreading in terraces over foothills.

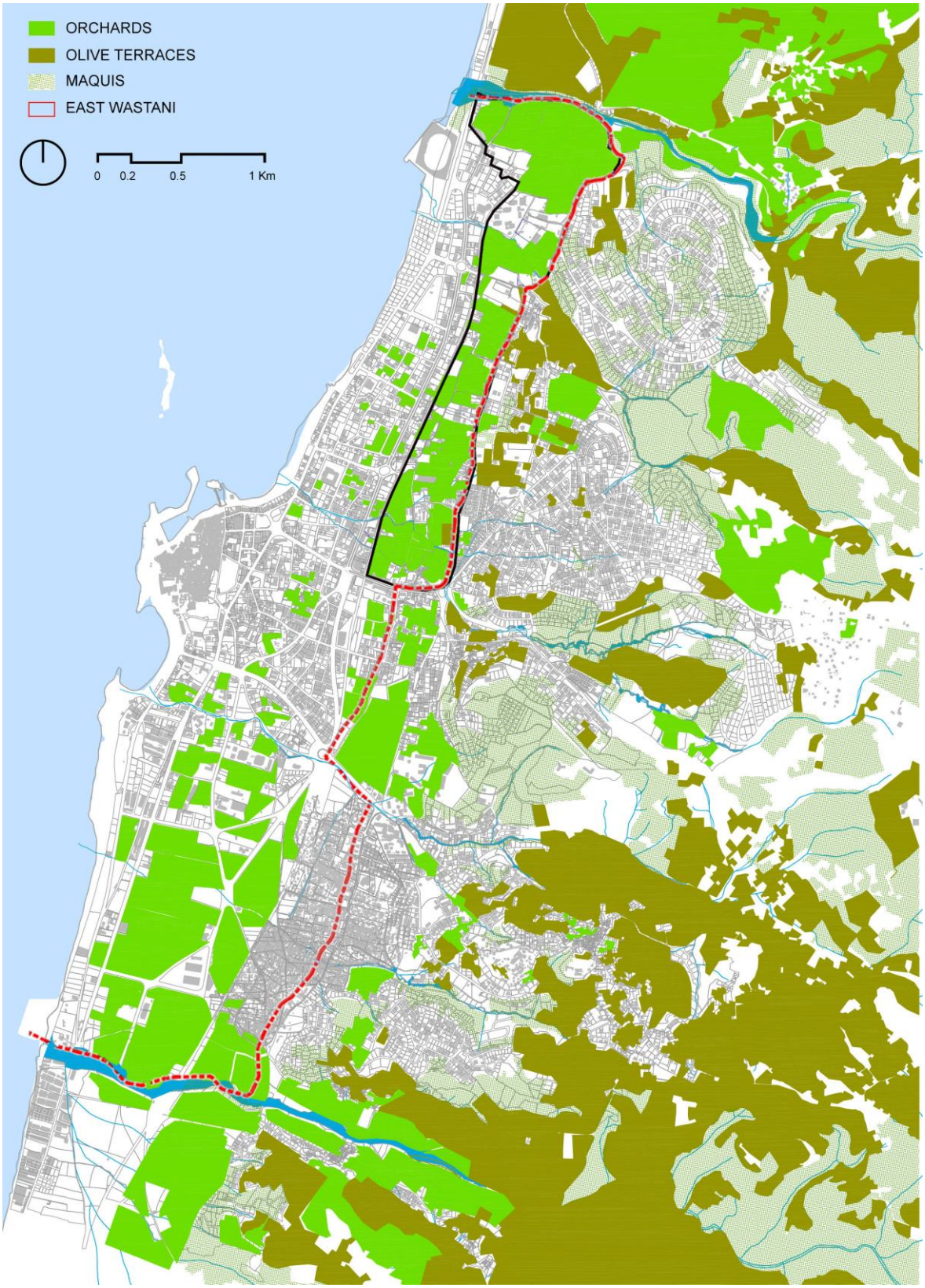


Fig. 32: Distribution of natural and agricultural vegetative cover within Greater Saida (Based on Aerial photo, Municipality of Saida, 2013)

a. The Maquis

This category of vegetal green cover is mostly specific to Greater Saida region and it designates the remained natural Mediterranean landscape. The maquis, majorly significant on the coastal foothills, is formed of a mix of Crab-Lentisk scrubland and evergreen oak woodlands (Asmar, 2011). These landscapes are diverse in the vegetative cover composed of mainly of herbaceous shrubs (*Rhamnus alaternus, Calicotome villosa, Poterium spinosum*, *Myrthus communis, Rhus tripartite*, and *Pistacia lentiscus)* and perennials (*Salvia officinalis, Inula viscosa, chrysanthemum spp., Thymus vulgaris* and *Ammi majus*) and the following tree species: *Ficus carica, Ceratonia siliqua, Pistacia palestina, and Quercus calliprinos.* This green cover is essential as it protects soils from erosion and constitutes habitat for insects and birds as well as a bank for Mediterranean medicinal and edible plants. However, the maquis is being degraded due to human interventions.

As for the riparian vegetative cover, it is visual indicative of rivers and streams ecology. The vegetative cover is mostly significant for Al-Awali and Sayniq Rivers as they are preserving to an extent their natural and ecological integrity compared to the smaller stream whose ecosystems are severely altered. Al- Awali corridor is visually defined by Eucalyptus trees, *Plantanus Orientalis,* and *Morus alba,* while the herbaceous cover of *Arondo donax, polygonum salicifolium, nasturtium officinale* demarcates all watercourses. (Fig. 33)

Fig. 33: Eucalyptus and Platanous trees on the Awali (left) and the riparian herbaceous cover of Al-Qamleh stream (right)

b. Fruit Orchards (the Coastal Plain of Saida)

The lush orchards surrounding the walled city of Saida have always been the symbol that characterized the city in the journals of travelers since the fourteenth century. According to Al-Zain (1913) “Visiting Saida from Akka, the Moroccan explorer Ibn Batutah identifies Saida as a pleasant coastal city with expansive orchards and vineyards rich with the production of olive oil which are exported to Egypt.” (USUDS , 2013) (Fig. 34).

اهمّ صادرات صيداء سنة ١٩٠٧

شرانق	١٠٠٫٠٠٠	كيلو الى لبنان
〃	١٦٠٫٠٠٠	〃 بطريق صيدا
تين يابس	٧٥٫٠٠٠	〃 الى الاسكندرية
زيت	٥٠٫٠٠٠	〃 〃 〃
زيتون	٢٥٫٠٠٠	〃 〃 〃
زبيب	١٢٫٠٠٠	〃 〃 〃
ماءزهر	٤٫٠٠٠	〃 الى سورية ومصر والاستانة
انكدونيا	٢٫٥٠٠	سحارة الى بيروت والشام الخ
دخان « تبغ »	٧٨٫٠٠٠	اقة من صيدا وصور الى القطر المصري
رمان	٩٠٠	قنطار الى بيروت والشام والقطر المصري
موز ارسل منه الى بيروت ولبنان ماقيمته	٣٫٤٠٠	ليرة
بيض	٦٠٠٫٠٠٠	بيضة الى الاسكندرية
〃	٧٠٠٫٠٠٠	بيضة من قضاء صيدا وبواسطتها الى بيروت
دجاج	١٢٠٫٠٠٠	طير من صيدا
برتقال وحامض	١٨٫٠٠٠	حبة يومياً في وقت الموسم الى بيروت ولبنان وسورية
برتقال وحامض	٥٠٫٠٠٠	صندوق الى الاستانة وروسية وانكلترة
سمسم	٢٫٠٠٠	اقه الى مصر وعليه طلب كبير من اوروبة
جلود مهيأة	٢٥٠	ربطة الى بيروت وقبرص

Fig. 34: Document listing agricultural production in Saida in 1907(USUDS, 2013, p.52)

The six waterways that irrigated the coastal plains of Saida complemented by the qanat irrigation system and the fertile sedimentary clay loamy soil made agriculture cultivation diverse in Mediterranean fruit trees like Fig, pomegranate and mulberry. Citrus is the dominant cultivar with a wide variety of species. It was introduced to Saida in the 1800's and has flourished since then (USUDS, 2013). According to Zaatary (2012). "More than 300 citrus groves (oranges, clementine, loquat, lemons, and grapefruits) were documented in the nineteenth century occupying hundreds and thousands of hectares" (USUDS , 2013, p. 52).

Up until the 70's, Saida's major trading activity was of agricultural produce whether in land through the Bekaa Valley to Damascus and beyond or to the European shores from its port. The agricultural atlas of Lebanon shows that 70% of the Lebanese citrus cultivation is concentrated in the coastal plain from Saida down to South of Tyr. Saba (2006) mentions, "In fact, most of the citrus production that is sold on the Lebanese markets comes from the green belt zone" (USUDS , 2013). Today, the agriculture landscape in the plain of Saida is still diverse, and is famed for the prime quality of its orange, citrus, clementine and loquat. This agricultural production is, however, threatened by urban development.

The 2010 Agriculture National Census shows that 400 agricultural hectares and 511 farmers exist in Greater Saida. 63.6% of these lands grow olives while 6.7% grow citrus and they are mostly concentrated in the plain of Saida. Fruits such as guava and mango were introduced in the past 15 years and are proving successful, though not yet intended for mass production (USUDS, 2013).

Field work done in spring 2013 for the joint purpose of this research and the USUDS, resulted in classifying the agriculture orchards in the plain of Saida into four categories:

- Monoculture Orchard: >90% of cultivated surface is one cultivar;
- Mixed Orchard: one species > 50% of total cultivated surface
- Garden/Orchard: Decorative and edible plantations serving as backyard gardens
- Green Houses: mainly of legumes, vegetables and floral cultivation.

The general findings are herein summarized: Agriculture in Municipal Saida occupies 232 ha (33% of Municipal area) distributed over East Wastani and Dekerman, of which 48 % is citrus, 32 % banana and 11 % mixed orchards.

As for East Wastani, the orchards constitute 70% of East Wastani LPS project area and vary in their size, distribution, cultivar, importance and use (Fig. 35).

Fig. 35: View from Qamleh area towards the lush orchards East-Wastani

About 85 orchards in total exist and their sizes range from less than 500m^2 to more 20,000m^2 with the exception of 3 orchards that are larger than 20,000 m^2. The

orchards, in majority, are small in size and mostly owned by individuals. The Spatial distribution is as follows (Fig. 36):

- At the northern edge of Municipal Saida, lands south of Al-Awali River, the plots are typically large with monoculture prevailing.
- In the central and the southern section of Al-Wastani, plots are subdivided into smaller units with different owners, as the result of inheritance. These are mostly mixed orchards with, in a few cases, one dominating specie.

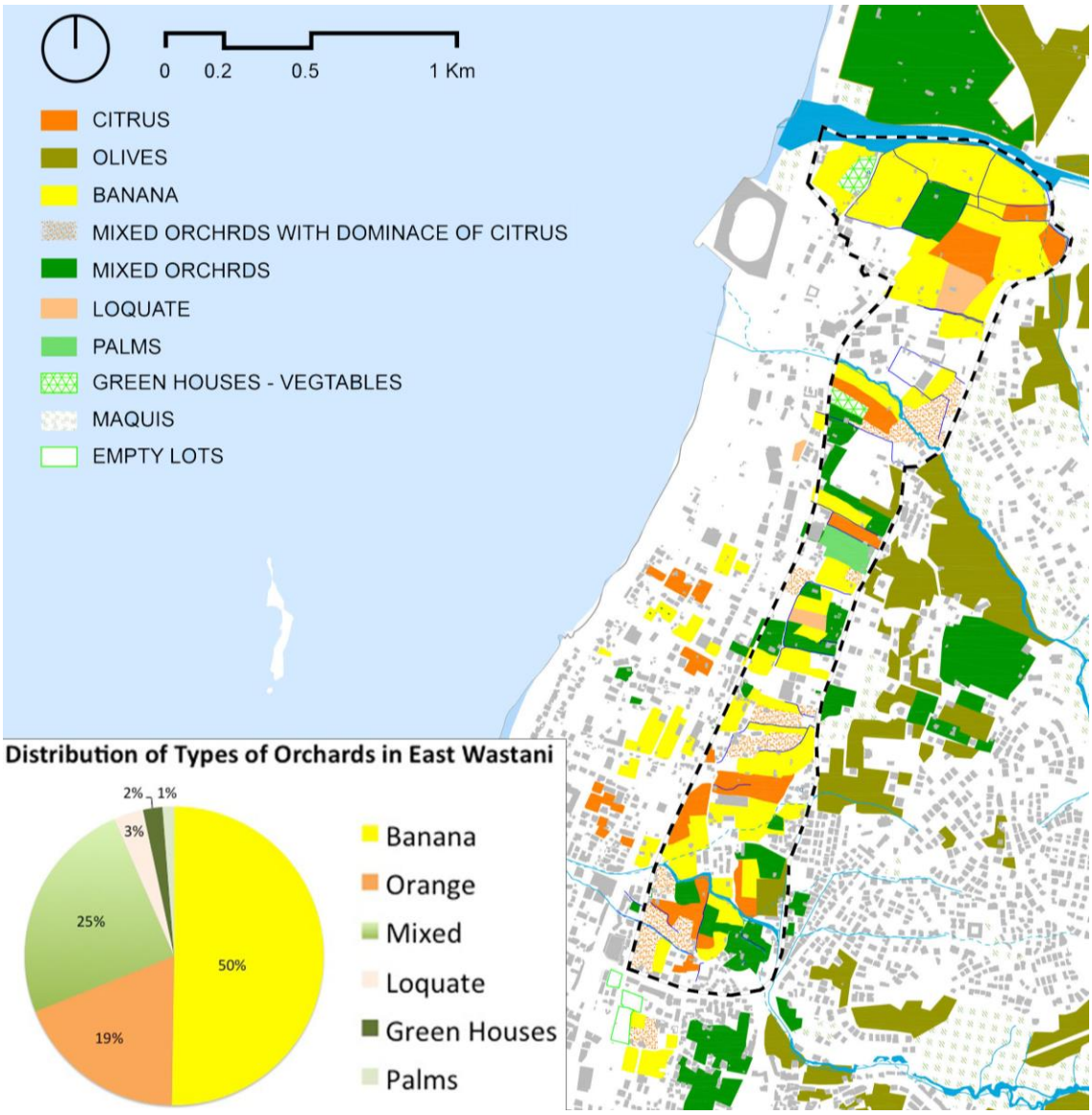


Fig. 36: Distribution of Orchards in East Wastani

Many of the orchards still preserve important agricultural, historical and cultural values through quality of the cultivation, landscape character, the size and historic value of the orchard, presence of a historic monument, presence of the Khasikieh canals and pools. To name: Bustan Al-Sabeh Birak, Al-Sheikh, kinyat al Nahr, Abou Ghayyath and other (Fig. 37). A survey conducted by Lil Madina pointed out historic orchards with their limits, some dating back to the ottoman times, such as Bustan Al-Kasir, Bustan Al-Awdah, Bustan El Sheikh, Bustan Al Naba'a and Bustan El-Mdawar. Most of the large old historical orchards are being divided and fragmented due to inheritance and change in ownership. (Fig. 38)

Fig. 37: From left to right Bustan Ezz-Eddine; Bustan Al-Sheikh

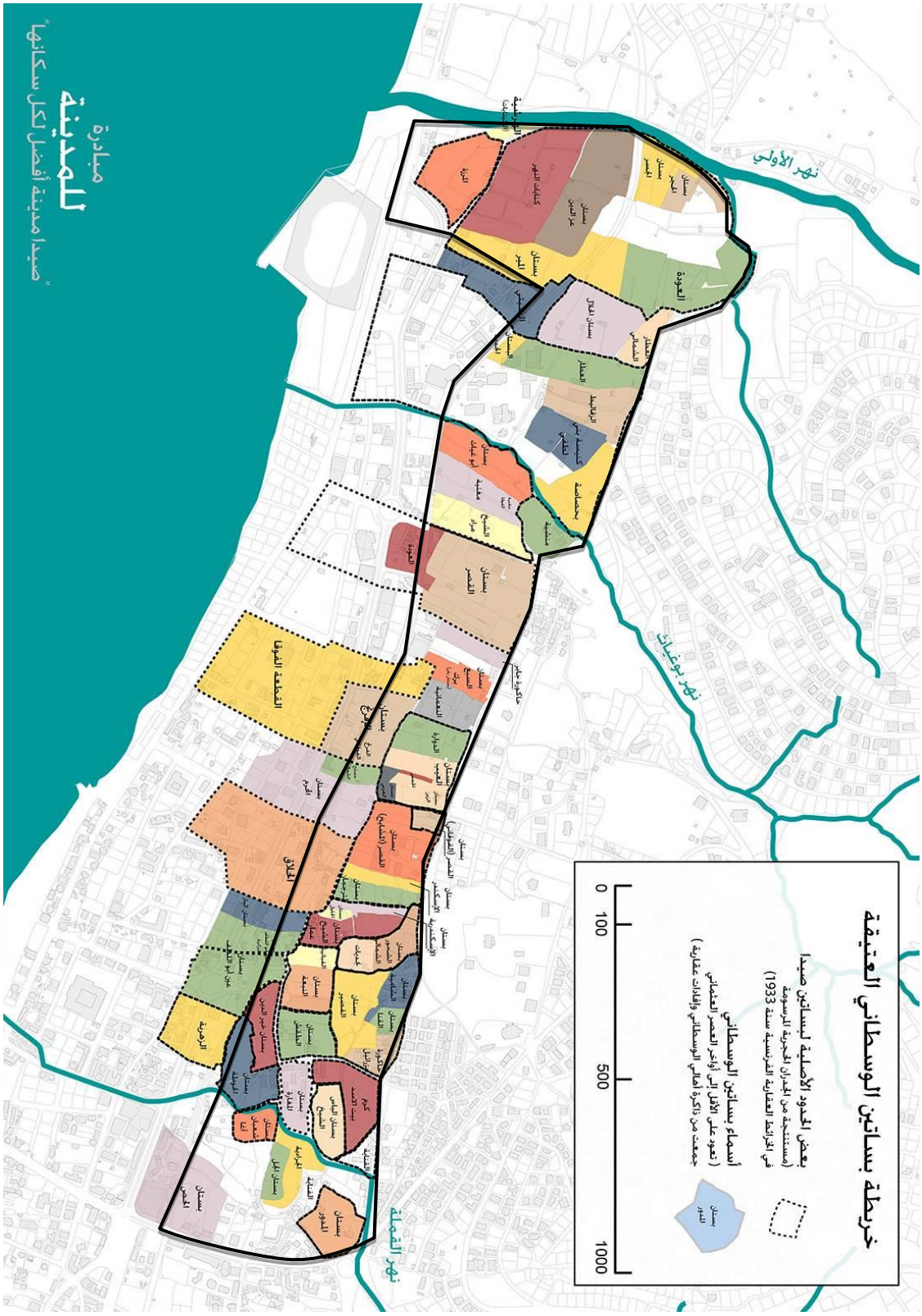


Fig. 38: Historic Orchards of East Wastani. (Lil Madina, 2014)

The orchards are part of the life style of the citizens and contribute partially to the family income (at least by providing the needed vegetables and fruits for the household). They also constitute recreational and traditional outing spaces, form attractive locations for promenades and sports, and more importantly enhance the environmental quality by acting as the green lungs of the city and increasing the per capita share in green areas.

Even though the agricultural production, the trade and the economic benefits have majorly declined and the practices are becoming outdated, some of the orchards' owners, specifically in East Wastani, still take care of their produce. The farmers distribute the products of loquat and clementine to local and international markets with high quality standards, bypassing wholesale market. In contrast, large operating orchards located North of Wastani, further south in Dekerman, belong to big landlords usually corporations, and Syrian laborers are hired to take care of the land and the economic profitability is therefore higher.

The absence of innovative urban agriculture strategies resulted in a new trend of replacing citrus orchards with Banana cultivation, often not sustainable environmentally. The Banana's short lifespan makes its cultivation an interim solution, as it ensures faster productivity and higher economic revenues awaiting authorization for realty development.

Lastly, Agriculture in East Wastani is under a lot of pressure lately; from one side is the reduced productivity and the high cost of maintaining the orchard, and on the another side, is the process of powerful Saidawis families buying the orchards lands for speculation and development. Despite these pressures, old "busatanji" families continue to cultivate the land around their houses, regardless of land-pooling project.

c. Olive Terraces (Foothills and Edges)

Terracing is the traditional and cultural practice of making use of the hillsides in a spatial and productive manner to provide space for arable cultivation and help in soil retention. The calcareous, clay loamy grey soil of the foothills provides best conditions for olive growth. Olive cultivation requires little irrigation and maintenance, and is long living and highly productive.

In addition to the olive trees' religious, cultural and regional identity, most of the trees in East Wastani and on the Sultaniyeh edge were used during the Roman and Ottoman times to demarcate property boundaries and to delineate the Sultaniyeh limit. This was confirmed though the mapping of aging olive trees conducted by *Lilmadina* (2014) using a GPS system; it shows that they are concentrated along the Sultaniyeh edge while scattered in the plain in between plots. Additionally, each of the olive trees belonging to that category and aged more than 100 years is registered in the cadaster, thus recognizing its value (Fig. 39).

Fig. 39: Olive terraces along Sultaniyeh (Left and Middle); Aged Olive Tree demarcating boundary (Right)\

In conclusion, the importance of orchard and olive cultivation lies in: (a) Identity and cultural value, (b) Environmental health and landscape value (amount of green space /allocation of m2 per capita), and (c) Economic value.

The productive and cultural landscape is under pressure of urbanization, land speculation, and subdivision and reconfiguration of agricultural plots. Additionally, infrastructural projects are fragmenting the orchards and destroying the irrigation network. The infrastructural project aiming at enlarging the Sultaniyeh road will destroy the aged olive trees and the Khasikieh system.

5. *Urban Landscape*

a. Urban Morphology

The historic harbor city of Saida was confined until the late 1940's to its walls and was connected to the surrounding villages by country roads and bound by the sea to the East and by the orchards to the West. As in all Islamic medieval cities, public spaces were very limited except for a few congregational plazas, while the sea and the orchards provided plenty of opportunities as leisure and recreational spaces for the citizens.

The extramural development (or modern urbanization) occurred in the late 1940's and followed the establishment of road infrastructure, majorly connecting the city to the hills and its hinterlands. As mentioned in the introduction, the new flux of urbanization and the first commercial and governmental institutions followed the establishment of Riyad El Solh North-South axis (1950), while the road network randomly developed into a grid pattern defining large blocks with buildings concentrated on the road/block edges. The large plots "were often the residual demarcations of old agricultural land parcels" (USUDS , 2013). Peripheral urbanization

has been consuming green fields on the sides of major roads, while fragmenting and leaving patches of empty and no longer viable agricultural lands in between. This pattern is highly noticeable in areas Al-Qanaya and West Wastani zone.

i. Infrastructure

In what concerns East Wastani, an additional bypass to the Maritime and Eastern boulevards was also planned to run parallel to the railroad cutting the East Wastani area longitudinally in half. Fortunately, this project was long postponed, which contributed in the preservation of the agricultural fields as all development in this area was frozen awaiting the establishment of the bypass. Today, with the recommendation of the USUDS and the efforts of the Municipality of Saida, this project has been recently paused awaiting cancelation and an alternative solution of a ring road on the scale of Greater Saida is being studied. Freeing this zone from the project has now allowed speculation to occur, as this land is promising development.

East-West streets (Fig. 40) are local roads that connect residents of the hills to city center. In addition, East Wastani comprises of very narrow roads and alleys that circulate among the orchards. This network of roads (Fig. 41), including the railway, has a rural character that is favored by the citizens as it provides a unique promenade experience: walking across the orchards accompanied by the sound of water in the Qanaya, away from the urban chaos.

Fig. 40: Streets of East Wastani: (Left and Middle, Inner Roads Between Orchards)

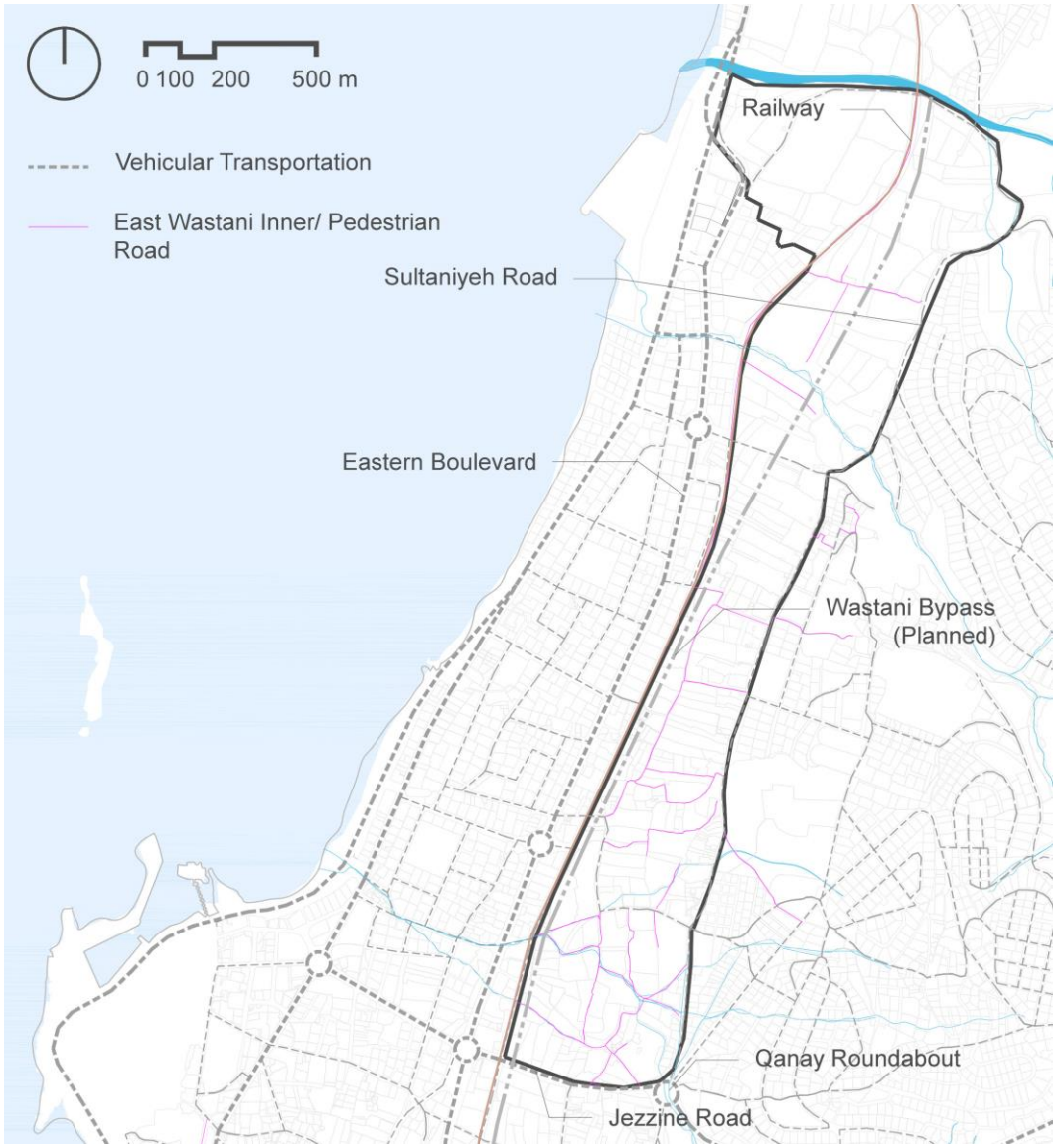


Fig. 41: Vehicular and pedestrian networks

ii. Urban Amenity Landscape

Urban amenity spaces are very limited in the city of Saida as they are a new concept. The Municipal Stadium is not open for the public and the Cornish is the only vibrant public space. The Municipality of Saida has three proposed and unexecuted municipal gardens: King Abdullah Garden, the garden on the dump side and the garden in front of Omary Mosque. The municipal green areas are thus limited to the historic cemetery and to traffic-related spaces.

On the other hand, another kind of urban green spaces exists: the community-defined spaces. They are the communal spaces that are recognized as recreational areas since long ago and form an essential part of the city's memory. Most of these spaces are localized in East Wastani.

- "Al Kinayat" is one of the most significant communal spaces consisting of a large area of Eucalyptus trees located at the estuary and banks of Al-Awali River. This space is part of the city's heritage that the citizens of Saida and region have long used for weekend outings, for breaks and scouts, as well as a refuge during the 1980's Israeli invasion. Al-Kinayat is a very important ecological, riparian, cultural heritage and social landscape that needs to be preserved. It is divided into 2 parts:

- The river estuary (Fig. 42), North of the Municipal Stadium, the site was burned during the war, and later in 2001 reforested and fenced by the rotary club. Unfortunately, since that time public access has been prohibited out of the fear of illegal and immoral activities that could take place. Nonetheless, users, mostly youth and school children, have created their own opening through the fence and use it frequently.

Fig. 42: Al-Kinayat at Al-Awali Estuary

- The southern riverbank: Unfortunately this section is privatized; nevertheless the old owners always kept this place open and allowed communal use, to such an extent that encroachment of cafés took place. This spot was vibrant and attracted a large number of visitors. In the recent years, the ownership changed and the new owner fenced the area, removed the encroachments and limited the access to the site.

- The railway right of way (Fig. 43): The site has been abandoned since the stopping of the railway, which users have appropriated as amenity landscape to fulfill their recreational needs. Even when the train was operating, a lot of memories and stories occurred on the track and constitute a social and communal memory of the city. Today, the railway is divided into zones: it operates as a secondary road in one end and at the other end as a pedestrian promenade. The railway has been incorporated through the built fabric to function as a backyard garden when it cuts through the neighborhoods

Fig. 43: Railroad space as backyard garden between neighborhoods.

Additionally a lot of private sports club are located in East Wastani and are an attraction for the residents of Greater Saida. The most important one is the 4B, a sports complex combining all kinds of recreational activities and sports facilities.

Finally, East Wastani is very rich in archeological sites beneath the orchards, mostly located in proximity to the Sultaniyeh edge, some excavated and other not. The most important is Eshmoon Temple located at the northern edge of East Wastani, which is highly associated with the Phoenician history of the city of Saida and the water canals. It is a national archeological touristic site that is neglected, rarely visited and isolated from its surroundings.

iii. Urban Fabric

As mentioned in the introduction, all the planning phases that occurred in Saida "concentrated on two main types of controls: a quantitative zoning ordinance and a plan for major infrastructure" (USUDS , 2013) ignoring architectural and typological details and guidelines. The master plan / zoning plan only dictates land use, density, height, and setbacks; all are general guidelines that can be translated into a multitude of form and shapes without any defined morphology or character (ornamental styles,

construction details and materials). In addition, urban sprawl occurred disregarding the geomorphology, hydrology, urban ecology and existing local and traditional fabrics. Thus, the produced urban fabric of Saida and its regional surroundings is random and generic.

East Wastani fabric is mostly classified as peri-urban/ rural typology yet it is dispersed and highly diverse in form and age. This typology is mostly the result of a sporadic development of the traditional rural house, which is an arrangement of the extended family building that varies from one to four floors within the orchard's landscape.

The fabric identified in this zone is herein classified according to the time period:

- Traditional orchard house and heritage buildings (Fig. 44), i.e. khans and mills, are located specifically along the Sultaniyeh road; they date back to the Ottoman period and they constitute archeological, historical and architectural heritage elements of the site. Most of them are abandoned and not restored. As for the traditional orchard houses they constitute the heritage fabric of the area and are mostly deteriorating.

Fig. 44: From left to right, old mill, orchard house, Khan.

- Fabric of the 50’s and 60’s is found in small clusters of specific character determining neighborhoods such as Qaya’a, Zaroub Hashisho, Al-Nadeif and others. These clusters have developed in an organic way enclosing a small common space in the center, reminding us of the original fabric that used to constitute the clusters in the old city.

Fig. 45: Hijazi neighborhood (left) and Zaroub Hashishi (right).

- Fabric of the late 90’s (Fig. 46.a) that consists of individual apartment buildings wherever the land configuration allowed. They are an extension of the development that occurred in Abra and Hilalieh.
- The 1990’s building complexes (Fig. 46.b) are a fabric that has been developing since the middle of the 90’s until today in the orchard landscape. They form islands of residential complexes and they are the result of private LPS projects; hence they apply the 1995 Master plan guidelines
- Family house /villa typology (Fig. 46.c) within the orchard, where the land (the orchard and house) serves sometime as a weekend family retreat, as in the case of Bustan El-Sabeh Birak,

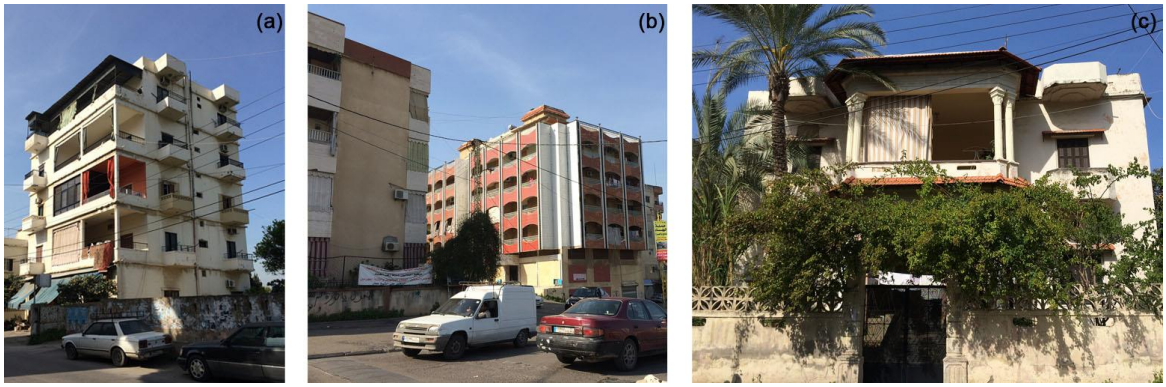


Fig. 46: East Wastani Building Typologies

East Wastani fabric offers plenty of communal space opportunities, that have been integrated and appropriated within the urban fabric such courtyards between building clusters and that contribute to strengthening the social bonds among the residents.

b. Master Plan

Any fabric development in the area needs to follow the 1995 Master Plan currently in use (Fig. 47). It categorizes the area of East Wastani into three zones: its majority belongs to zone F while the southern section is divided between zones D and E. Zone F is characterized with a low residential land use, an FAR of 0.6 (three floor building) and an exploitation ration of 20% (Fig. 48).

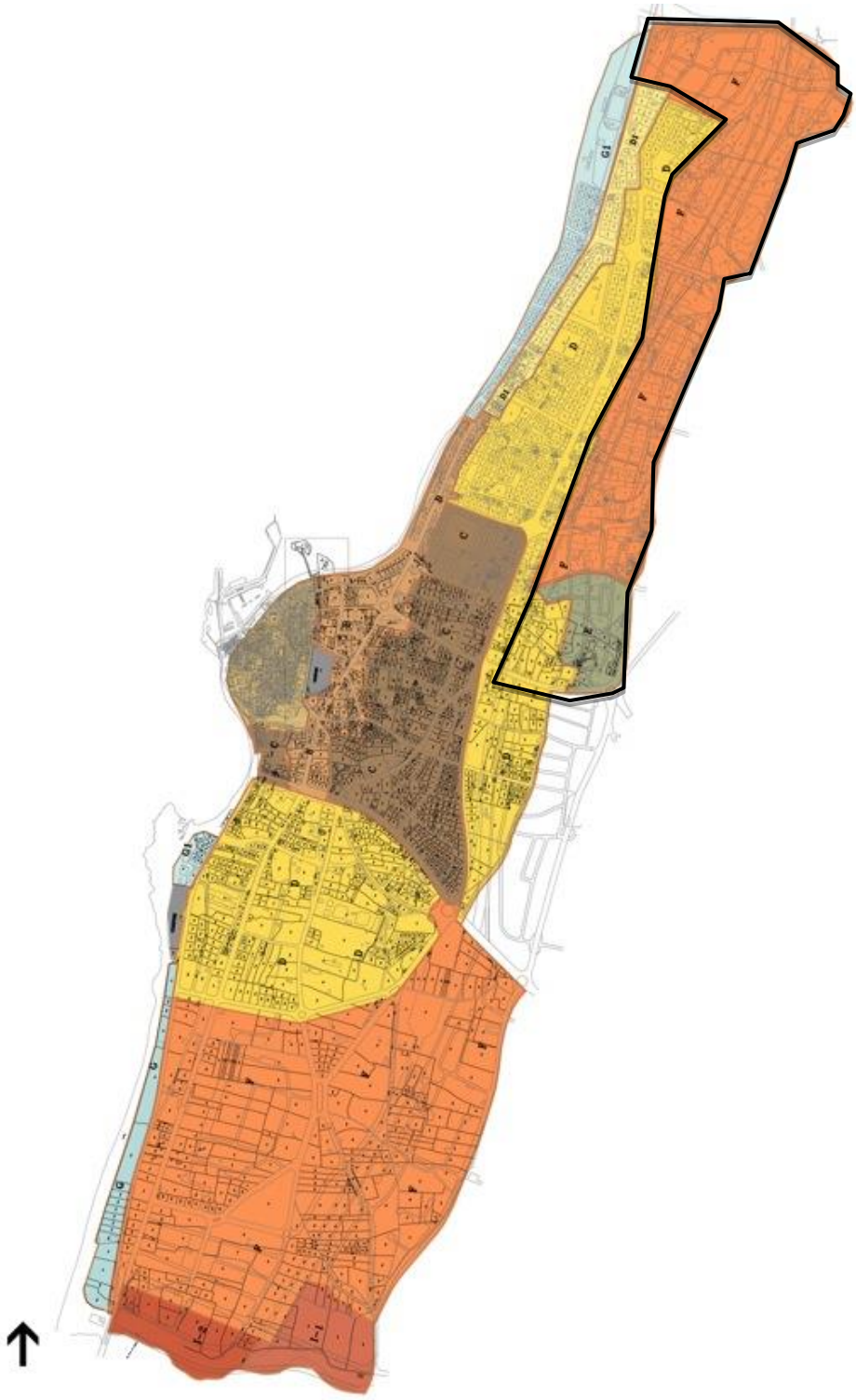


Fig. 47: 1995 Master Plan

Master Plan :

Master Plan Zoni

Zone	New Plots Requirements			Existing Plot Requirements			Setback			Percentage of Lot Coverage	Floor Area Ratio (FAR)	Number of Floors	Building Maximum Height	Remarks
	Minimal Area	Minimal Façade Length	Minimal Depth	Minimal Area after Alignment	Minimal Façade Length after Alignment	Minimal Depth after Alignment	Setback from the Edge of Road or Alignment	Centered Setback	Rear Setback					
	m^2	l.m	l.m	m^2	l.m	l.m		l.m	l.m	%			l.m	
A Archeological, residential, and commercial	Parceling is only allowed when new plots are larger than 200m^2			200	12	12	According to the decree of the setback on the road axis or as shown on the roads network plan with a minimum of 3m from road or alignment edges.	–	–	60	1.8	3	13.5	
B Very high residential and commercial density	600	20	20	300	15	12		–	–	60	4.2	–	–	Public Right
C High residential and commercial density	800	20	20	400	15	15		–	4.5	40	2.4	–	–	Public Right
D Medium residential and commercial density	1000	25	25	500	16	16		–	4.5	30	1.2	–	19	
D1 Medium residential and commercial density	If the building is used for industrial and commercial purposes, the regulations for the zone D would be applied. If the building is used for touristic purposes (hotels, resorts, etc.) the regulations would be 40% for the percentage of land coverage and 1.5 as Floor Area Ratio (FAR)													
E Residential	1000	25	25	600	18	18		4.5	4.5	30	0.9	3	13.5	
F Low residential density	1200	30	30	750	20	20		4.5	4.5	20	0.6	3	13.5	
I Industrial	1500	30	35	1000	22	22		6	6	70	1.4	–	–	
I1 Industrial	1200	30	30	800	20	20		4.5	4.5	40	0.8	–	–	
G Touristic	5000	60	60	2500	50	40		6	10	15	0.3	–	–	
G1 Touristic	4000	50	60	1500	30	30		6	6	20	0.6	–	–	

Fig. 48: Zoning table of the 1995 Master plan

c. Land Value and Speculation

Parcel configuration and development rights are often one of the main determining factors of urban growth in Lebanon. The 1980 LPS project transformed the plot configuration of West Wastani from agricultural to buildable lands, and the 1995 Master Plan modified the exploitation ratios in this zone to foster development. However, the urbanization didn't occur accordingly to expectation, only land speculation has taken place, and sprawl continued to occur in the hilly suburbs (See Chapter 2). Land prices in Saida vary from less than 300 USD/m^2 at the city fringe within agricultural fields and in the old city, where development rights are very limited, to more than 2500 USD/m^2 in West Wastani, the area along the northern sea shore, the commercial zone of Riyad al-Solh Street, and along the Eastern Boulevard (USUDS, 2013; Lil Madina, 2014).

The urban growth in Saida and the region (Fig. 49) is pushed outside the boundaries of Municipal Saida into the hills. To address some of their problems, the municipality is in the process of implementing a new urban planning exercise of lot pooling and subdivision in the East-Wastani zone to control sporadic sprawl and more importantly to encourage development back to city. This is affirmed by the argument used by the Mayor Mohamad Saoudi to justify the project: in the year 2013, only 4 building permits were given within the municipal boundaries and that is alarming compared to the number of permits given in the adjacent hills.

Lastly, the increases in urban population and in sporadic building densities are inversely proportionate to the loss of green areas (natural and agricultural) and are occurring at an alarming rate. This process severely affects the status of green areas and orchards in Saida and impacts physical and psychological wellbeing of the residents.

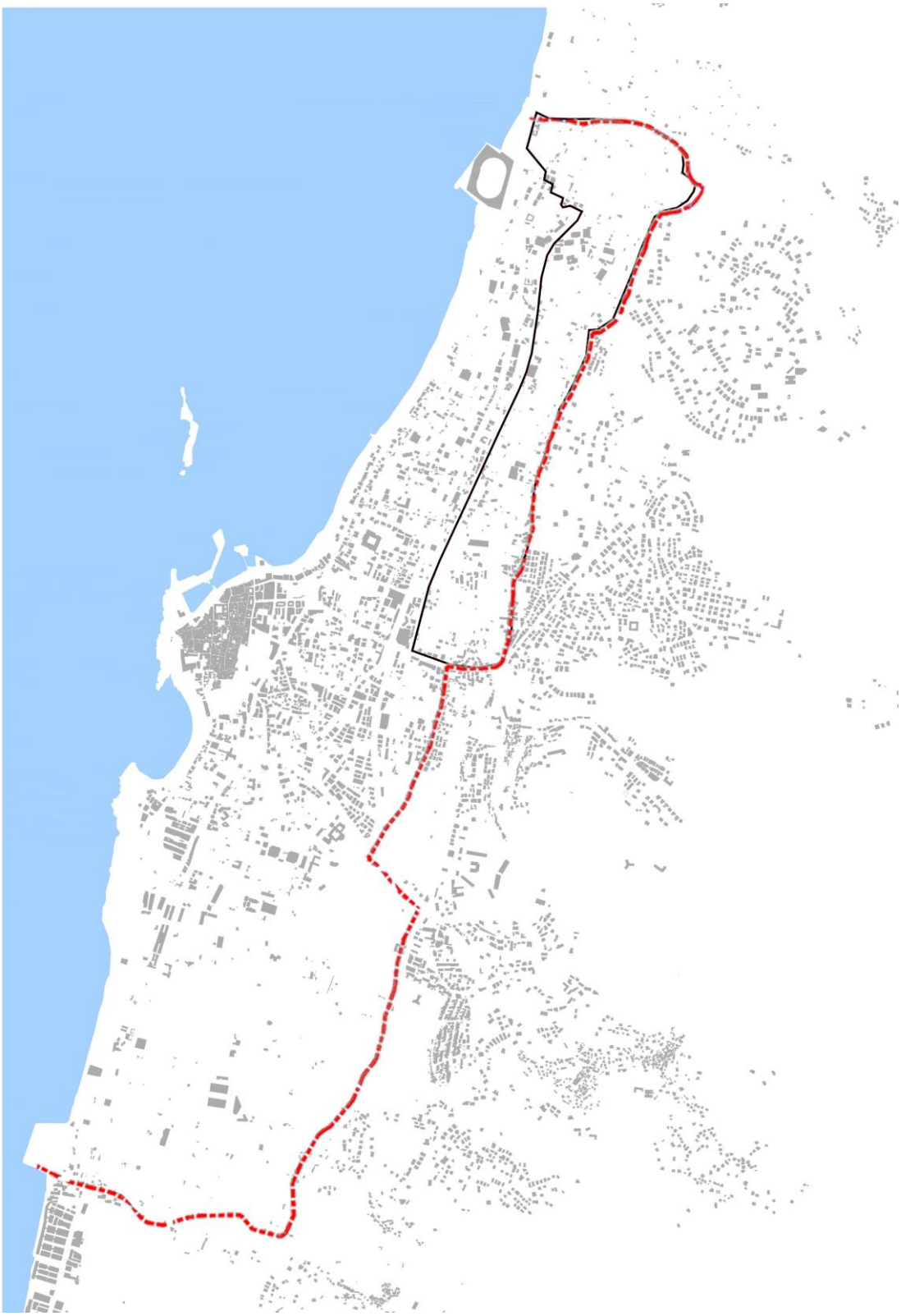


Fig. 49: Urban Fabric distribution in Greater Saida.

In conclusion, the USUDS addressed the idea of urban development in the proposed strategic framework. The strategies proposed are herein summarized:

- Ensure the continuous diversification of the economic base of the city and the viability of all sectors through providing alternative and diversified land uses and zoning in the master plan to ensure social mixity.

- Plan a blue-green network that saves important cultural landscapes; serves as amenity and promotes sustainable use of environmental resources through ensuring ecological integrity of watercourses; protecting the orchards and the Qanaya; upgrading the abandoned railway tracks into a green corridor; and envisioning tourist trails, heritage sites and green spaces around the city.

- Increase quality and quantity of green areas through sustainable management and the per capita allocation of green spaces.

6. *Socio-political Dynamics*

a. Historic Social Fabric

The city's geomorphological features influenced the social structure. Between the fertile orchards and the maritime activity, the citizen of Saida engaged in professions of fisherman "bahara" (بحارة) or merchant or orchardists "bustanji" (بستنجي). Today, this social formation is under threat, because life styles have changed, and these professions do not secure a proper, desirable living, the young generation prefers education, and these traditional professions have become outdated and practiced by the older generation or as a personal hobby.

b. Demographics of Greater Saida

Saida was known for its religious mixity where Muslims, Christians and Jews lived together. Also, the city is an example of social cohabitation with Palestinians that have built strong and historical ties with the Saidawis that date back even before the events of 1948. These relations are enforced with trade, marriages, professions, social and political groups, ensuring dialogue and social wellbeing. After 1948, Palestinians found refuge in Saida, and helped in the prosperity of the city's agricultural activity. Unfortunately, the 1975 war and all of the political problems have caused tensions among the different groups; nonetheless, the city fabric remained mixed. As a result a large portion of the original inhabitants of the hills have migrated; however after the national reconciliations, the Christians families are returning claiming back their roots. Big families like Debbene and Audi have restored their family houses and turned them into museums.

Today, Municipal Saida is home to 107,427 residents not counting Ain El Helwi (largest Palestinian camp) and Mie w Mie that include 40,000 inhabitants (USUDS, 2013). In total, Greater Saida has 220,000 inhabitants in areas including Bqosta, Hilalieh, Abra, Majdelioun, Bramieh, Haret Saida, Mieh w Mieh, Ain el Dilb, Darb-es-Sim, and Maghdusheh, in addition to Municipal Saida and the camps (Solh, 2012)

The majority of residents in Greater Saida are "Saidawis"[13] and Palestinians. The statistics show that 25% of Greater Saida population is registered in Municipal Saida, and 43 % of the Palestinian community is distributed in the adjacent areas of Ain el Helwi camp (between Saida Municipality (32%) and Darb-es-Sim and Mieh w Mieh) (USUDS, 2013).

c. Sectarian and Political Divides

Sectarian and political divides among municipalities of the UoM are creating tension and aggressive competition on administrative roles and developmental growth. This tension is mainly between the Municipality of Saida, with Sunnie majority/ Hariri political party, and other southern municipalities notably Municipality of Haret Saida, Ghaziyeh and Nabatiyeh, which have a majority of Shiite sect / Hizballah and Amal political party. This political and sectarian divide is hindering the development and any agreement on any common benefit (such as refuse and sewage) and it is one of the major reasons behind the dysfunctionality of the UoM.

On the other hand, while it appears that some social tensions exist among the eastern hills and the Municipality of Saida, the socio-economic ties and co-dependencies are of greater importance. They are emphasized by the political agreements making the tensions of little impact. This is clear in times of conflict. In the face of destruction and security issues that occurred in Abra in June 2013, political and

13 Citizens of Saida, who are administrable registered in Saida and their electoral voice belong to Saida

social consolidation occurred; even though the damage was in Abra authorities in Saida took charge and worked together for the reconstruction.

d. Saida's Changing Administrative Role

The city of Saida has played a central administrative role throughout history, from being a Phoenician port city to a provincial capital during Persian, Roman, Islamic and Crusader times and a center of the Wilaya during the Ottoman Reign. Today, Saida is the capital of the Southern governorate (Mouhafaza), center of Caza of Saida and a member in the Union of Municipalities of Saida and Zahrani.

Even though Saida is an administrative center and is the headquarters of major services, its administrative role has been diminishing progressively, especially after the separation of the Southern governorate into two parts in 2004 and the emergence of the decentralization law. The latter encouraged the growth of competition among other municipalities as Nabatiyeh and Ghaziyeh for funds and development.

e. Socio-economic Dynamics

The political turbulence and the diminished administrative role contributed to dismissing economic development and reduction of investment in Saida and the region. The economic activity lies in the sector of trade, more specifically retail and commercial shops, and not anymore on the agro-industry that is becoming less profitable.

The Municipality of Saida finds itself stretching its limited resources on administrative, financial and services levels to cover the services at the UoM level, because it is the administrative center and its demographic strength is located in the

agglomeration of greater Saida. However, the Municipality is not in a position to collect municipal funds from the UoM. The result is that the effective citizens of Saida are living outside their municipality and benefiting from services managed by the Municipality of Saida, without contributing through their taxes. The other channel of income for the Municipality is taxes on real estate development; therefore the Municipality of Saida is capitalizing on this sector to indirectly provide an income base for the improvement of infrastructure (USUDS, 2013).

Another factor contributing to the economic burden on the Municipality of Saida is that the city has the lowest income levels on the national scale. 46% of the Saida residents live under the poverty threshold due to the large number of low-income families including Palestinians reside in the city (USUDS , 2013). This figure is associated with the dispersal of the Saidawis in the region, while a large number of middle and high-income families live outside the city in the hinterland if not in Beirut.

This social and economic inequality is what is pushing the politicians in the city to create an economic balance by providing real estate and housing opportunities in East Wastani for the wealthy citizens residing outside of Saida to live within the city premise.

f. Services

The city is well served in terms of educational and health facilities. In terms of educational institutions the Municipality of Saida has 32 schools and 8 universities, in addition to a large number of public private health centers, with a total of 8 private hospitals and 1 public hospital (recently built but not yet functional). These two sectors are promising in terms of growth for the city and serve Greater Saida and beyond, yet

they are being challenged by the development of these sectors in the southern municipalities (USUDS, 2013). East Wastani includes the Turkish public hospital specialized in burn injuries, and one of the biggest schools of Saida, Raffic Hariri High School including 9% of the city's students.

In conclusion, the social structure of the city and the region is very diverse and presents major gaps on religious, economic and social levels. The area of East Wastani acts as an intermediate zone that has the ability to ensure diversity and social mixity, provide a meeting ground to balance existing divergence and urban development as well as redefine the green and sustainable identity of the city of Saida.

To sum up, this chapter presented an extensive landscape reading of the site of East Wastani within the larger context of Greater Saida. However the identification of the natural, cultural and urban layers is of no help unless integrated in a dynamic understanding of the relations and processes among these features. The following chapter is going to study the association among these layers and come up with the ELAs, the building blocks and key components of the Saida and East Wastani landscape.

CHAPTER V:

ECOLOGICAL LANDSCAPE PLANNING OF THE EAST WASTANI

The previous section presented an extensive reading of the landscape of Greater Saida, Saida city and East Wastani in preparation for an understanding of the dynamics occurring between the natural, cultural and urban landscapes. The main driver of the Ecological Landscape Association (ELA) reading is to help the planner/designer to come up with creative frameworks and guidelines for a contextualized and sustainable development of the site in study.

After identifying the ELA constituents of East Wastani and highlighting their significance, this chapter determines the building blocks and key components of the landscape and the criteria for integrating them into a planning framework. It also includes converting ELAs into Landscape Character Zones (LCZ), a spatial and conceptual exercise that provides a series of flexible guidelines for sustainable development of the site. This chapter concludes by critically assessing the planning potentials of the ecological landscape design approach in providing planning and design recommendations that mitigate the limitations and drawbacks of the conventional planning tools (LPS and Master plan) mentioned earlier in chapters two and three.

A. Ecological Landscape Planning applied For Greater Saida and East Wastani

1. *ELAs For Greater Saida*

The Significance of ELA lies in providing a holistic and integrative reading of the natural, rural and urban environments and comprehending the heterogeneous and diverse components of Saida's landscape. This methodology focuses on moving in scales from regional to site through time taking into account tangible and intangible processes. A dynamic reading alerts the designer to the potentials of existing landscape and can inspire creative design interventions (Table 4).

Table 4: Ecological Landscape Associations Significance

Significance	ELA1	ELA2	ELA3	ELA4	ELA5	ELA6	ELA7	ELA8
Ecological	X	X		X	X		X	
Cultural		X	X	X	X	X	X	X
Socio-economic		X	X	X	X	X	X	X
Environmental	X			X			X	X

The landscape layers and components analyzed in chapter four provide a range of associations for developing units, or building blocks, designating patterns and processes of interactions among them. These building blocks will foster an ecologically balanced set of strategies for the development of the city and more specifically East Wastani. The ecological landscape methodology allowed categorizing the different interactions between geomorphology, land use and land cover into a set of 10 ELAs covering Greater Saida Region, Saida Municipality and East Wastani (Table 5, Fig. 50)

- ELA 1- Foothill /Maquis
- ELA 2- Foothill/ Olive Terraces
- ELA 3- Foothill/ Built-up
- ELA 4- Coastal Plain/ Orchard
- ELA 5- Coastal Plain/Built
- ELA 6- Ravine /Natural
- ELA 7- Ravine/ Orchards
- ELA 8- Ravine/Built- up
- ELA 9- Maritime Edge/ Natural
- ELA 10- Maritime Edge/Built-up

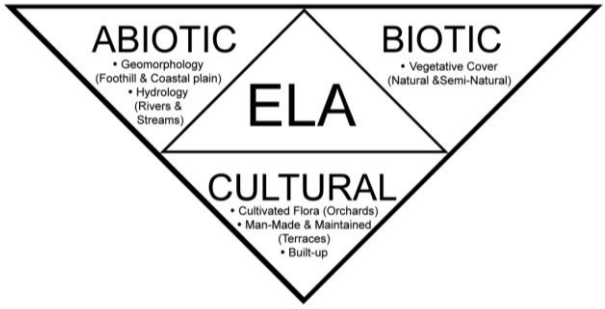


Table 5: Ecological Landscape Associations of Greater Saida and East Wastani

Ecological Landscape associations (ELA)		Biotic	Cultural		
		Natural /Marquis	Terraces Olive/	Orchards /Fruit trees	Built
Abiotic (Topography Geomorphology Hydrology)	Foothill	ELA 1	**ELA 2**		ELA 3
	Coastal plain			**ELA 4**	**ELA 5**
	Ravine/ watercourse	**ELA 6**		**ELA 7**	**ELA 8**
	Maritime Edge	ELA 9			ELA 10

*In Bold: Associations constituting the landscape of East Wastani.

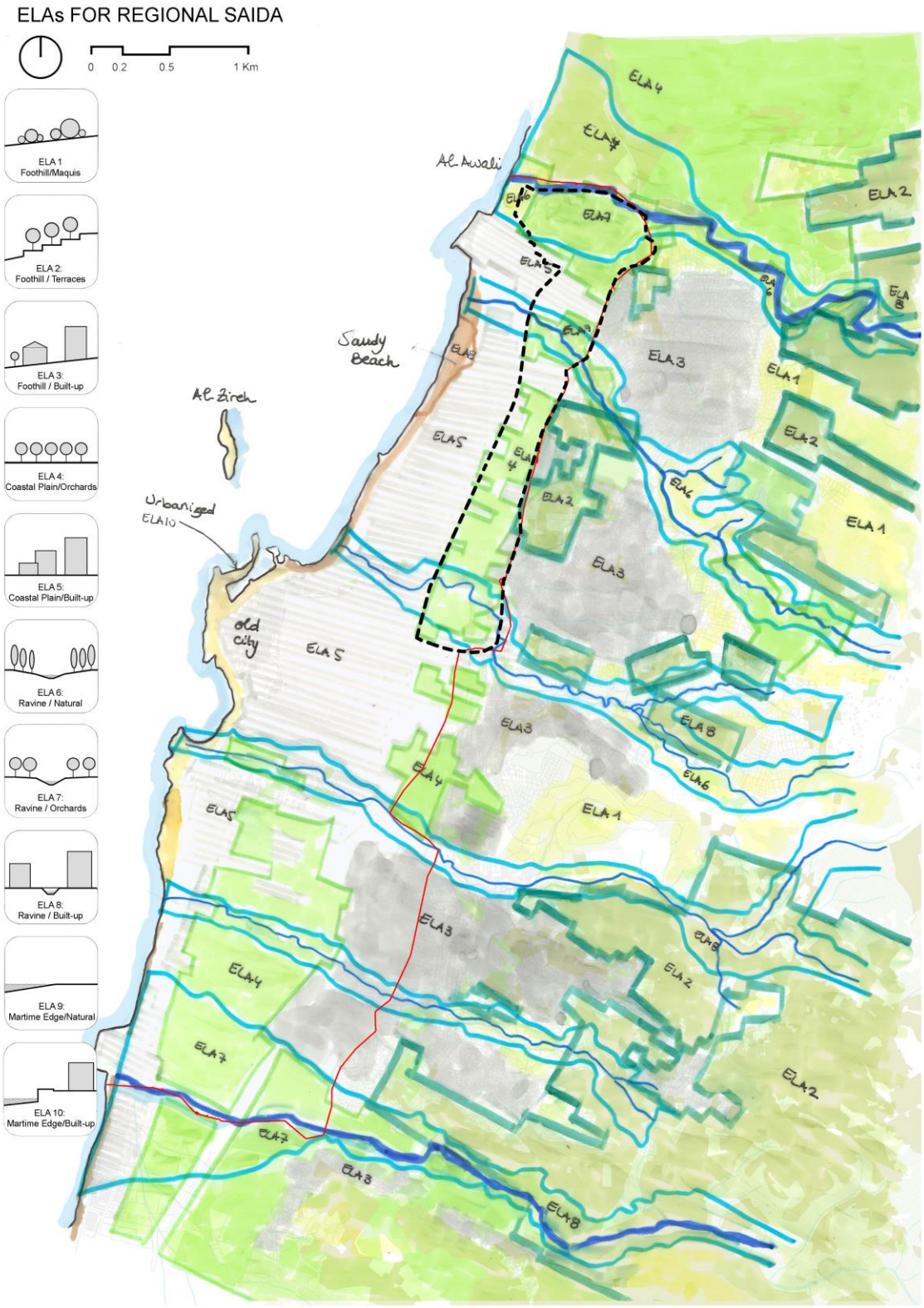
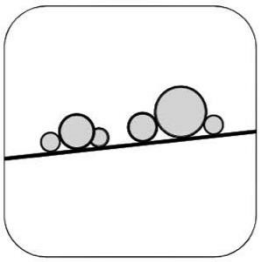
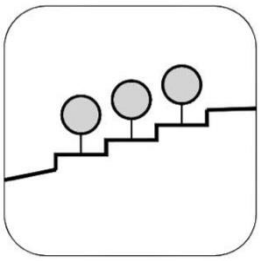


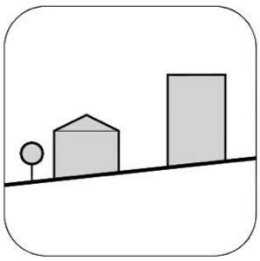
Fig. 50: ELAs Spatial Distribution over Greater Saida



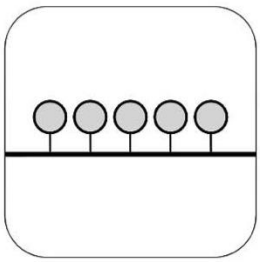
ELA 1- Foothill /Maquis: It designates the remaining natural Mediterranean landscape of scrubland maquis on coastal hills, and it is essential for its ecological value. This landscape is being degraded due to human activities; therefore strategies need to be studied to recognize and protect it.



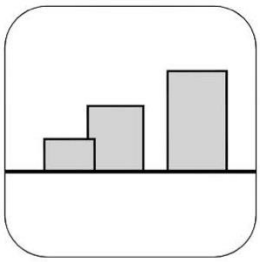
ELA 2- Foothill/ Olive Terraces: It represents the traditional rural landscape resulting of the historic process of human adaptation and management of natural resources and environmental conditions. This association constitutes an important cultural, visual, economic and ecological heritage.



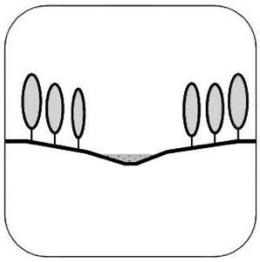
ELA 3- Foothill/ Built-up: Human interventions on the hilly landscape resulting from Saida city's expansion and the development of the small villages in the Eastern hills. Proper strategy of densification and distribution of built-up/green spaces especially in Bramieh and Sharhabil needs to be studied.



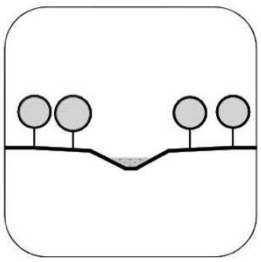
ELA4- Coastal Plain/ Orchards: This association presents the peri-urban /rural landscape of orchards; it is being jeopardized at the expense of real estate development. These orchards provide ultimate recreational spaces. They are part of the city's memory and the livelihood of the citizens. Strategies to recognize and re-conceptualize urban orchards, preserve and upgrade the agricultural practice need to be studied



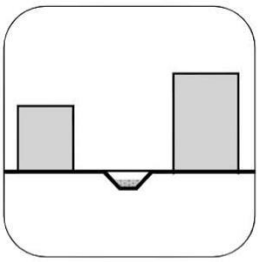
ELA5- Coastal Plain/Built-up: The urban agglomeration is indispensible for the city's growth, however it is degrading the landscape. There is a need to rethink urban growth strategies in ways that focus on densifications, balancing between built/ green open areas and developing schemes with detailed urban regulation that take into account cultural and natural heritage as well as the production of an identity specific to Saida and to East Wastani.



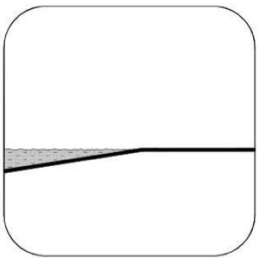
ELA 6- Ravine /Natural: This association describes the natural river and stream ecosystem, mostly significant for Al-Awali and Sayniq Rivers; both still preserve to an extent their natural and ecological integrity. However, the riparian ecosystem is threatened by encroachments on riverbanks, and pollution out of domestic and industrial wastewater. As this association has the ability to function as major ecological and amenity corridors, it is imperative to work on preservation strategies to ensure ecological connectivity of the natural landscape.



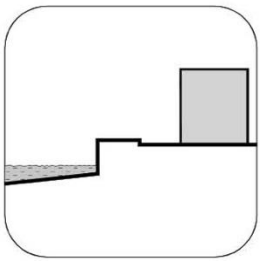
ELA 7- Ravine/ Orchards: This association designates the waterways crossing the fruit orchards and sustains viable ecological and agricultural systems. This association is an important environmental resource as well as a rural and cultural heritage of Saida. Today it has shrunk and has remained functional mostly in the case of Abou Ghayyath.



ELA 8- Ravine/Built- up: This association of watercourses in the urban context is suffering from unsustainable practices of infrastructural management. It is an asset as the streams are ecological corridors and have the potential to be turned into urban connectors, if properly managed and treated.



ELA 9- Maritime Edge/ Natural: This association comprises what remain of the natural sandy, rocky beach and river estuaries on the coast. It is characterized by (1) the estuary of Al-Awali with the Eucalyptus trees forming a cultural landscape at the northern gate of the city; (2) the sandy beach North of Saida that is rarely used in spite of its recreational potential and (3) the rocky beach, notably at the Alexander Bay and Al-Ziyreh Island that hold important ecological, touristic and cultural values.



ELA 10- Maritime Edge/Built-up: It is the man-made intervention that drastically changed the morphology of the natural coastal marine edge and interrupted the cultural linkages of the old city with the sea.

2. ***ELAs for East Wastani***

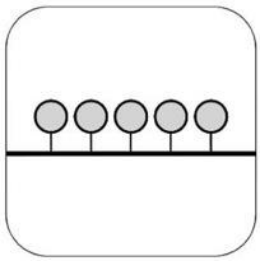
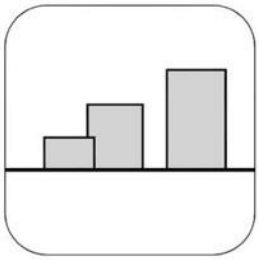
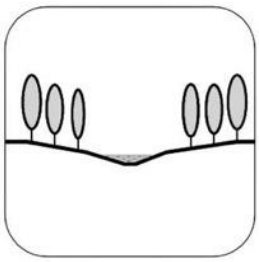
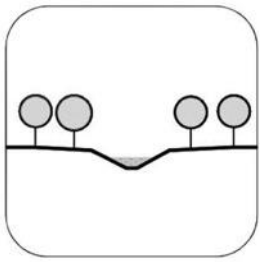
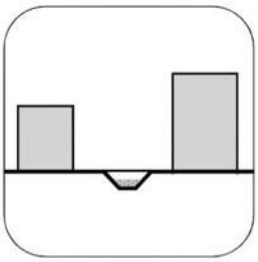
East Wastani is a very interesting site as the associations forming its landscape are interrelated and diverse in comparison to the surrounding (Fig. 51). Some ELAs intersect with others, like the association of Ravine/ Orchard (ELA 7) and Ravine/Maquis (ELA6), i.e. the case of Awali River and Abou Ghayyath, or Ravine/Orchards (ELA7) and Coastal Plain/ Orchards (ELA 4). Others juxtapose, like

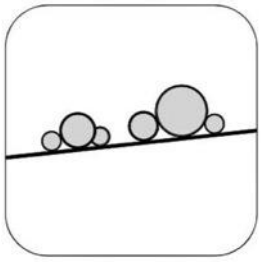
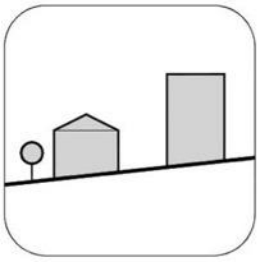
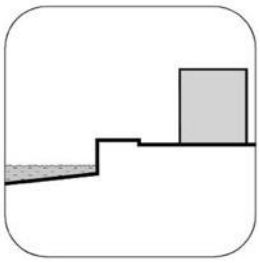
Foothills/ Olive Terraces (ELA2) and Coastal Plain/ Orchards (ELA 4) defining an edge landscape (Sultaniyeh Edge).

Fig. 51: ELAs Distribution East Wastani

The differentiation between the associations within the site and outside of it (Table 6) helps inspiring the proposed landscape character of the area, defining edge elements as well as elements of continuity.

Table 6: East Wastani composing ELA (within and at proximity)

ELAs Within East Wastani		
ELA4- Coastal Plain/Orchards 	**ELA5- Coastal Plain/Built-up** 	**ELA 6- Ravine /Natural** 
ELA 7- Ravine/Orchards 	**ELA 8- Ravine/Built- up** 	**ELA 9-Maritime Edge /Natural** 

ELAs At Proximity with East Wastani			
ELA 1- Foothill /Maquis. 	**ELA 2- Foothill/ Olive Terrace**s 	**ELA 3- Foothill/ Built-up** 	**ELA 10- Maritime Edge/Built-up** 

3. *Landscape Ecology and Urban design components*

Moving from the ecological landscape reading to planning requires translating ELAs, composite elements of existing landscape, into another spatial configuration that responds to urban planning and design parameters. It is done through coupling the landscape ecological blocks with site-specific landscape elements identified by Forman

(1995)(patches, corridors, edges and matrix) and urban design elements defined by Lynch (1960) (paths, edges, districts, nodes and landmarks).

a. Landscape Ecology Reading

The landscape features of the site can be grouped following Forman (1995) classification in patches, corridors, and edges.

i. Patches

Forman defines **patches** as relatively homogenous areas that differ from their surroundings. They vary in size, location and number, and they can be identified according to the different vegetative cover, distribution as well as the level of human interference on the natural setting (Forman, Dramstad, & Oslan, 1996). In that sense, the identified ELAs such as the costal orchards, the built-up within orchards, and built fabric are considered as patches. The challenge lies in developing a diverse patches composition to maintain the diversity and heterogeneity of the overall landscape composition. Existent urban and landscape elements such as archeological sites, architectural heritage, parcels layout, type of vegetative cover, and landmarks enrich the composition and the heterogeneity of the patches and provide them with character and identity.

ii. Green / Ecological Corridors

Ecological corridors are transit channels that establish connectivity between different landscape elements/ patches. Green corridors are landscape greenways that

have multifunctional functional uses (recreation, cycling, transit corridor i.e. railway..) aesthetic significance and ecological importance.

- The Ecological Corridors are wildlife movement corridors that ensure ecological continuity of species. Stream or river systems are of exceptional significance in a landscape while maintaining their ecological integrity. They are at the same time a challenge and an opportunity to landscape designers and land use planners (Forman, Dramstad, & Oslan, 1996) for what they hold in terms of ecological, environmental, recreational and social roles.

- Green corridors establish wildlife and landscape connectivity of green spaces in an urban setting (over transports channels, roadsides, railways, pedestrian paths). These linear corridors create higher quality linkages between natural and urban settings.

For East Wastani, the East-West ecological corridors are defined by the Al-Awali, Abou Ghayyath and Al-Barghouth watercourses, while the railway can be regarded as a North-South cultural green corridor rooted in the memory of the city and its citizens. These corridors contribute positively to the living quality and environment through increasing the per capita allocation of green spaces, equal access to green spaces, and enhancing the aesthetic quality of green spaces.

iii. Edges

An edge is described as the outer portion of a patch where its environment differs significantly from the interior; environments simply look and feel different. Artificial divisions such as political or administrative can be seen as boundaries and may not correspond to natural ecological edges. However relating these artificial edges to natural ones is important, as they constitute critical forms of interactions between

human-made and natural habitats. Due to the diverse significance of edges, rich opportunities exist to use this key ecological transition zone between two types of habitat in designs and plans (Forman, Dramstad, & Oslan, 1996).

It is important to note that corridors can be considered as boundaries and edges. In that sense, the Sultaniyeh, axis of Qanat El-Khasikieh, is a historic edge that defines political, administrative, geomorphological, and ecological divisions between Wastani and the Eastern hills. Being a reference in the city's memory, the Sultaniyeh edge is a traffic axis that holds cultural significance through the heritage of Qanat El-Khasikieh and the olive terraces.

b. Urban Design Reading:

Urban elements are key components in defining a city. Kevin Lynch (1960) identified five elements: paths, edges, districts, nodes and landmarks that determine the image of the city. (Lynch, 1996)

i. Paths

Paths are "the channels along which the observer customarily, occasionally or potentially moves" (Lynch, 1996, p. 99). They can be railways, transportation axis, pedestrian pathways and canals. East Wastani is rich in narrow mostly pedestrian paths along irrigation canals that circulate between the orchards and are of a specific character. The railway and the infrastructure network are also important corridor.

Paths or corridors are not necessarily physical they are as well visual and they establish a perceptual connectivity and scenic landscape identity that holds the entirety of the landscape together and contributes passively to health and the wellbeing of the

environment. In the case of Wastani, the vistas are numerous and they are key in highlighting the main features of the city and the site. The Wastani is characterized by the vista towards the olive orchards of Bramieh and its villas of architectural character (I.e. Jounblat Villa), as well as the views from the eastern hills overlooking the orchard landscape of East Wastani, the valley of Awali, and the Sea Castle. These vistas have viewpoints that form recreational and meeting places for the youth and must be respected and preserved.

ii. Edges

"Edges are the linear elements used as path by the observers. They are the boundaries between two phases, linear breaks in continuity" (Lynch, 1996, p. 99). This infrastructural and urban linear definition of boundaries complements the definition of edges provided by Forman. Accordingly the Sultaniyeh road, the Jizzine road and the Eastern Boulevards are the main edges of East Wastani

iii. Districts

Districts are "the medium-to-large section of the city (...) recognizable as having some common identifying character" (Lynch, 1996, p. 99). Similarly, district can be seen as a patch of urban character in the definition of Forman. In East Wastani, small districts of different urban characters exist: There are the old neighborhoods of Qaya'a, Qanay and Bramieh; Hariri complex; Haret Hijzi along the railway; and Zaroub Hashisho. Each of these neighborhoods has a specific social, urban and architectural character. These traditional fabrics are core in influencing the future character of the developing patches/ districts.

iv. Nodes

Nodes are “strategic spots in the city with intensive foci, points of shift from one structure to another. They are related to path, as they are mostly intersections and junctions” (Lynch, 1996, p. 99). For East Wastani, these nodes are mainly outside the site proper and they are related to two existent roundabouts. However, others can be identified within the narrow path network of the site. Once combined with other defining elements such as watercourses, these nodes can be of social and urban impact rooted in the cultural memory of the site.

v. Landmarks

Landmarks are “reference points (...) defined physical object: building, sign, or mountains” (Lynch, 1996, p. 99). Landmarks can enrich the spatial composition of the patches and the site at large. East Wastani is rich and varied in the type of landmarks: there are the “Maksars”, ancient olives, ficus and eucalyptus trees, “Nadaf” bakery, the 4B sports club, the Hariri High School, the Turkish Hospital, as well as the watercourses, main orchards, khans and mills. All these landmarks are within the site proper, while other repair points exist outside, namely the Juridical Palace, the Municipal Stadium, “Al-Nafaa”, and the Jounblat villa.

c. Composite Landscape Ecology /Urban Design Reading

Both the landscape ecology and urban features complement each other and overlap in defining the site constituents. Fig. 52 illustrates the composite landscape ecology / urban of East Wastani. The identified features are selected as they hold specific criteria and significances that are important to ensure ecological continuity,

urban landscape character and distinctiveness and the contextualization of urban design, namely:

- Ecological significance
- Cultural and historical significance
- Connectivity: Green and Pedestrian
- Continuity: Social and Urban fabrics
- Landscape Distinctiveness and Visual corridors.

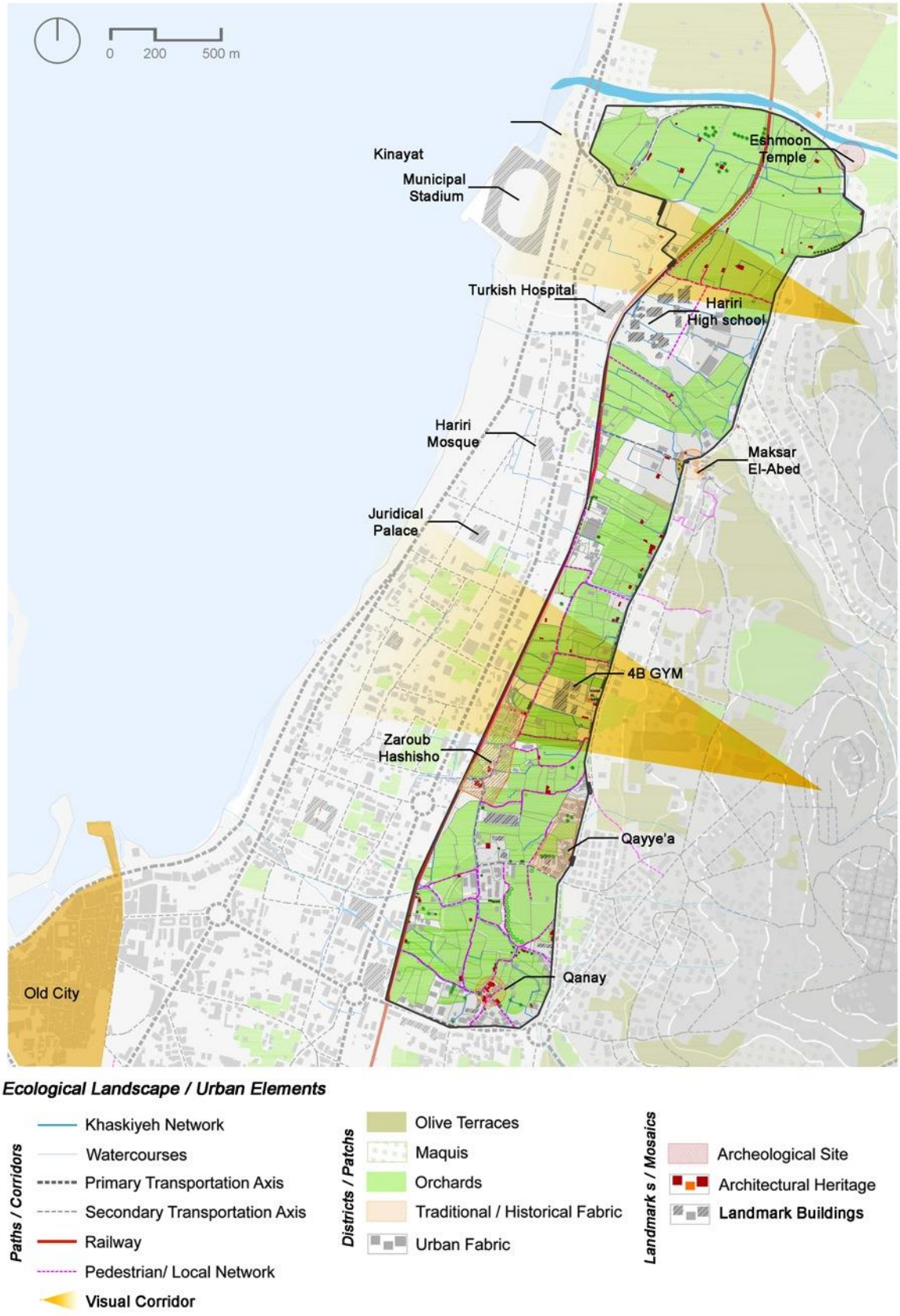


Fig. 52: Site-specific landscape component

B. ELA/LCZ and the Urban Planning

1. *Conceptual Model of Ecological Landscape Composite Elements*

The overlap between the landscape ecology and urban features allows for the bridge between the two disciplines, as they will equally inform the ecological landscape planning strategy. Coupling ELA reading with the site-specific landscape and urban components presents a spatial recognition of the diverse heterogeneous landscape of East Wastani (Fig. 53).

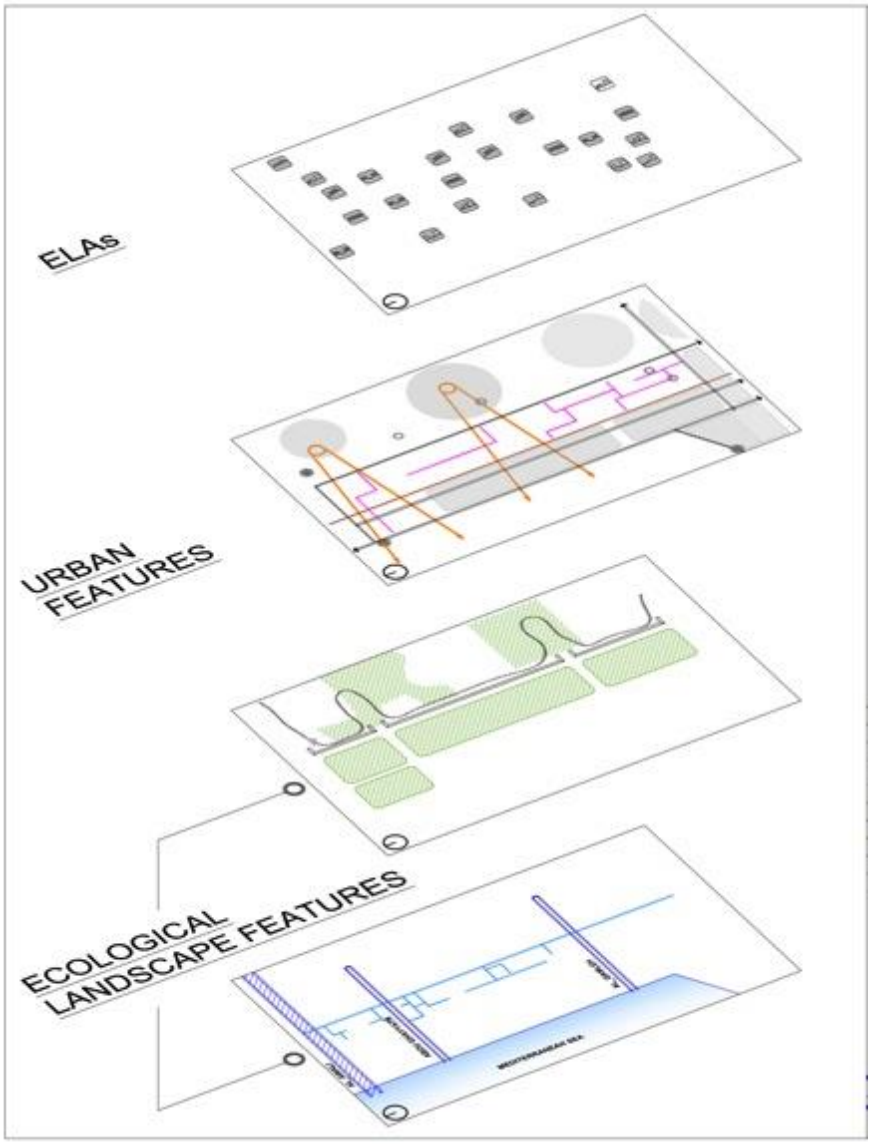


Fig. 53: Ecological landscape composite model for East Wastani

The dynamic interrelationship between these components incorporates the ELAs into practical design elements (zones/patches, corridors, and edges) and forms the basis of a conceptual ecological landscape planning model that ensures ecological health, continuity within the landscape and responsiveness to the urban dynamics (Fig. 54).

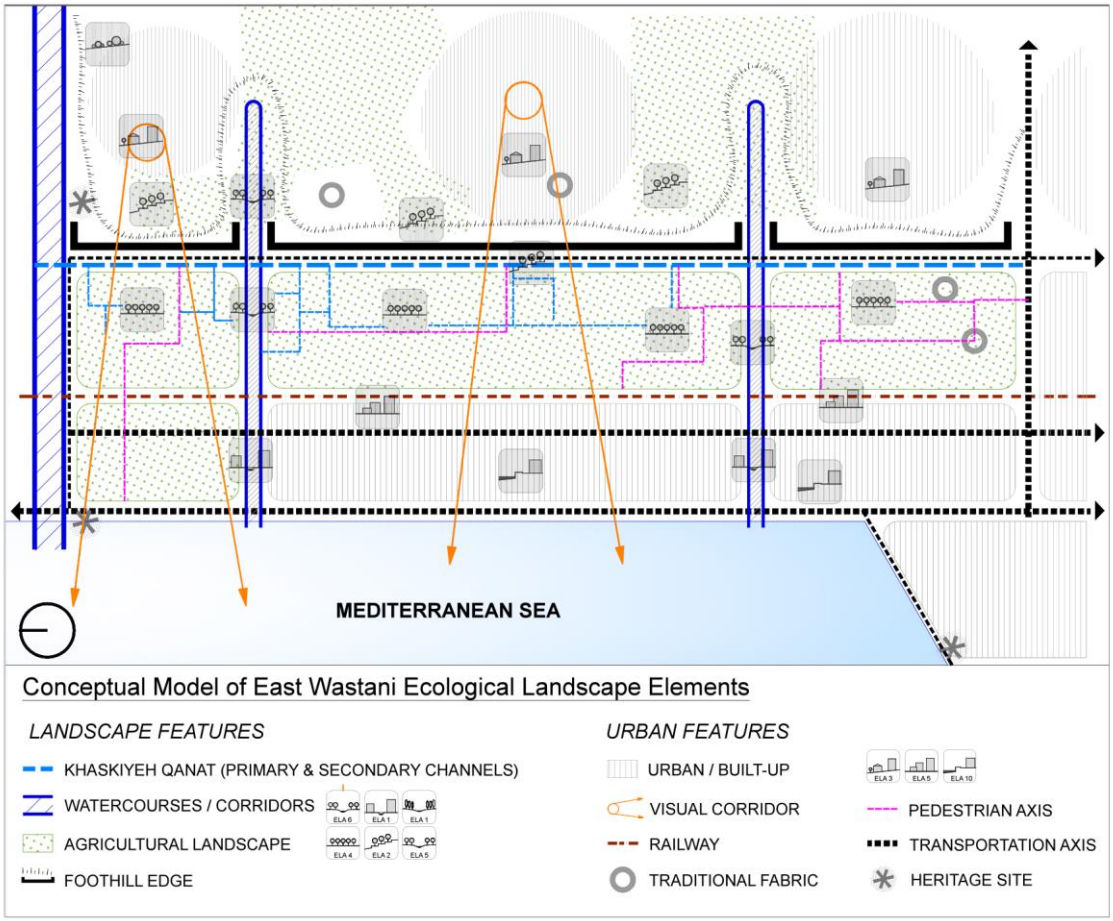


Fig. 54: Ecological landscape conceptual model of East Wastani Elements

2. *Conceptual Model for Ecological Landscape Strategies and Zoning*

To define the Landscape Character Zones (LCZ)s, the study considers a set of strategies that recognize and conserve the character, quality, and heritage as foundations for ecologically, culturally and economically sustainability development. This aim is attained through the following strategies:

- The provision of quality living environments through enhancing the quality and quantity of amenity spaces and green areas, providing publically accessible multifunctional green areas, and increasing the share of green area/inhabitant.
- Protecting and enhancing the natural and cultural landscape and the peri-urban character through reclaiming orchards, promoting agricultural practice and protecting the Khasikieh.
- Preserving and sustainably managing environmental resources, notably the riparian ecology
- Safeguarding landscape heterogeneity
- Establishing landscape connectivity and continuity.
- Integrating and coordinating USUDS strategies, notably the recommendations of blue green infrastructure and the establishment of a dynamic and responsive master plan.

The resulting LCZ plan focuses on major landscape corridors and greenway networks and defines zones of distinct urban and landscape character depending on the existing site features, needs and dynamics.

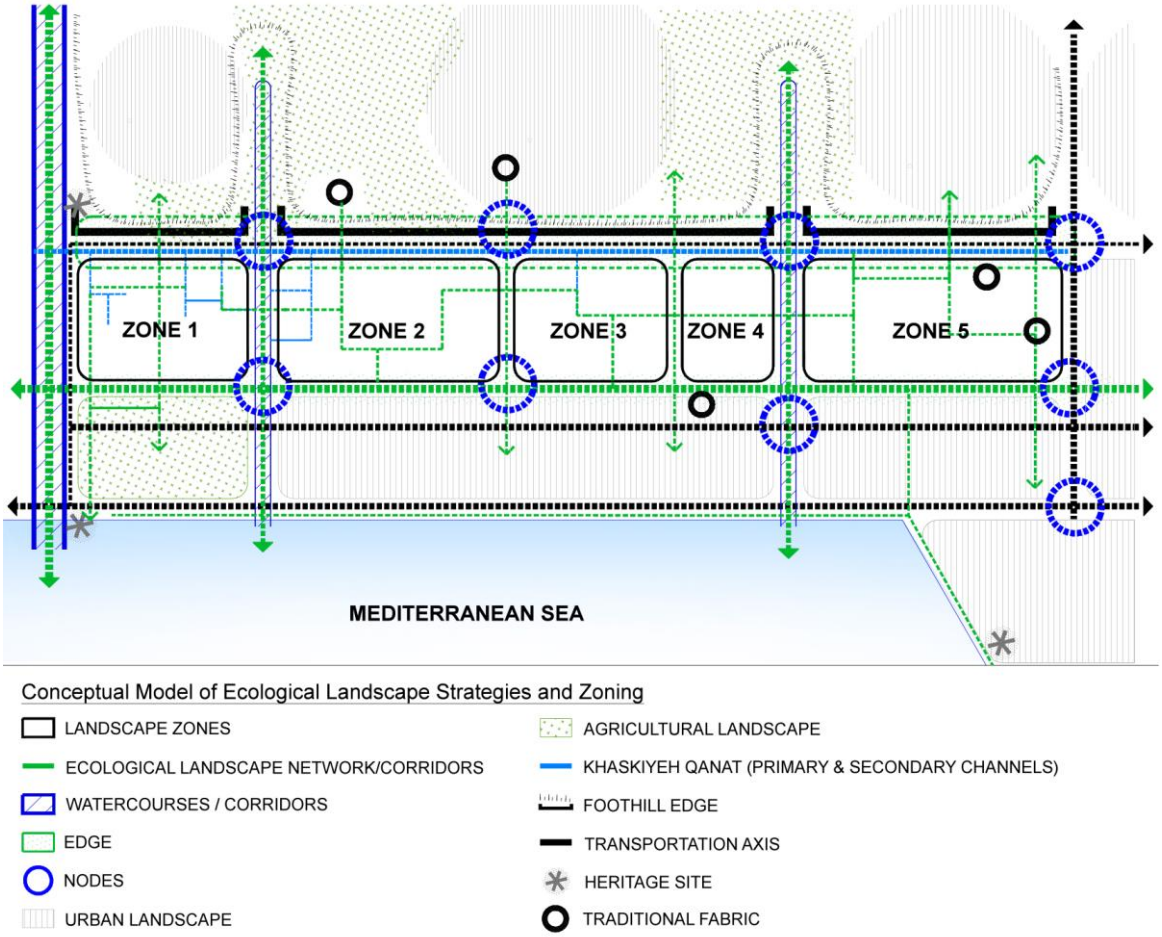


Fig. 55: Conceptual Model of Ecological Landscape Planning Strategy and Zoning

3. *LCZ applied to East Wastani*

Applying the conceptual ecological landscape spatial model resulted in a tailored landscape-zoning plan (Fig. 56) of the East Wastani Zone, which is further detailed in Table 7.

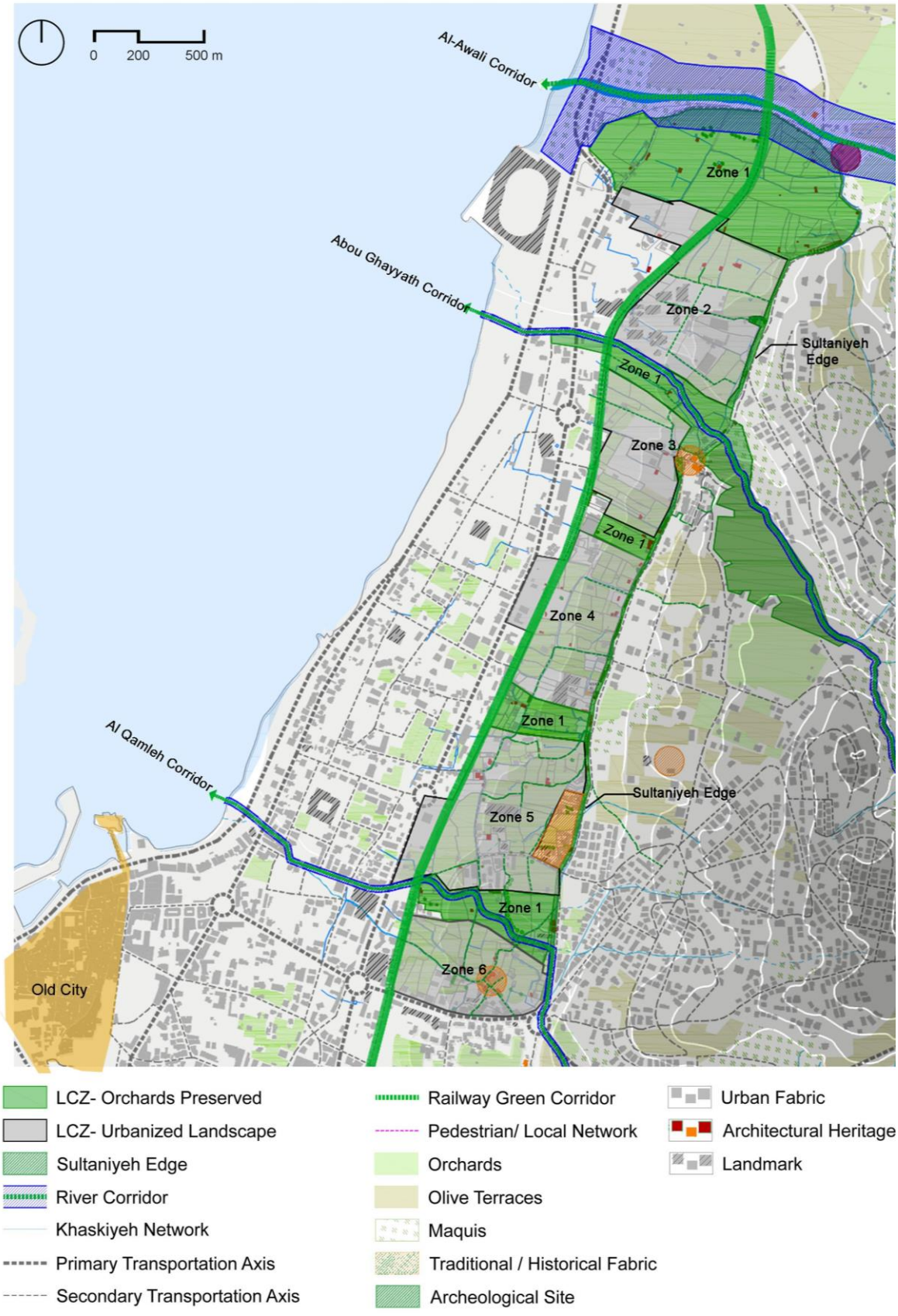


Fig. 56: East Wastani Landscape Zoning plan based on LCZ

Table 7: Landscape Character Zones

Landscape Character Zones		Ecological Landscape Features	ELA
Component	**Description**		
Edge	**Sultaniyeh Edge:** Heritage to be preserved for its cultural and ecological values	- Topographic Characteristic - Khasikieh Qanat - Olive terraces	**ELA 2- Foothills/ Olive terrace**s
Zone 1	**Amenity Orchards:** Selective Orchards of historical, social, vegetative and productive value	- Historic orchards preserving their limits, with a landmark (aging trees, pools) - Productive, ecological value - Water Canals - Buffer for Awali Corridor	**ELA 4-Coastal Plain/ Orchards**
Zone 2	**New Development** (educational, touristic, health services)	- Services complex buildings, schools and The Turkish Hospital - Proximity to the Municipal Stadium and Eshmoun Temple	**ELA 5-Costal Plain/ Built-up**
Zone 3	**Village Fabric** (mixed-use, medium density, compact fabric)	- East West vehicular and pedestrian link (West Wastani to Bramieh Villages) - Maksar El Abed heritage and landmark feature - Water Canals	
Zone 4	**Suburban Neighborhood** (low density, residential, architectural character of villas (or multistory buildings) with gardens	- Visual link to The Bramieh hill with gardens and mix orchards. - Fine pedestrian networks between garden landscapes - Railway integrated within the fabric - Buildings with architectural values - Topographical edge	
Zone 5	**Qayye'a Neighborhood** (residential uses, medium density multistory buildings)	- Traditional neighborhood fabric, housing clusters opening on shared spaces - Pedestrian networks and water canals - Archeological sites	
Zone 6	**Al-Qanaya neighborhood** (mixed uses, medium density multistory buildings)	- Historic core (mills and khans) - Pedestrian networks, orchards stone walls, water canals - Outer development as buffer from Jizzine Road - Building complexes with shared common spaces	
Corridor/ Edge	**Al- Awali Corridor**	- River Banks - River Ecological integrity	**ELA 6- Ravine /Natural**
	Al-Kinayat (Part of Al Awali Corridor)	- Kinayat Cultural value - Recreational multi-functional space - Link to the sea / maritime edge	**ELA 9- Maritime Edge/Natural**
Corridor	**Abou Ghayyath Green Corridor**	- Orchard Landscape of Abou Ghayyath Valley - Rehabilitating river ecology	**ELA7- Ravine/ Orchards**
	Al-Qamleh Corridor (amenity axis between the Neighborhoods of Al-Qanaya and Qayye'a)	- Retrofitting river memory / ecology - Green corridor within an urbanized setting	**ELA 8- Ravine/Built-up**

4. *LCZ General Planning Guidelines*

The proposed LCZ plan translates into series of planning principles that are illustrated and can inform a plan similar in function and character to the Zoning Master plan but surpass it by being (a) sensitive to environmental, ecological and cultural aspects (b) responsive to ongoing urban dynamics and (c) tailored, detailed in to the site specificities in its planning guidelines, but not too flexible nor too restrictive as it provides strategies rather than codes to accommodate future changes.

Specific components emerging from the application of the ecological landscape planning methodology for East Wastani include four components, which are herein outlined:

- Project boundary defined according to urban, environmental and cultural factors so that the strategies are not limited to administrative limits bur rather cover the needed spaces to ensure the sustainability of the development.

- Blue-green infrastructure that establishes connectivity of urban and landscape spaces through incorporating all linear and movement elements such as ecological corridors and green corridors combined with vehicular and soft mobility networks into one system. This Blue-green infrastructure gives the inhabitants the ability to move through a healthy and green environment. This is done through: (a) Recognizing and preserving East-West riparian corridors and the management of water resources; (b) Recognizing the Railway North-South green corridor; (c) Retrofitting vehicular infrastructure; (d) Emphasizing on soft-mobility / pedestrian networks.

- Natural and cultural landscape heritage protected through safeguarding landscapes of ecological, vegetative, historic and cultural value. This is achieved by first re-conceptualizing selective orchard landscapes with an urban agricultural strategy

that accommodate in addition to its productive function, amenity, recreation, and tourism services; and second, by recognizing and preserving the Khasikieh / Sultaniyeh Edge as cultural heritage linked in an eco/cultural trail to the orchard landscapes and other heritage sites, notably Eshmoun temple.

- Built-up zones of distinct character promoting the concept of a green living environment through designating character zones with diverse land use, densities, specific urban, architectural and landscape guidelines that promote green and environmentally sound urban spaces.

Figure 57 illustrates the process of thinking for applying the planning principles, and Table 8 details the planning potentials each of the zones and its role in the framework.

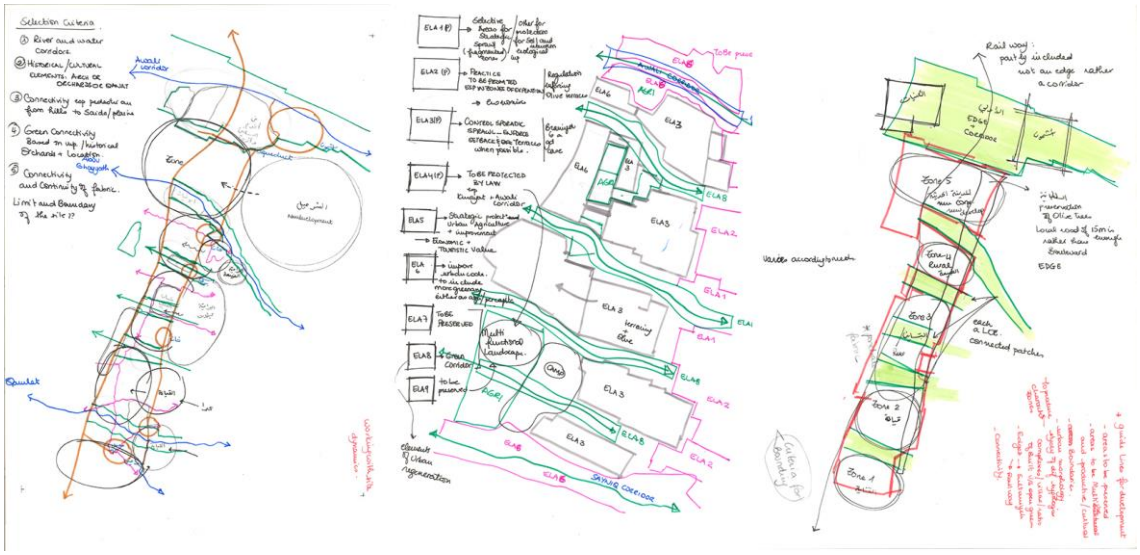


Fig. 57: Process of thinking

Table 8: LCZ Significance and Planning Potentials

LCZ	Significance	Planning Potentials
Sultaniyeh Edge	Cultural and Natural Heritage	East **Edge** of the site: a **cultural and ecological** value coupled with **touristic and economic** potentials
Zone 1: Amenity Orchards	Rural Landscape: Ecological, cultural and economic importance	Strategic orchards are connected **green multifunctional patches** within the urban environment. The selection is done according to the orchard's **ecological importance**, location with the ecological network, **cultural and historic significance**
Zone 2: New Development	Urban landscape Repository of cultural diversity	New urban zone to complement existing **educational, health** and **services uses** helping in the **economic** diversity and marketing a **new brand** for the city
Zone 3: Village Fabric	Suburban Landscape, residential character insuring continuity and development.	Adopting a the **peri-urban mixed use compact** fabric of villas within gardens and enhancing landscape heterogeneity
Zone 4: 'Basatine' Neighborhoods	Suburban development Preserving character, ecological and cultural integrity	**Suburban** neighborhoods, characterized by low-density **residential** individual/ multistory houses within **productive orchard gardens,** keeping on the cultural and **green identity** of the site
Zone 5: Qayye'a Neighborhood	Residential development, ensuring urban continuity, landscape connectivity and social interaction	**Integrated urban** fabric in continuation with existing morphology of residential clusters and shared **common spaces**.
Zone 6: Al-Qanaya neighborhood	Mixed uses development, medium density high multistory buildings	**Urban continuity** through mixed-use residential development, ensuring urban continuity and economic development
Awali Corridor	Natural and ecological significance through realizing eco-diversification	**Ecological, cultural, historical connectivity and diversity** through preserving and connecting natural, archeological and cultural sites to produce **multi-functional amenity** spaces at **city and regional scales**.
Abou Ghayyath Corridor	Natural and rural landscape, ecological connectivity	East-West **green corridor,** important environmental and cultural asset to the city, **improves quality** within built environment
Al- Qamleh Corridor	Ecological connectivity, Cultural importance	East-West **green corridor,** with cultural recreational, amenity and economic importance, part of the Bleu-green infrastructure and **pedestrian mobility** reviving the memory of the city.
Railway Corridor	Cultural and landscape connectivity	**Interface** between the site and its periphery with a North-South **connectivity** in the **Bleu-green network** and reviving memory of the city.

5*. Urban Design Guidelines:*

The ecological landscape model can be taken further than the district scale to influence the design of neighborhoods and determine design guidelines to execute the strategies stated above. Herein is a set of developed design exercises based on my participation in the workshops of Lil Madina (April 2014) and of the Municipality of Saida (June 2014) to think about the development of East Wastani.

a. Qanaya neighborhood

I have developed a design scheme for the area of Qanaya, during the *Al Wastani and the Future Urbanization of Saida Workshop* (June 2014) (Fig. 58). In the first phase, an initial identification of the site's main ecological landscape elements and an application of the general guidelines of the LCZ were done:

- The Qamleh Stream corridor was identified and adjacent orchards and existing service facilities were determined as amenity landscapes
- Existing pedestrian network was added to the blue-green infrastructure
- Historic and traditional fabrics were identified to be preserved, rehabilitated and to learn from their urban and architectural language.
- Important lot boundaries that relate to old orchards were noted as important cultural features to be preserved in the new plot layout.

As per the developed guidelines, the urban fabric of this zone is determined as a mixed uses, medium density multistory buildings. The site's southern and western edges are to be defined as "Edge" development so that they can buffer the inner fabric from the Boulevard. To further respond to the specificities of this neighborhood it, in depth studies should be done.

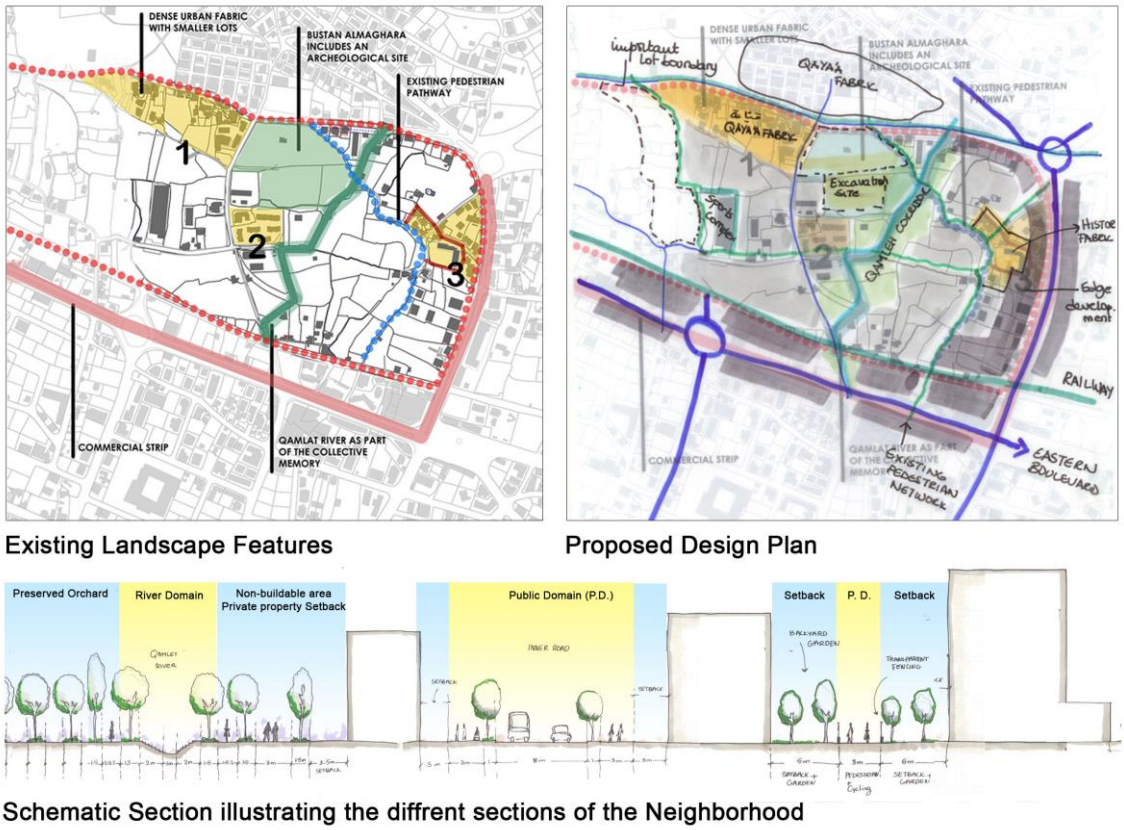


Fig. 58: Illustrative example of the design development of LCZ6 (Al Wastani and the Future Urbanization of Saida Workshop, 2014)

b. <u>Blue-Green infrastructure: Network of Green Spaces</u>

The current LPS framework allows the gain of 25% of the private lot areas to the public domain. This 25% is for all service projects in the site and as the planning frameworks (both LPS and Zoning) do not specify the distribution of these spaces, they are mostly lost to road infrastructure and built-up institutions. The ecological landscape approach comes to adopt the Blue –green infrastructure, proposed in by the USUDS (2013), to hold the bulk of amenity green spaces and infrastructural networks that would incorporate private and public ownerships all together and accordingly guide the distribution of the green network.

This infrastructure was further developed and integrated within the *Al Wastani and the Future Urbanization of Saida Workshop* (2014) as the skeleton that holds the site together. The Blue-green infrastructure re-conceptualizes the infrastructural network including transport, sewage, water canals, heritage trails, soft-mobility and ecological corridors in a hierarchical system to insure ecological and landscape connectivity, multi-functionality and enhance the livability and walkability of the area. We have developed this system in a way that reconfigures built-up/ open, public/private interface, the permeability of the network through the urban fabric and determines its detailed dimensions and specifications. It includes:

- **Orchard landscapes** are major nodes in this network; they should be permeable and accessible, and should be multifunctional in use. They can be sites for urban agriculture, leisure, tourism and production.

- **River and Stream corridors** are revitalized to restore their ecological wellbeing and natural integrity. Proper measurement should be done in order to prevent flooding, encroachment or pollution. They should be designed as public amenity spaces holding cultural and ecological features (keeping on the natural flow, riparian vegetation's, promenades etc...). Even if in certain instances the stream ecology couldn't be revitalized it is mandatory to keep its memory and use it as amenity space (Fig. 59).

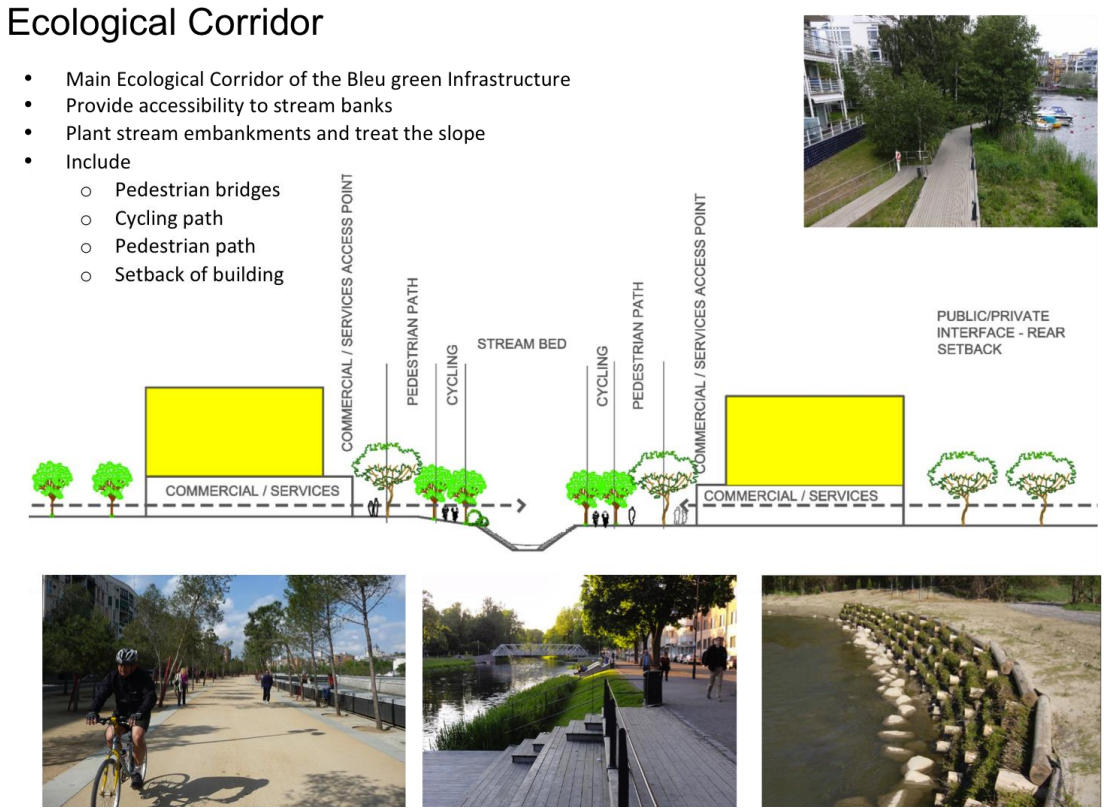


Fig. 59: Conceptualization of the River/ Watercourses Corridors (Based on USUDS Recommendations, 2014)

- **Pedestrian Connectivity**: is preserved as much as possible with existing routes and character (rural landscape, water canals, stone walls, etc.). This network shall be at different instances separated or linked with the vehicular network to provide permeability and flow across the different zones of the site. It includes pedestrian and cyclist paths and needs to allow for a green public transportation system (i.e. tram). Figure (Fig. 60) illustrates: (a) To the left, the treatment of public/private interface for the creation of pedestrian path between the urban fabric, it preserves the feel of walking through orchard landscape by enforcing garden landscaping in the building setback and insuring visual accessibility from the path onto the garden; (b) To the right, pedestrian permeability on the ground level between blocks to encourage walkability.

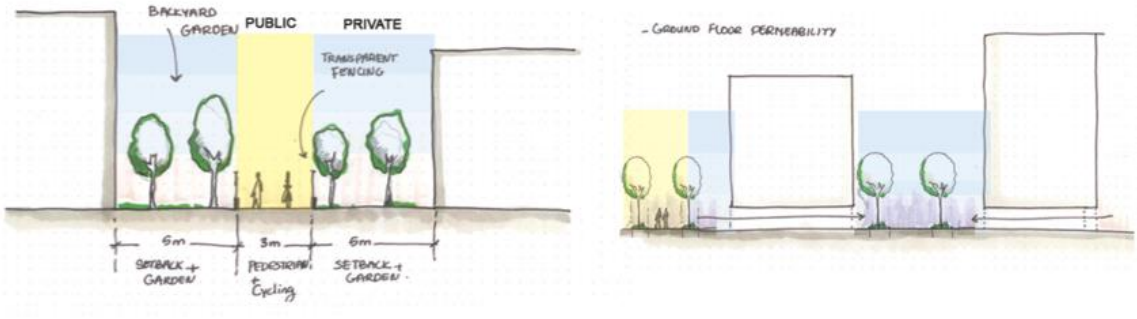


Fig. 60: Proposed pedestrian network: Public/Private interface (Al Wastani and the Future Urbanization of Saida Workshop, 2014)

- Road Hierarchy: Front set back, pedestrian path, landscaping. Figure 61

shows the treatment of the streetscape for main and secondary /inner roads.

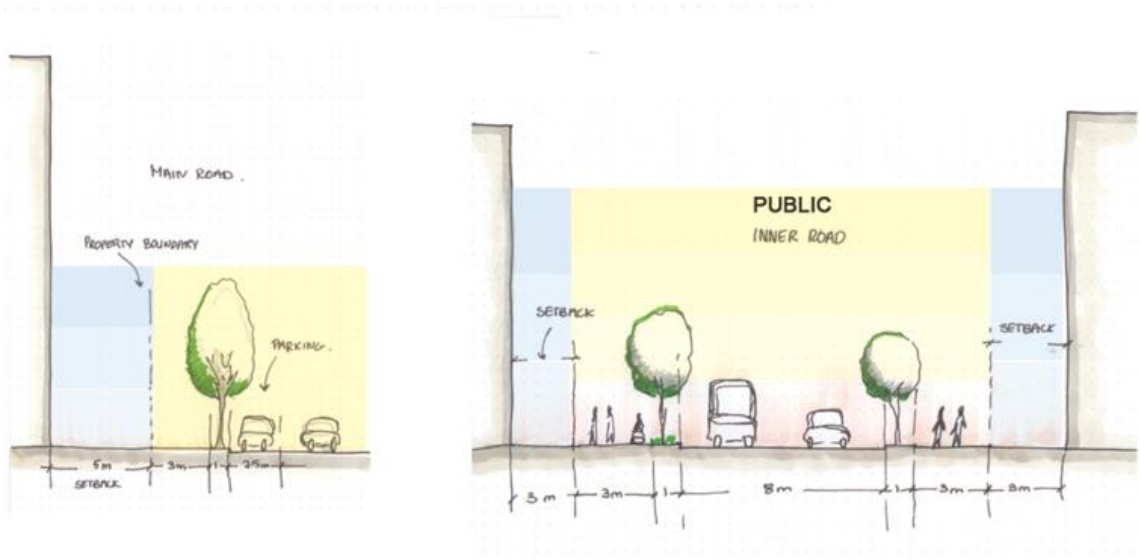


Fig. 61: Proposed streetscape of main road (left) and secondary/ inner road (right) (Al Wastani and the Future Urbanization of Saida Workshop, 2014)

C. Ecological Landscape Planning informing LPS practice

In the preceding section, the LCZ guided the planning framework for the development of East Wastani with an ecological and environmental edge, and presented a tailored and detailed version of the existing zoning plan. However, the aim of this

research is to examine how the ecological landscape approach can inform the application of the LPS project in order to overcome the limitations of West Wastani LPS project. Chapter two illustrated the drawbacks of the LPS practice whereby the master plan is the framework that determines its applicability.

The major drawback of LPS was that it assumes a tabula rasa before setting the new plan. Contrarily the ecological landscape approach requires the understanding of the tangible and intangible composites of the site through identifying its ELAs and LCZ. The produced conceptual design recognizes the site features and responds to site needs.

In the case of East Wastani the ecological landscape reading identified LCZ that are tailored and contextualized within the site's existing characteristics. For each of the character zones detailed urban guidelines can be further elaborated, similar to the previously presented examples (section B.5). Existing lot configuration, traditional fabric typologies, style and material, as well as existing vegetative covers and circulation networks can influence the production of these guidelines and can help avoiding the homogenous isolated building units produced by the existing zoning framework.

In order to produce clusters that are inspired from exiting morphologies I have experimented with fabric typology, different plot sizes and layouts during Lil Madina Workshop (Fig 62). The aim was to apply the LPS tool disregarding existing zoning frameworks to obtain a diversified fabric with different lot sizes and the building typologies. The resulting fabric is defined by (1) U-shaped clusters opening on a central open space similar to the existing neighborhoods (Fig. 62.a, left), (2) independent row houses/ villas with longitudinal plots allowing for a continuous orchard and pedestrian

circulation in between (Fig. 62.a, middle) and (3) Organic clusters following existing lot arrangements (Fig. 62.a, right).

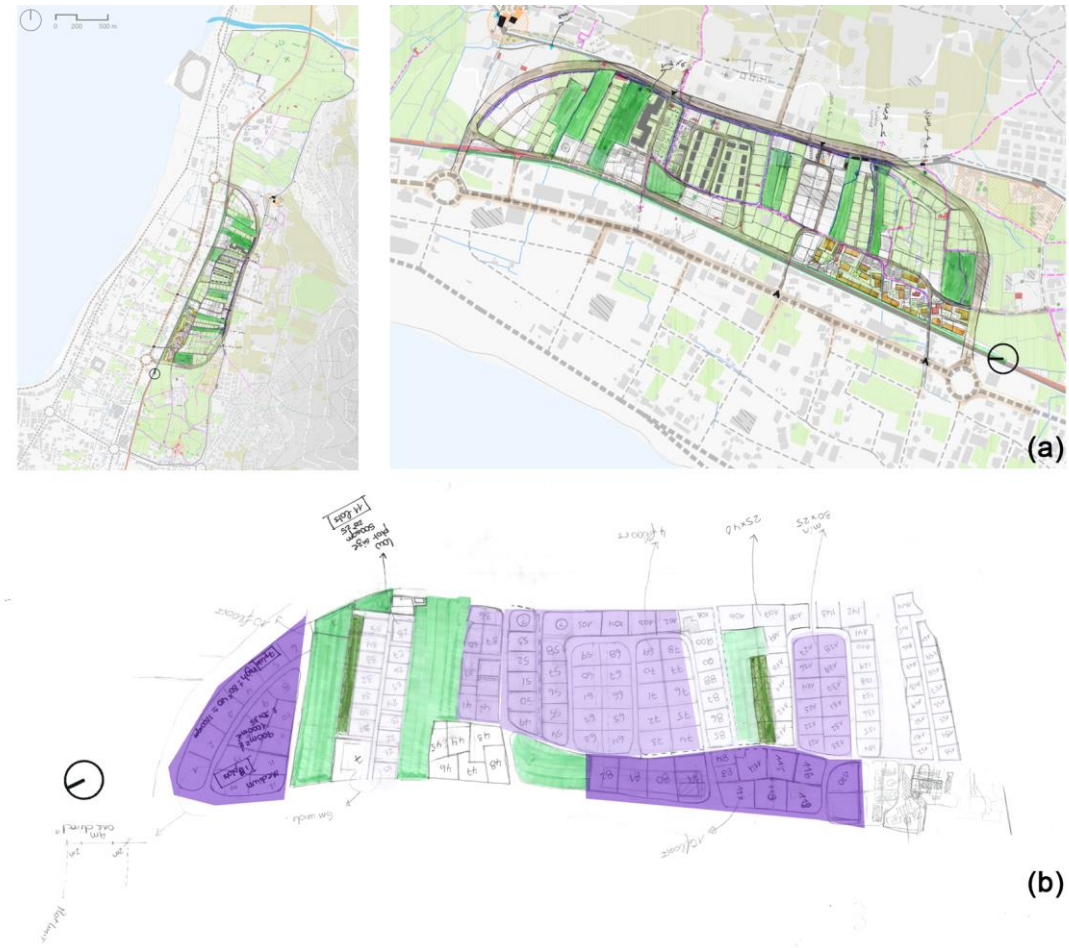


Fig. 62: Illustrative example of subdivisions of LCZ 4 design development influenced by existing fabric typology, proposing a new fabric integrated within orchard landscapes and emphasizing on pedestrian and vehicular connective

Finally, the LCZ allows for a shift in scale from the regional to the neighborhood scale allowing a margin of flexibility while thinking about the governing planning strategies: as we go smaller in scale the design and planning guidelines become more detailed and site specific.

The presented examples represent initial attempt to demonstrate the possibility of translating the guidelines into spatial designs. However, they clearly prove that the real impact of this approach lies on the larger planning frameworks that direct the application of the LPS: determining the areas to be developed in a responsive and integrative manner, and guiding the strategic distribution of gained public domain into ecological, cultural, environmental and social amenities. The ecological landscape approach proposes at each scale, from regional Saida to the local scale of Qanaya Neighborhood in East Wastani, a set of strategies that focus on preserving the landscape character and environmental resources and ensuring ecological continuity, health of the living environment, and sustainability of urban/ peri-urban development.

CHAPTER VI:

CONCLUSION

A. Critical Assessment of East Wastani project:

The ecological landscape approach allowed for a landscape and urban planning strategy that recognizes the East Wastani's natural, cultural and urban specificities and that emphasizes on the ecological and environmental health. This approach defines the principles for the development of the areas that protect landscape heritage, provides equitable distribution of green areas, and enables accessibility to healthy living environment. This strategy is manifested through a series of planning and design schemes such as the blue green infrastructure, landscape character zone, urban agriculture and shall serve as model for thinking about the design of the districts as well as the neighborhoods.

The East Wastani case study demonstrates that the ecological landscape planning approach could provide considerable improvement to the livability of Lebanese cites. Its major contributions lie in the proposed strategies and planning guidelines that contextualize the intervention, establish physical and ecological connectivity, preserve environmental resources, and define the character of urban zones.

In order to evaluate the viability and the impact of the ecological landscape planning strategy, a comparison between the proposed conceptual design for the East Wastani and the conventional application of the LPS tool in West Wastani is herein discussed.

1. ***Ecological, Environmental and Landscape Heritage Viability***

The ecological viability of the East Wastani LPS lies in the quantity, quality and connectivity of green spaces. In contrast, the West Wastani public green spaces exist in one big public garden and in islands and roundabouts of the Eastern Boulevard. All three occupy only 3% of the project area, and are isolated and poorly connected, with accessibility limited to the immediate surrounding. The West Wastani project disregarded existing landscape heritage and environmental elements, undermining the ecological, cultural and functional significance of green spaces.

In contrast, the East Wastani proposal provides a network of green spaces covering almost 40% of the project area distributed between (a) orchard landscapes alongside the watercourses providing buffer for the river stream, (b) riparian corridors (c) green corridors including the railway and Sultaniyeh edge and (d) pedestrian networks linking all the spaces together and ensuring their accessibility. This network ensures the ecological viability of the project.

The designation of the river/stream corridors as connective ecological elements will raise environmental awareness about the management of this natural resource and protect their integrity through sustainable management of rainwater and wastewater treatment (USUDS, 2013). The ecological management of the watercourses will reverse the prevailing perception of watercourses as a source of pollution and a liability demonstrating instead their potential as valuable environmental resources.

The proposed landscape strategy selected the green spaces and the network of landscape heritage features that are of cultural heritage value and contribute to preserving the cultural identity of the project. The selection of diverse green areas aims

at: (a) the protection and preservation of orchard landscape through the strategic selection and re-conceptualizing the orchards as amenity and productive landscapes with cultural, ecological, and functional features; (b) the preservation of the footpaths and irrigation canals network; and (c) proposing new landscape strategies inspired by the existing character.

2. *Economic Viability*

The economic viability of the increased quantity and diversity of green areas can be justified through a combination of legal measures, branding and programmatic strategies.

From a legal perspective, the East Wastani proposal comes with a strategy that allocates 40% of the site's area (50 hectares) as green spaces to be protected, not including the green spaces within the built-up space such as private gardens or the network of pedestrian corridors. The green spaces are distributed between public river and watercourses domain, public and private property. The percent seems big and the free public domain gained out of the LPS project cannot cover all of this area, especially if 15% will go for new road infrastructure similarly to the ordinary LPS projects. However, existing legal framework can be used to secure the additional quota of green spaces. Out of the 50 hectares, 7 hectares fall within the river domain[14] of The Awali, Abou Ghayyath and Qamleh, and 13 hectares are already included within the gained 25% public domain stipulated by LPS. The remaining can be secured either with other

14 By law, the river domain of the Awali is a 100m buffer on both sides, and 20m for both Abou Ghayyath and Qamleh.

legal methods such as expropriation or transfer of right of development (See section C2).

The ecological dimension of the project helps branding East Wastani project as model for the green, environmentally sustainable development and heritage sensitive approach. This branding can help the municipality to receive funds for the establishment of public projects such as the green corridors, a soft mobility plan, environmental resource management project, eco-touristic and urban agriculture projects, etc. Branding will highlight the importance of the green environmental development for providing better living conditions. The latter can be used as an attractive marketing strategy for the project and push for reversing the trend of ignoring/ damaging environmental and green resources.

The concept of multi-functionality adds to the economic viability of the project because of the advantage of green space productivity. Strategies for urban agriculture and eco-tourism become integral programs for the recreational activity and will contribute in the sustainability of these amenity spaces, their function, use and management.

3. *Social Viability*

The project is socially inclusive in comparison with the West Wastani project. The LPS process should consider involving the community in all planning phases and not only in the redistribution of the properties. The ecological landscape methodology requires the engagement of the community in different moments of the planning process from the study of the social and cultural practices to the execution of the project. The involvement of local stakeholders, the municipality, social actors and NGOs, is the one

of the important factors that guarantee the acceptance of the strategy and can reduce social resistance to the project.

The engagement of the community will raise awareness and reaffirm their attachment to existing heritage landscapes that are part of the collective memory of Saida. This in turn will facilitate adopting the project guidelines and developing a sense of ownership and responsibility. Already, social groups within Saida are fighting for the ecological and sustainable principles in planning the city. For example, Lil Madina [15]group argue for the rehabilitation of the Qamleh watercourse as an ecological corridor, and have succeeded in securing the approval of Abra and Haret Saida Municipalities, the needed funds and the needed technical supervision. Unfortunately, due to political issues they couldn't gain the approval in what concerns the Qamleh section within Saida's municipality. However this civic initiative continued with the project moving to Haret Saida, an adjoining municipality. Another group, Shajar w Bashar is also advocating for the right to have the Railway as a green corridor and they are getting the support from international organization (PACE) and working on the other steps that allow the execution of the project.

It is important to note that these social activists were inspired and found support in the USUDS strategy and its adoption by the Saida Municipality. Along the same lines, I have argued that the East Wastani project can also benefit from USUDS recommendations and strategy. This will facilitate the adoption of this new approach by

15 Lil Madina Initiative (2014): http://lilmadinainitiative.wordpress.com/; https://www.facebook.com/lilmadina/info?tab=page_info

the Municipality. The USUDS can be also be used as the venue through which the Municipality can (a) negotiate the application of the project with the municipalities of Greater Saida, in terms of the ecological, environmental and landscape continuity and impact of the strategy beyond the East Wastani; (b) secure funding and support of the local, national and international agencies; (c) ensure the continuity and success of the project.

B. Ecological landscape Planning beyond East Wastani

The project impact is not restricted to the project's boundaries. It extends beyond and gives a chance to rethink West Wastani and the hills in relation to East Wastani (Fig. 63). In that sense, the network of green spaces does not stop at the site boundaries; it continues to link the stream valleys from the east to the sea across West Wastani. Even if the green network is reduced to mere streetscape, it can still establish ecological and social connectivity and restore the cultural identity and memory of these watercourses. Other cities have pursued such strategies for example The Ramblas in Barcelona or the River of Cheonggyecheon in Seoul (Fig. 64). The blue-green network further extends to incorporate the existing green open spaces within the Municipality of Saida, the waterfront and the other watercourses, Barghouth and Sayniq, to establish effective ecological linkages and produce a network that serves all of Municipal Saida and its region.

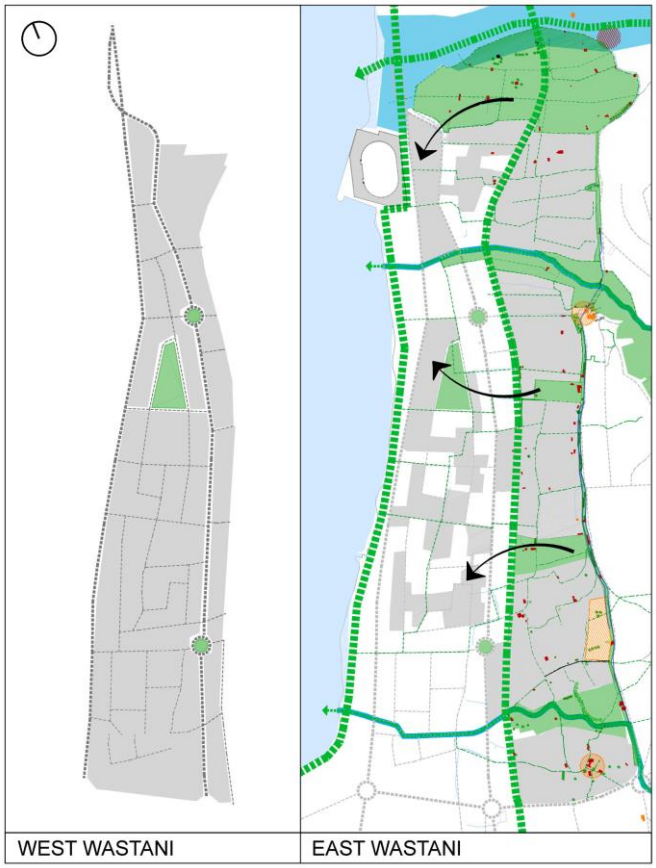


Fig. 63: Comparative assessment between and West Wastani (left) project and East Wastani proposal

Fig. 64: Rambla Del Raval, Barcelona (left); Cheonggyecheon River Seoul Korea[16] (right)

[16] (Source:http://en.wikipedia.org/wiki/File:Korea-Seoul-Cheonggyecheon-2008-01.jpg, Feb 15, 2015)

From another perspective, the development of East Wastani cannot occur in isolation from West Wastani. West Wastani can be considered the urban core that includes all of the administrative and public institutions. Even though it has lost its natural and cultural character, it still holds a lot of potential. Therefore, a proper developmental strategy should revise the functions and land uses of the two zones in conjunction. Additionally, 43% of West Wastani is still undeveloped; with a revision of the zoning regulation and other planning tools, notably transfer of development rights, the city can achieve a better distribution of urban densities and land uses. The West Wastani could be densified and more urbanized while the East Wastani can remain peri-urban in character. This process will provide important natural and environmental benefits, as it would allow for the preservation of the orchards and river landscapes. (Fig. 63)

C. Rethinking The Conventional Planning Framework

1. *Ecological Landscape Planning into the Lebanese Planning Framework*

The legal framework is the core of this study, as argued before the problem is not only with LPS tool; it is equally if not mainly with the guiding framework, the Master plan. The previous chapter showed the importance of the ecological landscape approach in enhancing conventional planning frameworks, and in providing a way to revisit the planning strategies and direct them to take into account factors of livability, other than the built-up exploitation ratios and functions, such as ecological system, identity and character, connectivity, green spaces.

There are also shortcomings in the way the Master plan is being applied (Fawaz, 2010), because it is misleading, static and does not respond to urban dynamics.

It neither provides guiding principles that allow us to rethink development as part of a whole, the city, nor offers enough details to impose specific regulations to produce a proper urban fabric.

On the other hand the ecological landscape planning framework provides a holistic scheme, integrative of existing urban dynamics, environmentally sensitive and flexible to be applied at any given scale. If incorporated in the general planning framework, whether applied in rural or urban settings, it can develop a sustainable intervention that balances the environmental, cultural and social factors with real estate aspiration rather than prioritizing one at the expense of the other.

In what concerns LPS tools, using the LCZ as a framework will help in the production of ecologically sound development and improve of the livability of new fabric. A modification of the LPS tool can include: coupling LPS with ELA and LCZ studies that provides holistic understanding of the site conditions, a framework for assessing the intangible and tangible assets of the site as well as an environmental impact assessment.

2. *Additional Planning Strategies*

In order for this framework to be effective, planners could make use of a set of other regulatory tools such as:

- Transfer of property/ developmental rights: an urban planning tool that allows the transfer of property rights to another area intended for development while maintaining the original land ownership. This tool ameliorates the application of LPS through providing diversified densities with the same zone and preserving green ecological landscapes as part of the private property without depriving the owner of

developmental rights. It can benefit both East and West Wastani by channeling development to the urban core and protecting the natural and cultural landscape at the periphery.

- Environmental strategies to ensure the sustainability and the quality of the living environment, which include regulations concerning green buildings, energy conservation, LEED certification, sustainable wastewater management, rain water collection, soft mobility, etc.

- Urban agricultural strategies that include financial incentives, quality standards and awareness highlighting the contribution of cultural landscapes to the health of the living environment.

- Tax based incentive programs help enforcing urban and landscape guidelines in the planning framework. These incentives can be used to encourage practices such as urban agriculture, planting productive gardens, energy efficient practices i.e. rainwater collection, solar energy, common underground parking and others practices serving the realization of a healthy living environment.

- Finally, phasing the project and the development to allow for gradual built-up densification. The LPS project is a long, costly process, and once implemented it is irreversible. Phasing would allow progressive development of the areas (unless a designated zone is fully developed, development can occur in another zone). This will provide a margin for revising the plan according to urban dynamics, preserve the landscape character, and reduce land speculation and the execution excessive infrastructural works.

D. Recommendation for the future

Finally, this research allowed me to explore the potentials of the ecological landscape planning approach as a methodology to bridge between both urban design and ecological design theories, a hot topic in academic and professional spheres. For the purpose of this thesis, the focus was on the conceptualization of landscape ecological values and guidelines into urban policy. Was I able to succeed? I can say partially because the framework is wide, multidisciplinary. The capacity to renegotiate political, cultural, social and economic issues will require further research that addresses the practical connotations and translation of this methodology into policy.

Future research shall address multiple questions such as: how are the cultural patterns evolving and redefining the urban dynamics of urban society? What are the politics behind these changes and how could the ecological landscape approach address this cultural change? How do political structures redefine ecological systems and boundaries? And to what extent could the ecological landscape planning methodology be used to dissimilate or play with these political forces to reconfigure administrative boundaries, prioritize and protect environmental and ecological systems?

APPENDIX I:

MASTER PLANS OF SAIDA

A. Ecochard plan (1958): Planning the new town of Saida

Ecochard is a French urban planner who worked in Syria, Algeria, Morocco and Lebanon during and after the French Mandate. He was fond of the region and was commissioned during the President Chehab to work on the National Master-plan, as well as the Master plans of major cities such as Beirut and Saida.

The Ecochard plan is an example of the managing the duality between urbanization and agriculture/rural landscape as the location of the fields at proximity to the walled city caused a challenge. Ecochard stressed on the importance of preserving the agricultural band around the old city and presented a planning scheme that "distinguished between the old city fabric, the 'Basatine'/ 'garden area" and the hills with their suburban potential barring the modern expansion of the city (Fig. 65) (Verdeil, 2005).

Ecochard, in *Saida et Region 1958*, states that the expansion will be located at the foothills of mount Lebanon in order to move away from the zones of orchards on the coastal plain and by this we go back to the old planning traditions of having a sea city and an inland city. He suggested small lot subdivisions that do not exceed one hectare and suggested exploitation factors of 2% as a maximum in addition to prohibiting subdivision. His protective strategy of orchard zone was perceived as demanding and costly. The concept of orchard area remained but nothing was applied from the protective strategy in the following planning master plans (Verdeil, 2005).

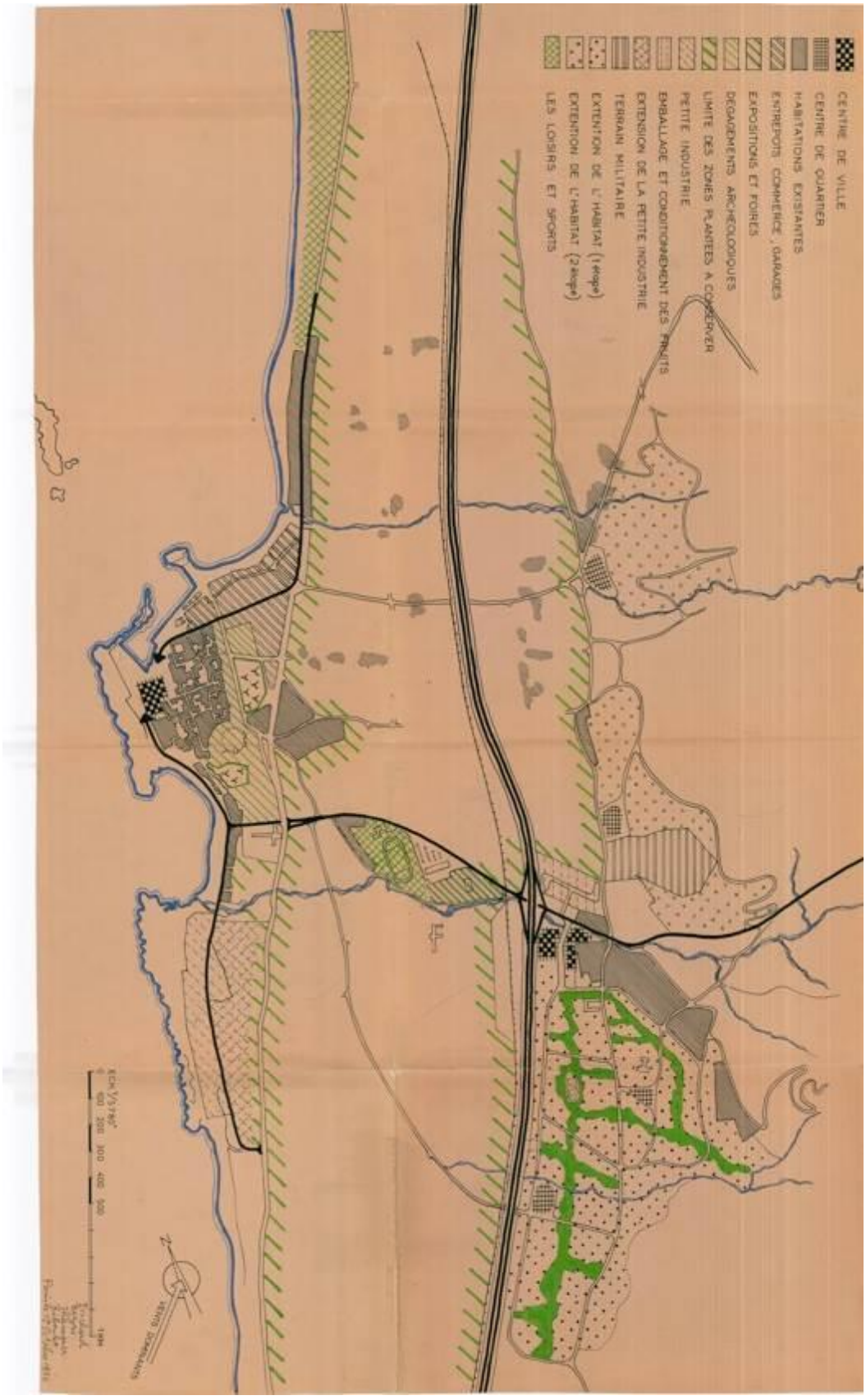


Fig. 65: Plan of Ecochard (Amin Al-Bizri Archives, courtesy of Fadi Kotob)

B. Saida's 1967 Master Plan of Saida

The 1967 plan (Decree 9016/1967) is set according to the zoning model, which is an outcome of the functionalist approach to planning. Its determinant factors are density, exploitation ratios (floor to area ratio (FAR) and total exploitation rate (TER)) and land-use. The Master plan have received two revisions, the first is by Decree 6458/1973 and the second by Decree1 10239/1975.

The master plan was approved by the decree of 9016/1967 and had noted the following:

- The city of Saida is divided into 8 Zones (A,B,C,D,E,F,G,I1, I2);
- Road network, specifically the Eastern boulevards;
- Determined areas for the construction of public services (schools and hospitals) and parks;
- The approved plan of 1967 for Saida amounts to nothing more than a street alignment plan without little consideration to land uses.
- Canceled the protective strategy of Ecochard

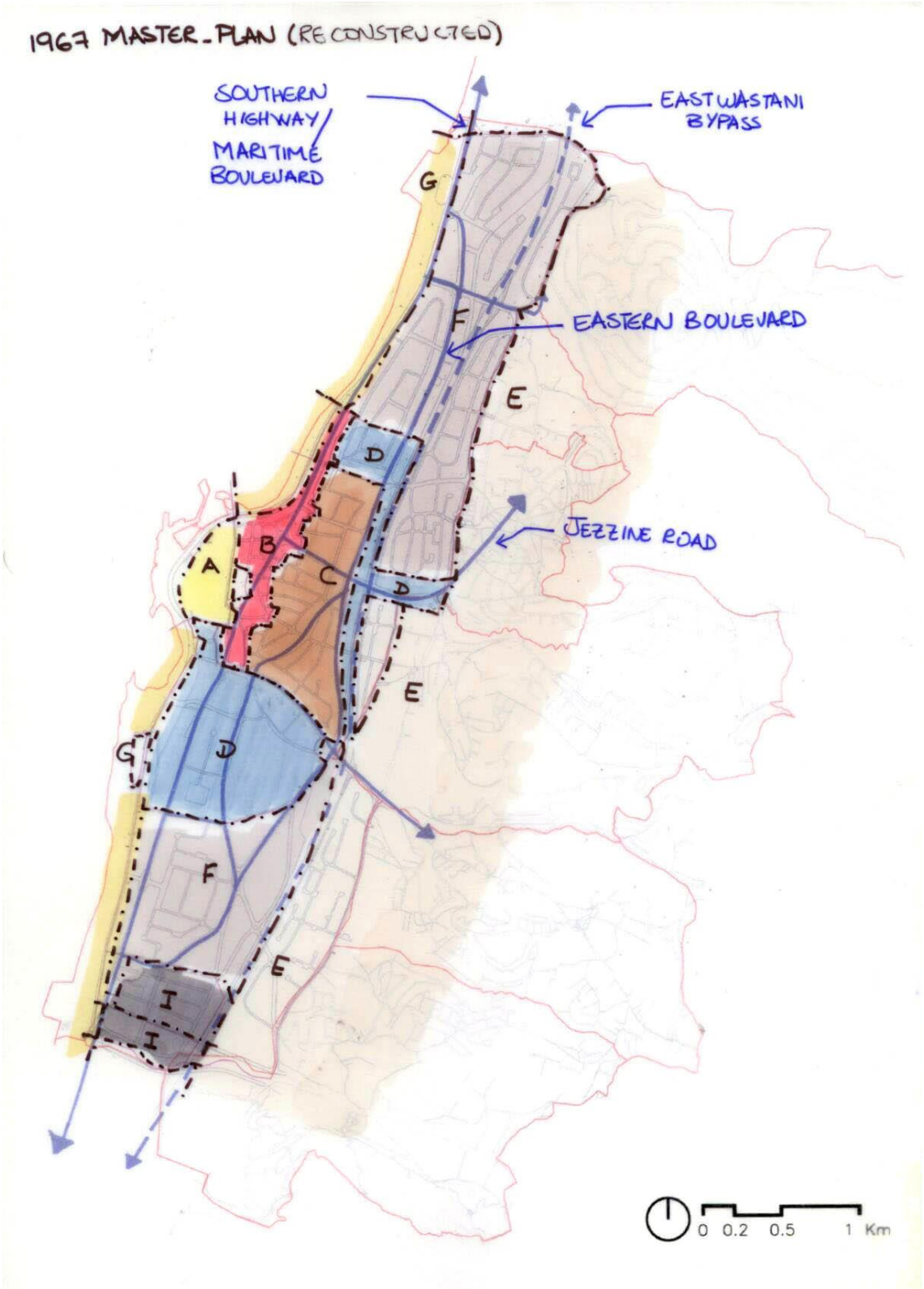


Fig. 66: 1967 Master Plan (reconstructed from sources in DGU, Saida)

بهذا المرسوم الموضوعة بمقياس ١/٢٠٠٠ ، والممتدين من السراي الكبير حتى البحر ، في مدينة بيروت .

المادة الثانية ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة .

سن الفيل في ٢٧ كانون الاول سنة ١٩٦٧
الامضاء : شارل الحلو

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : رشيد كرامي

وزير الاشغال العامة والنقل
الامضاء : فؤاد البزري

مرسوم رقم ٩٠١٦

تصديق التصميم التوجيهي العام لمدينة صيدا وضواحيها (محافظة لبنان الجنوبي)

ان رئيس الجمهورية اللبنانية

بناء على الدستور اللبناني

بناء على قانون التنظيم المدني الصادر بتاريخ ٢٤ ايلول١٩٦٢ المعدل بموجب مشروع القانون الموضوع موضع التنفيذ بموجب المرسوم رقم ١٣٤٧٢ تاريخ ٢٦ تموز سنة ١٩٦٣

وبعد الاطلاع على قرار كل من بلدية صيدا رقم ٣١١ تاريخ ١١ تشرين الاول ٩٦٧ وبلدية درب السيم رقم ١٨ تاريخ ١١ تشرين الاول ١٩٦٧ وبلدية الهلالية رقم ٢ تاريخ ١٣ تشرين الاول ١٩٦٧ وبلدية المية ومية رقم ٢٢ تاريخ ١١ تشرين الاول ١٩٦٧ وحارة صيدا رقم ٢٢ تاريخ ١١ تشرين الاول سنة ١٩٦٧ وقرار هيئة اختيارية قرية الرامية تاريخ ١٩ تشرين الاول ١٩٦٧ وقرار هيئة اختيارية قرية بقسطا تاريخ ١٩ تشرين الاول ١٩٦٧

وبعد الاطلاع على قرار المجلس الاعلى للتنظيم المدني المتخذ في جلسته المنعقدة بتاريخ ٢٤ تشرين الاول ١٩٦٧ ـ محضر رقم ٥٠ ـ

بناء على اقتراح وزير الاشغال العامة والنقل

وبعد موافقة مجلس الوزراء بتاريخ ٢٠ كانون الاول ١٩٦٧

يرسم ما يأتي :

المادة الاولى ـ يصدق التصميم التوجيهي العام العائد لمدينة صيدا وضواحيها (محافظة لبنان الجنوبي) المتضمن تقسيم المناطق وشبكة الطرق كما هو مبين على الخريطتين المرفقتين بهذا المرسوم (١) والموضوعتين بمقياس ١/٢٠٠٠ .

يخضع هذا التصميم لنظام البناء والفرز والضم والفرز والاستثمار المبين في الجدول المرفق بهذا المرسوم والذي يعتبر متمما له .

المادة الثانية ـ تلغى جميع التصاميم التوجيهية السابقة المخالفة لهذا التصميم وجميع الانظمة غير المنطبقة على النظام الخاص المرفق بهذا المرسوم

المادة الثالثة ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة .

سن الفيل في ٢٧ كانون الاول سنة ١٩٦٧
الامضاء : شارل حلو

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : رشيد كرامي

وزير الاشغال العامة والنقل
الامضاء : فؤاد البزري

(١) ان الخريطتين المذكورتين مودعتان لدى وزارة الاشغال العامة والنقل .

(1)

الاستعمال والاستثمار

يمنع ضمن المناطق A.B.C. من انشاء واستثمار المؤسسات المصنفة من الفئتين الاولى والثانية باستثناء دور السينما والفنادق والمقاهي ومحطات توزيع المحروقات فئة اولى وتشحيم وغسيل السيارات والمحلات التجارية ومستودعاتها . كما تمنع ايضا المؤسسات المصنفة فئة ثالثة المزعجة والمضرة والتي تقررها المديرية العامة للتنظيم المدني .

تخضع جميع اعمال التنظيم المدني والبناء والترميم ووضع الآرمات والطرش والدهان الخارجي وجميع الاعمال المعتبرة ذات منفعة عامة كاشغال التمديدات والانارة الكهربائية او المائية او الهاتفية ... الخ . ضمن المنطقة الاثرية لموافقة المديرية العامة للآثار المسبقة، وشرط تقديم خرائط مفصلة عن البناء المطلوب وخاصة درس تفصيلي لكامل الواجهات .

يجب أن تكون كافة واجهات الابنية المقامة أو المرممة الواقعة ضمن المنطقة الاثرية من حجر رملي او ورقة منحوتة او مرشوشة وبالاشكال المألوفة في الهندسة القديمة كما يجب أن يكون المنجور وابواب المحلات التجارية والنوافذ من الخشب وباشكال هندسية قديمة .

يمنع ضمن المناطق D.E.F. انشاء واستثمار المؤسسات المصنفة من اية فئةكانت باستثناء محطات توزيع المحروقات السائلة وغسيل وتشحيم السيارات فئة أولى ودور السينما والمقاهي والفنادق وصالات العرض والمستشفيات .

تستثنى على سبيل التسرية من أحكام وشروط نظام المنطقة F. العقارات رقم ٢٩٣ و٢٩٧ و٢٩٨ ، الدكرمان التي سبق واجريت عليها بيوعات بتاريخ سابق لتاريخ ١٩٦٧/١٠/٢٤ وتخضع معاملة الفرز والبناء في هذه العقارات للموافقة المسبقة من المدير العام للتنظيم المدني .

يمنع ضمن المنطقة G. انشاء واستثمار المؤسسات الصناعية والتجارية من اية فئة كانت ، يسمح ضمن هذه المنطقة بالانشاآت التالية : سكن خاص ـ مطاعم ـ فنادق ـ حمامات بحرية مسابح ـ شاليهات . على ان يقترن المشروع بموافقة المجلس الاعلى للتنظيم الدني المسبقة ، ولا يمكن أن تتعدى واجهة البناء ٣٠ ٪ من طول واجهة العقار الموازية للطريق العام الرئيسية .

يمنع ضمن المنطقة I1 بناء ابنية للسكن باستثناء الانشاآت اللازمة لسكن مدير أو حارس المؤسسة .

(2)

شروط عامة

اولا : في البناء :

١ ـ يسمح باضافة بناء علوي على الابنية الموجودة أو المرخص بها قبل صدور هذا النظام شرط التقيد بعدد الطوابق المفروض في هذا النظام وبعامل الاستثمار الاقصى ٠

٢ ـ يفرض بناء الحجر الطبيعي او الورقة المدقوقة بشكل حجر بنسبة ستين بالماية من مساحة الاقسام السُّد من جميع واجهات البناء وذلك في الابنية التي تشاد على جانبي شارع رياض الصلح من نهر الاولى حتى نهر سينيق وعلى جانبي شارع جزين وعلى جانبي جميع الشوارع التي يبلغ عرضها اثني عشر مترا وما فوق ٠

٣ ـ يحسب عدد الطوابق ابتداء من سطح الطابق السفلي sous-sol او من أعلى الاعمدة في الابنية القائمة على اعمدة pilotis شرط أن لا يعلو سطح الطابق السفلي ولا يزيد ارتفاع الاعمدة عن متر ونصف المتر عن مستوى الارض الطبيعية في الاراضي المنبسطة واربعة امتار عن اوطى نقطة عن ارض العقار بمحاذاة احدى واجهاته في الاراضي المنحدرة ٠

ثانيا : في الافراز والضم والفرز :

١ ـ ان الاجازة بالافراز أو بالضم والفرز تخضع لشروط خاصة تتعلق بتنفيذ ترتيبات تجميلية معينة ـ ايجاد فسحة حرة تقسيم القطع وشكلها ، تقديم خريطة حجمية للابنية ضمن القطع ٠٠٠

٢ ـ يسمح بتخفيض الطول أو العمق الادنيين عما هو محدد في النظام للقطع الموجودة أو الناتجة عن الافراز بنسبة ١٠ ٪ شرط أن يقابلها زيادة في مساحة القطعة بنفس النسبة ٠

٣ ـ كل معاملة ضم أو فرز تطبق بشأنها الاحكام التالية :

آ ـ ان سعة الطرقات الملحوظة في مشروع فرز أو ضم يجب أن لا تقل عن ١٠ امتار كما انه يحتفظ عند الاقتضاء وفي حال عدم امكانية تمديد الطريق بايجاد فسحة اضافية في اطراف هذه الطرق لتسهيل دوران السيارات ٠

ب ـ اذا كانت الطريق غير قابلة للامتداد ومخصصة لقطع غير قابلة للتجزئة فيمكن عندئذ تخفيف سعة الطريق الى ثمانية امتار اذا كان عدد القطع اربعا وما دون ٠

ج ـ يتوجب على كل مشروع فرز او ضم وفرز تفوق مساحته عشرة آلاف متر مربع أن لا تقل المساحة الاجمالية للطرق والحدائق والملاعب الخاصة بالمشروع عن خمس وعشرين بالمئة من المساحة الاجمالية ٠

د ـ عندما يتناول مشروع الفرز اراضي عليها ابنية قائمة يجب أن يخصص لهذه الابنية في مشروع الفرز المساحات المتناسبة مع عامل الاستثمار

الاقصى ومع معدل الاستثمار السطحي المذكورين في هذا النظام شرط أن لا تقل هذه المساحات عن المساحة الدنيا المفروضة لقطع الافراز ٠

٤ ـ يعني بالطول الادني للواجهة والعمق الادني الوارد ذكرهما في جدول النظام قياسات المستطيل او المربع المفروض تركيزه ضمن قطعة الارض لتكون صالحة للبناء ٠

ثالثا : معدل الاستثمار السطحي وعامل الاستثمار الاقصى :

ان معدل الاستثمار السطحي هو نسبة مساحة المسقط الافقي للبناء الى مساحة العقار ، اما عامل الاستثمار الاقصى فهو بنسبة مساحة البناء عن كامل طوابقه الى مساحة العقار ٠

يحسب معدل وعامل الاستثمار باعتبار مساحة العقار بعد التخطيط وبصرف النظر عن وجود حقوق ارتفاق لمصلحة العقار على العقارات المجاورة ولا تدخل في الحساب مساحة الشرفات وخزانات المياه وغرف المصاعد المقامة فوق سطح الطابق الاخير والانشاآت تحت سطح الارض ٠ غير انه يمكن اخذ حقوق الارتفاق بعين الاعتبار في حساب مدى وقوع النظر ٠

لا تدخل في حساب المساحة والخطوط الغلافية اقسام البناء المعدة للزخرفة والتدريج وغير المعدة للاستعمال « كالبرجولا والتكنة »
لا تستفيد العقارات الواقعة على شارعين من أية زيادة لمعدل الاستثمار السطحي ولعامل الاستثمارا الاقصى ٠

رابعا

تخضع مناطق حارة صيدا ـ البرامية ـ الهلالية ـ الميه ومية ـ درب السيم وبقسطا الخارجة عن نطاق هذا التصميم لنظام المنطقة E وذلك ريثما يتم تنظيم هذه المناطق بالتفصيل شرط أن لا يتجاوز معدل الاستثمار العام ٠،٩٠ اي تسعين بالماية ولا يتجاوز عدد الطوابق الثلاثة ٠

خامسا

يسمح بصورة استثنائية استثمار الصناعات والمؤسسات المصنفة التي سبق واستحصلت على رخصة انشاء وبوشر ببنائها بموجب رخصة بناء قبل تاريخ ١٩٦٧/١٠/٢٤ ضمن المنطقة الصناعية القديمة ، التي كانت مصدقة بالمرسوم رقم ٨٨١٥ تاريخ ٩٦٢ وذلك ريثما تتخذ التدابير اللازمة لنقل هذه المؤسسات الى المنطقة الصناعية الجديدة المحدده بموجب هذا التصميم ٠

(5)

نظام البناء والضم والفرز والاستثمار

المنطقة		الإفراز: المساحة الدنيا م٢	الإفراز: الواجهة الدنيا م.ط	الإفراز: العمق الأدنى م.ط	القطع الموجودة والصالحة للبناء: المساحة الدنيا بعد التخطيط م٢	القطع الموجودة والصالحة للبناء: الواجهة الدنيا بعد التخطيط م.ط	القطع الموجودة والصالحة للبناء: العمق الأدنى بعد التخطيط م.ط
A	القريـة سكن وتجارة	الفرز ممنوع ما عدا الفرز في سبيل الضم والتحسين ليصبح العقار /٢٠٠ م٢ واجهة البناء مفروضة			٢٠٠	١٢	١٥
B	تجاريـة سكن وتجارة	٦٠٠	٢٠	٢٠	٣٠٠	١٥	١٥
C	سكن وتجارة	٨٠٠	٢٢	٢٢	٤٠٠	١٥	١٥
D	سكـن	١٠٠٠	٢٥	٢٥	٥٠٠	٢٠	٢٠
E	سكـن	١٠٠٠	٢٥	٢٥	٥٠٠	٢٠	٢٠
F	سكـن	١٥٠٠	٣٠	٣٠	٧٥٠	٢٢	٢٢
G	سياحيـة رياضية وفنادق	٥٠٠٠	٧٠	٥٠	٢٥٠٠	٥٠	٤٠
I	صناعيـة فئة اولى I1	١٥٠٠	٣٠	٣٠	٨٠٠	٢٢	٢٢
	فئة ثانية وثالثة صناعية I2	١٠٠٠	٢٥	٢٥	٥٠٠	٢٠	٢٠

(6)

التراجع: عن حدود الطريق والتخطيط م.ط	المنطقة	التراجع الجانبي م.ط	التراجع الخلفي م.ط	معدل الاستثمار السطحي الأقصى ٪	معدل الاستثمار العام الأقصى	عدد الطوابق	العلو الأقصى للبناء م
وفقا للمخطط مع تراجع أدنى ٤ أمتار عن محور الطرق غير المخططة	A	لا شيء مع ضرورة التلاصق بالجار على طول الواجهة		٦٠	١,٨٠	٣	١٢,٥٠
	B	—	—	٦٠	٤,٢٠	القانون العام	ضعفي عرض تخطيط الطريق المصدق مع حد أقصى قدره ستة وعشرون مترا
	C	٤,٥٠	٤,٥٠	٤٠	٢,٤٠	٦	
وفقا لمرسوم التراجع والبراحات المبينة على خريطة شبكة الطرقات مع حد ادنى قدره ثلاثة امتار عن حدود الطرق غير المخططة	D	٤,٥٠	٤,٥٠	٣٠	١,٢٠	٤	١٦
	E	٤,٥٠	٤,٥٠	٣٠	٠,٩٠	٣	١٢,٥٠
	F	٤,٥٠	٤,٥٠	٣٠	٠,٦٠	٣	١٢,٥٠
	G	٦,٠٠	١٠,٠٠	١٥	٠,٣٠	—	—
	I فئة اولى	٦,٠٠	٦,٠٠	٧٠	١,٤٠	—	—
	I فئة ٢ و٣	٦,٠٠	٦,٠٠	٤٠	٠,٨٠	—	—

(محافظة لبنان الشمالي) لايصال المياه الى عقاريهما رقم ١٠٦٣ و ٩٧٨ ٠

المادة الثانية ـ على صاحبي الرخصة ان يدفعا مسبقا لخزينة الدولة لقاء هذا الاشغال عائدات سنوية مقطوعة قدرها مائة ليرة لبنانية

المادة الثالثة ـ حقوق الافراد محفوظة وتبقى محفوظة حتما ولهم حق اثباتها عند الاقتضاء امام السلطة القضائية ٠

المادة الرابعة ـ اعطيت هذه الرخصة بصورة موقتة ولمدة سنة يمكن تجديدها ضمنيا ويمكن مع ذلك الغاؤها في اي وقت اذا اقتضت المصلحة العامة اتخاذ مثل هذا التدبير بدون اي تعويض عن الانشاءات المقامة او اي عطل وضرر او اعادة مصاريف ٠

المادة الخامسة ـ يجب على المرخص لهما التقيد بشروط الاتفاق المعقود بينهما وبين مصلحة سكك حديد الدولة اللبنانية والنقل المشترك لبيروت وضواحيها بهذا الصدد لاسيما المادة الخامسة منه ٠

المادة السادسة ـ في حال الغاء الرخصة على السيدين جورج ووجيه شلهوب ان يدفعا الى مصلحة سكك حديد الدولة اللبنانية والنقل المشترك لبيروت وضواحيها نفقات اعادة المساحة المشغولة من حرم الخط الى حالتها السابقة ضمن المهلة التي تعطى لهما ٠

المادة السابعة ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة ٠

بعبدا في ٨ تشرين الثاني سنة ١٩٧٣
الامضاء : سليمان فرنجيه

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : تقي الدين الصلح

وزير الاشغال العامة والنقل
الامضاء : فؤاد غصن

مرسوم رقم ٦٤٥٨ تعديل عل

الغاء العلو الاقصى للبناء في بعض المناطق في صيدا (محافظة لبنان الجنوبي)

ان رئيس الجمهورية
بناء على الدستور

بناء على قانون التنظيم المدني الصادر بتاريخ ٢٤ ايلول ١٩٦٢ المعدل بموجب مشروع القانون الموضوع موضع التنفيذ بموجب المرسوم رقم ١٣٤٧٢ تاريخ ٢٦ تموز ١٩٦٣ ٠

بناء على المرسوم رقم ٩٠١٦ تاريخ ٢٧ كانون الاول ١٩٦٧ المتعلق بتصديق التصميم التوجيهي العام لمنطقة صيدا وضواحيها

بناء على قانون البناء رقم ٧١/٥٩ تاريخ ١٣ ايلول ١٩٧١

وبعد الاطلاع على قرار بلدية صيدا رقم ٢٥٢ تاريخ ٢٣ تشرين الثاني ١٩٧٢

وبعد الاطلاع على قرار المجلس الاعلى للتنظيم المدني المتخذ في جلسته المنعقدة بتاريخ ٢٤ كانون الثاني ١٩٧٣

بناء على اقتراح وزير الاشغال العامة والنقل

وبعد موافقة مجلس الوزراء في جلسته المنعقدة بتاريخ ٧٣/١٠/١٠

يرسم ما يأتي :

المادة الاولى ـ يلغى العلو الاقصى للبناء المحدد بـ /٢٦/ مترا في المنطقتين B و C من التصميم التوجيهي العام لمنطقة صيدا وضواحيها المصدق بالمرسوم ٩٠١٦ تاريخ ٢٧ كانون الاول ١٩٦٧ ٠

المادة الثانية ـ يخضع العلو في المنطقتين المذكورتين في المادة الاولى اعلاه لاحكام قانون البناء رقم ٧١/٥٩ تاريخ ١٣ ايلول ١٩٧١ ٠

المادة الثالثة ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة ٠

بعبدا في ٨ تشرين الثاني سنة ١٩٧٣
الامضاء : سليمان فرنجيه

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : تقي الدين الصلح

وزير الاشغال العامة والنقل
الامضاء : فؤاد غصن

مرسوم رقم ٦٤٥٩

رفع اشارة حديقة في منطقة عبرا (قضاء صيدا ـ محافظة لبنان الجنوبي)

ان رئيس الجمهورية
بناء على الدستور

بناء على قانون التنظيم المدني الصادر بتاريخ ٢٤ ايلول ١٩٦٢ المعدل بموجب مشروع القانون الموضوع موضع التنفيذ بموجب المرسوم رقم ١٣٤٧٢ تاريخ ٢٦ تموز ١٩٦٣

بناء على المرسوم رقم ٤٦٣ تاريخ ٢٩ كانون الثاني ١٩٧١ المتعلق بتصديق التصميم التوجيهي العام لمناطق البرامية ـ الهلالية ـ عبرا ٠

بناء على قرار بلدية عبرا رقم ٩ تاريخ ١١ اذار ١٩٧٣

وبعد الاطلاع على قرار المجلس الاعلى للتنظيم المدني المتخذ في جلسته المنعقدة بتاريخ ١١ نيسان ١٩٧٣

بناء على اقتراح وزير الاشغال العامة والنقل

وبعد موافقة مجلس الوزراء بتاريخ ٧٣/١٠/١٧

يرسم ما يأتي :

المادة الاولى ـ ترفع اشارة الحديقة العامة عن العقارات رقم ٨١١ ـ ٨١٢ ـ ٨١٣ من منطقة عبرا العقارية (قضاء صيدا ـ محافظة لبنان الجنوبي) وتخضع لنظام المنطقة الارتفاقية الواقعة ضمنها ٠

المادة الثانية ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة ٠

بعبدا في ٨ تشرين الثاني سنة ١٩٧٣
الامضاء : سليمان فرنجيه

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : تقي الدين الصلح

وزير الاشغال العامة والنقل
الامضاء : فؤاد غصن

وزارة الدفاع الوطني

مرسوم رقم ٦٤٦٠

اعتبار من المنافع العامة مشروع تنفيذ اشغال لصالح الجيش في منطقة بعبدا العقارية ـ قضاء بعبدا

ان رئيس الجمهورية
بناء على الدستور
بناء على المرسوم الاشتراعي رقم ٤ تاريخ ١٩٥٤/١١/٣٠ (قانون الاستملاك) وتعديلاته
بناء على اقتراح وزير الدفاع الوطني

يرسم ما يأتي :

المادة الاولى ـ يعتبر مشروع تنفيذ اشغال لصالح الجيش في منطقة بعبدا العقارية ـ قضاء بعبدا من المنافع العامة ويستملك لهذه الغاية العقار رقم ٤٥٣ المبين باللون الاحمر على الخريطة واللائحة المرفقتين بهذا المرسوم(١)

المادة الثانية ـ تكلف وزارة الدفاع الوطني باجراء هذا الاستملاك وفقا للاحكام التشريعية والتنظيمية النافذة ٠

(١) ان الخريطة المذكورة مودعة لدى وزارة الدفاع الوطني ٠

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : رشيد الصلح

وزير المالية
الامضاء : خالد جنبلاط
وزير الاشغال العامة والنقل
الامضاء : جورج سعاده
وزير الموارد المائية والكهربائية
الامضاء : مالك سلام

مرسوم رقم ١٠٢٣٨

تصديق تخطيط طريق البحصاص ـ كوسبا (قضاء الكوره)

ان رئيس الجمهورية

بناء على الدستور

بناء على المرسوم الاشتراعي رقم ٤ تاريخ ١٩٥٤/١١/٣٠ (قانون الاستملاك)

بناء على المرسوم رقم ١٣١٥ تاريخ ١٩٦٥/٣/١٩ (تصنيف شبكة الطرق العامة)

بناء على اقتراح وزير الاشغال العامة والنقل

يرسم ما ياتي :

المادة الاولى : صدق تخطيط طريق البحصاص ـ كوسبا (قضاء الكوره) من الوتد رقم ١ كيلومتر ٠٠٠،٠٠ + ٠ الى الوتد رقم ٨٤٩ كيلومتر ٢٦٦،٩٠ + ١٤ المبين على الخريطة المرفقة بهذا المرسوم والموضوع من قبل وزارة الاشغال العامة والنقل وذلك بسعات مختلفة للطريق وفقا لحدود الاستملاك المبينة على الخريطة المذكورة ٠

المادة الثانية : تستملك العقارات واقسام العقارات الواقعة ضمن هذا التخطيط المبين على الخريطة المشار اليها في المادة الاولى من هذا المرسوم والمدرجة في اللائحة المرفقة بها (١) وفقا للاحكام التشريعية والتنظيمية النافذة ٠

(١) ان الخريطة واللائحة المذكورتين مودعتان لدى وزارة الاشغال العامة والنقل٠

المادة الثالثة : تصنف الطرق المذكورة في المادة الاولى من هذا المرسوم طريقا رئيسية ٠

المادة الرابعة : ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة ٠

بعبدا في ١٢ ايار ١٩٧٥
الامضاء : سليمان فرنجيه

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : رشيد الصلح

وزير الاشغال العامة والنقل
الامضاء : جورج سعاده

مرسوم رقم ١٠٢٣٩

الغاء عدد الطوابق للبناء في المنطقة السكنية (C) في مدينة صيدا (محافظة لبنان الجنوبي)

ان رئيس الجمهورية

بناء على الدستور

بناء على قانون التنظيم المدني الصادر بتاريخ ١٩٦٢/٩/٢٤ المعدل بموجب مشروع القانون الموضوع موضع التنفيذ بالمرسوم رقم ١٣٤٧٢ تاريخ ١٩٦٣/٧/٢٦ ،

بناء على المرسوم رقم ٩٠١٦ تاريخ ٦٧/١٢/٢٧ (تصديق التصميم التوجيهي العام لمنطقة صيدا وضواحيها) ،

بناء على المرسوم رقم ٦٤٥٨ تاريخ ١٩٧٣/١١/٨ (الغاء العلو الاقصى للبناء في المنطقتين السكنيتين (B) و (C) في مدينة صيدا) ،

بناء على قرار محافظ الجنوب بوصفه قائما باعمال مجلس بلدية صيدا رقم ٢٨ تاريخ ١٩٧٥/٢/١٨ ٠

بناء على قرار المجلس الاعلى للتنظيم المدني المتخذ في جلسته المنعقدة بتاريخ ١٩٧٥/٢/١٩ (محضر رقم ٩) ،

بناء على اقتراح وزير الاشغال العامة والنقل ٠

وبعد موافقة مجلس الوزراء في جلسته المنعقدة بتاريخ ١٩٧٥/٣/١٩ ،

يرسم ما ياتي :

المادة الاولى : الغي عدد الطوابق للبناء المحدد في المنطقة السكنية C في التصميم التوجيهي العام لمنطقة صيدا وضواحيها (محافظة لبنان الجنوبي) المصدق بموجب المرسوم رقم ٩٠١٦ تاريخ ١٩٦٧/١٢/٢٧ ٠

يبقى البناء في هذه المنطقة خاضعا لعوامل الاستثمار السطحي والعام بالاضافة الى الشروط المحددة في نظام البناء والفرز والضم والاستثمار الملحق بالتصميم التوجيهي العام لمدينة صيدا وضواحيها والمصدق بالمرسوم رقم ٩٠١٦ تاريخ ١٩٦٧/١٢/٢٧ ويخضع العلو الاقصى فيه لقانون البناء (القانون رقم ٧١/٥٩ تاريخ ١٩٧١/٩/١٣) ٠

المادة الثانية ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة ٠

بعبدا في ١٢ ايار ١٩٧٥
الامضاء : سليمان فرنجيه

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : رشيد الصلح

وزير الاشغال العامة والنقل
الامضاء : جورج سعاده

مرسوم رقم ١٠٢٤٠

اعتبار من المنافع العامة الاشغال العائدة لمشروع انشاء مخفر لقوى الامن الداخلي في المركز السياحي في فاريا (قضاء كسروان)

ان رئيس الجمهورية

بناء على الدستور

بناء على المرسوم رقم ٤ تاريخ ٥٤/١١/٣٠ (قانون الاستملاك)

بناء على اقتراح وزير الاشغال العامة والنقل

يرسم ما ياتي :

المادة الاولى : تعتبر الاشغال العائدة لمشروع انشاء مخفر لقوى الامن الداخلي في المركز السياحي في فاريا (قضاء كسروان) من المنافع العامة ٠

المادة الثانية : يستملك قسم العقار المبين على الخريطة المرفقة بهذا المرسوم والمفصل في اللائحة الملحقة بها (١) ، وفقا للاحكام التشريعية والتنظيمية النافذة ٠

المادة الثالثة ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة ٠

بعبدا في ١٢ ايار ١٩٧٥
الامضاء : سليمان فرنجيه

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : رشيد الصلح

وزير الاشغال العامة والنقل
الامضاء : جورج سعاده

مرسوم رقم ١٠٢٤١

تعديل المادة الثانية من المرسوم رقم ٨٢٠٧ تاريخ ١٩٧٤/٦/٢٥ المتعلق بتاليف لجان استملاك بدائية اضافية لمشروع تطوير شبكة الطرق العامة

ان رئيس الجمهورية
بناء على الدستور

بناء على المرسوم الاشتراعي رقم ٤ تاريخ ١٩٥٤/١١/٣٠ (قانون الاستملاك)

بناء على مشروع القانون الموضوع موضع التنفيذ بموجب المرسوم رقم ٧٦٣٠ تاريخ ١٩٧٤/٤/١٩ (مشروع تطوير شبكة الطرق العامة)

بناء على المرسوم رقم ٨٢٠٧ تاريخ ١٩٧٤/٦/٢٥ (تاليف لجان استملاك بدائية اضافية لمشروع تطوير شبكة الطرق العامة)

(١) ان الخريطة واللائحة المذكورتين مودعتان لدى وزارة الاشغال العامة والنقل٠

C. Saida's 1995 Master plan

The 1995 Master plan (Decree 6552/1995) came as a revision of the 1967 Master plan, also on the form of zoning plan with planning ordinance that relate to building regulations. It is only concerned with the Municipalities of Saida and Haret Saida, and has modified the distribution of the zones over the city of Saida.

- The Master plan includes 11 zones (A,B,C,D,D1,E,F,I,I1,G, G1) (Fig. 67)
- The planning ordinance of 1995 issued building regulations specific only to plot coverage ratios, maximum height and /or floor-area ratio.
- The 1995 Master plan envisions a limited tourism and minor commercial and craft uses in the old city in addition to the traditional residential functions.
- In the modern parts of town, the plan specifies three types of mixed-use zones, with different residential densities and urban design specifications.
- It envisions a tourism zone along parts of the seashore.
- It also specifies the southern part of Saida particularly for industrial uses to the exclusion of other activities.
- The plan does not envision agricultural zones and increased the development rights to the full surface area of the municipal Saida.
- This latter fact has triggered the final blow to the viability of agriculture in what would become prime land for speculation.

The zones defined in the plan follow large swatches of land in between major highways and streets and have little relevance to the land's natural features. And while the ordinance that ratified the plan specified the need to preserve natural vistas and views, the plan provide for neither.

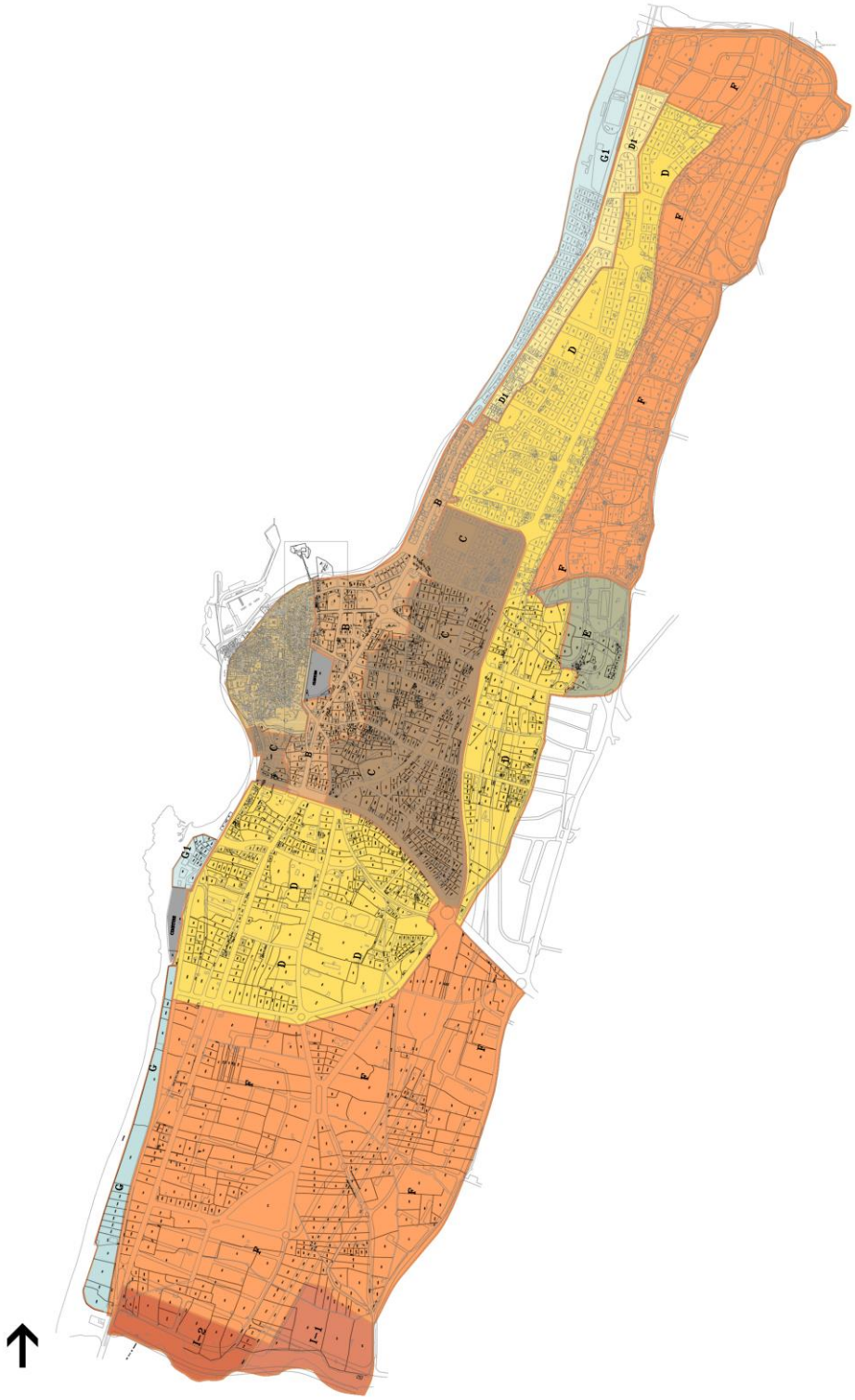


Fig. 67: 1995 Zoning Plan

Decree 6552/1995

19 1

وزارة المالية

مرسوم رقم ٦٦٢٦
اعفاء سيارات من الرسوم الجمركية

ان رئيس الجمهورية

بناء على الدستور

بناء على القانون رقم ٢٦٧ تاريخ ٢٣/١٠/١٩٩٣ (منح الحكومة حق التشريع في الحقل الجمركي)،

بناء على اقتراح رئيس مجلس الوزراء ووزير المالية،

وبعد موافقة مجلس الوزراء بتاريخ ١٥/٣/١٩٩٥،

يرسم ما يأتي:

المادة الاولى ـ تعفى من الرسوم الجمركية تسع سيارات اسعاف ماركة GMC (طراز ١٩٩٤) عائدة للهيئة العليا للاغاثة، المخصص ست منها لصالح وزارة الصحة العامة وثلاث لصالح مصلحة الاسعاف في اطفائية بيروت، والمبينة اوصافها فيما يلي:

نوع السيارة	رقم الشاسي	اللون
GMC	٥١٨٢٩٣	ابيض
"	٥١٨١٥٠	"
"	٥١٨٥٩٨	"
"	٥١٨٦١٣	"
"	٥١٨٧٦٥	"
"	٥٠٦٧٥٦	"
"	٥١٤٠٢٠	"
"	٥١٠٧٧٨	"
"	٥٢٠٤٩١	"

المادة ٢ ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة.

بعبدا في ٨ نيسان سنة ١٩٩٥

الامضاء: الياس الهراوي

صدر عن رئيس الجمهورية

رئيس مجلس الوزراء

الامضاء: رفيق الحريري

وزير المالية

الامضاء: رفيق الحريري

رئيس مجلس الوزراء

الامضاء: رفيق الحريري

وزارة الأشغال العامة

مرسوم رقم ٦٥٥٢
تصديق التصميم والنظام التوجيهي والتفصيلي العام (تصنيف المناطق) لمنطقة صيدا (قضاء صيدا)

ان رئيس الجمهورية

بناء على الدستور

بناء على المرسوم الاشتراعي رقم ٦٩ تاريخ ٩/٩/٨٣ (قانون التنظيم المدني)،

بناء على المرسوم رقم ٩٠١٦ تاريخ ٢٧/١٢/١٩٦٧ (تصديق التصميم التوجيهي العام لمنطقة صيدا وضواحيها)،

وبعد الاطلاع على قرار مجلس بلدية صيدا رقم ٣٤ تاريخ ٥/٩/٩٤،

وبعد الاطلاع على قرار المجلس الاعلى للتنظيم المدني المتخذ بتاريخ ٧/٩/١٩٩٤ ـ محضر رقم ٣٦،

وبناء على اقتراح وزير الاشغال العامة،

وبعد موافقة مجلس الوزراء في جلسته المنعقدة بتاريخ ٢١/٣/٩٥،

يرسم ما يأتي:

المادة الاولى ـ صدق التصميم والنظام التوجيهي والتفصيلي العام لمنطقة صيدا المتضمن تصنيف المناطق كما هو مبين على الخريطة رقم (١) مقياس ١/٢٠٠٠ والتراجعات عن الطرق المبينة باللون الاخضر على الخريطة رقم (٢) مقياس ١/١٠٠٠ والمرفقتين بهذا المرسوم.

يخضع هذا التصميم لنظام البناء والفرز والضم والفرز والاستثمار وللشروط العامة والخاصة المرفقين بهذا المرسوم.

المادة ٢ ـ الغيت جميع الاحكام المخالفة لاحكام المادة الاولى من هذا المرسوم لا سيما المرسوم رقم ٦٤٥٨ تاريخ ٨/١١/١٩٧٣ والمرسوم ١٠٢٣٩ تاريخ ١٢/٥/١٩٧٥ والمرسوم رقم ٩٠١٦ تاريخ ٢٧/١٢/١٩٦٧ لجهة تقسيم المناطق ونظام البناء فيها وللشروط العامة والخاصة فيما يعود لمدينة 1972

التصميم والنظام التوجيهي والتفصيلي العام لمدينة صيدا

مرسوم رقم ٦٥٥٢ تاريخ ١٩٩٥/٣/٢١

نظام البناء والفرز والضم والفرز والاستثمار

المنطقة	الافراز: المساحة الدنيا م٢	الافراز: الواجهة الدنيا م.ط	الافراز: العمق الأدنى م.ط	القطع الموجودة الصالحة للبناء: المساحة الدنيا م٢	القطع: الواجهة الدنيا م.ط	القطع: العمق الأدنى م.ط	التراجع: التراجع عن حدود التخطيط والطريق	التراجع: التراجع الجانبي م.ط	التراجع: التراجع الخلفي م.ط	معدل الاستثمار السطحي الأقصى %	عامل الاستثمار العام الأقصى	عدد الطوابق	العلو الأقصى للبناء باستثناء أقفاص السلالم والمصاعد وخزان المياه ولكنات القرميد والمنكأت
A اثرية سكن وتجارة	الفرز ممنوع ما عدا الفرز بهدف الضم للتحسين ليصبح العقار ٢٠٠م٢			٢٠٠	١٢	١٢	وفقاً لمرسوم التراجع عن المحور فقط والبراج المبين على خريطة شبكة الطرق مع حد أدنى ثلاثة أمتار عن حدود الطريق او التخطيط	–	–	٦٠	١,٨٠	٣	١٣,٥٠
B سكن كثيف جداً وتجارة	٦٠٠	٢٠	٢٠	٣٠٠	١٥	١٢		–	–	٦٠	٤,٢٠	–	–
C سكن كثيف وتجارة	٨٠٠	٢٠	٢٠	٤٠٠	١٥	١٥		–	٤,٥٠	٤٠	٢,٤٠	–	–
D سكن متوسط الكثافة وتجارة	١٠٠٠	٢٥	٢٥	٥٠٠	١٦	١٦		–	٤,٥٠	٣٠	١,٢٠	–	١٩
D1 سكن متوسط وتجارة	تخضع هذه المنطقة لنظام D إذا أعدت للسكن والتجارة وفي حال تخصص العقار للاستعمال السياحي فقط (شاليهات ومطاعم فنادق) ترفع عوامل الاستثمار لغاية ٤٠٪ السطحي و١,٥٠ عام												
E سكن	١٠٠٠	٢٥	٢٥	٦٠٠	١٨	١٨		٤,٥٠	٤,٥٠	٣٠	٠,٩٠	٣	١٣,٥٠
F سكن خفيف	١٢٠٠	٣٠	٣٠	٧٥٠	٢٠	٢٠		٤,٥٠	٤,٥٠	٢٠	٠,٦٠	٣	١٣,٥٠
I صناعية	١٥٠٠	٣٠	٣٥	١٠٠٠	٢٢	٢٢		٦	٦	٧٠	١,٤٠	–	–
I1 صناعية	١٢٠٠	٣٠	٣٠	٨٠٠	٢٠	٢٠		٤,٥٠	٤,٥٠	٤٠	٠,٨٠	–	–
G سياحة	٥٠٠٠	٦٠	٦٠	٢٥٠٠	٥٠	٤٠		٦	١٠	١٥	٠,٣٠	–	–
G1 سياحة	٤٠٠٠	٥٠	٦٠	١٥٠٠	٣٠	٣٠		٦	٦	٢٠	٠,٦٠	–	–

١/٥٢٤

صيدا وحارة صيدا والمرسوم رقم رقم٤٤٥١ـ تاريخ ١٩٩٣/١٠/١٣.اما شبكات الطرق فتبقى مصدقة وفقا للمرسوم رقم ٩٠١٦ المذكور باستثناء التخطيطات والتراجعات الواقعة ضمن منطقة الضم والفرز في منطقة الوسطاني العقارية في صيدا والمبينة على الخريطة رقم (٢) مقياس ١/١٠٠٠ المشار اليها في المادة الاولى من هذا المرسوم.

المادة **٣** ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة.

بعبدا في ٢١ آذار سنة ١٩٩٥

الامضاء: الياس الهراوي

صدر عن رئيس الجمهورية

رئيس مجلس الوزراء

الامضاء: رفيق الحريري

وزير الاشغال العامة

الامضاء: محمد بسام مرتضى

ان الخريطتين المذكورتين مودعتان لدى وزارة الاشغال العامة.

تنظيم مدينة صيدا

شروط عامة

١ ـ في البناء

١ ـ ١ ـ القياسات الدنيا للقطع

ان الواجهة الدنيا والعمق الادنى الواردين في النظام هما ضلعا المستطيل الممكن توقيعه ضمن مساحة العقار الصافية بعد حسم المساحة المصابة بالتخطيط المصدق.

١ ـ ٢ ـ العقارات غير المبنية وغير المستوفاة للشروط من حيث الشكل او المساحة الدنيا او الاثنين معا.

١ ـ ٢ ـ ١ اذا كانت مساحتها بعد التخطيط المصدق تفوق المساحة الدنيا للقطع الموجودة لتكون صالحة للبناء انما لا يتوفر فيها شرطا الواجهة والعمق الادنيين بعد التخطيط المصدق، يسمح بالبناء فوقها شرط:

أ ـ ان لا تقل قياسات القطع (واجهة وعمق) بعد التخطيط المصدق عن ثلثي القياسات المفروضة للقطع الموجودة وان لا تتدنى عن سبعة امتار بعد التراجع.

ب ـ تخفيض معدل الاستثمار السطحي وعامل الاستثمار العام بنسبة التخفيض الاكبر للواجهة او العمل عن ما هو محدد.

١ ـ ٢ ـ ٢ اذا كانت مساحتها بعد التخطيط تساوي او تقل عن المساحة الدنيا للقطع الموجودة وصالحة للبناء، يمكن الترخيص بالبناء فوقها شرط:

أ ـ ان لا تقل مساحة العقار بعد التخطيط المصدق الذي يصيبه عن ثلثي المساحة الدنيا المفروضة للقطع الموجودة والصالحة للبناء.

ب ـ ان لا تقل قياسات القطع (واجهة وعمق) بعد التخطيط المصدق عن ثلثي القياسات المفروضة للقطع الموجودة وان لا تتدنى عن سبعة امتار بعد التراجع.

ج ـ تخفيض معدل الاستثمار السطحي وعامل الاستثمار العام بمعدل اصغر بنسبة تنتج عن مقارنة:

ـ اما مساحة العقار بعد التخطيط المصدق الى المساحة الدنيا المفروضة.

ـ واما ادنى قياس للقطعة (واجهة اوعمق) كما هو محدد في الفقرة (ب) اعلاه الى الواجهة او العمق الادنيين للقطع الموجودة لتكون صالحة للبناء.

١ ـ ٣ ـ استثناءات

مع مراعاة الحفاظ على المناظر الطبيعية والارتفاقات الخاصة (السلامة الجوية ـ الاذاعة ـ الرادار ـ الخ...) يمكن استثناء بناء المدارس والفنادق والمستشفيات والمعابد في كافة المناطق من تحديد عدد الطوابق والعلو الاقصى فقط وذلك بعد موافقة المدير العام للتنظيم المدني المسبقة، شرط ان لا تزيد عدد الطوابق الاجمالي عن مرتين ما هو محدد في هذا النظام.

٢ ـ في الفرز والضم والفرز:

ان الاجازة بالافراز او بالضم والفرز تخضع لشروط خاصة تتعلق بتنفيذ ترتيبات تجميلية معينة (ايجاد فسحات حرة، تقسيم القطع وشكلها، تقديم خريطة حجمية للابنية ضمن القطع...).

ويخضع مشروع الفرز لكل عقار بمفرده والضم والفرز لعدة عقارات للانظمة وللشروط العامة والخاصة المبينة في الجدول المرفق وفقا لنظام المنطقة الارتفاقية الواقع فيها العقار او العقارات وللاسس المحددة ادناه.

٢ ـ ١ ـ مساحة القطع والشكل الناتجين عن الفرز او الضم والفرز:

يجب ان تتوفر في العقارات الناتجة عن الفرز او الضم والفرز المساحة الدنيا والشكل المحددين في النظام الخاص للمنطقة الواقع فيها المشروع.

على العقارات المطلوب استحداثها بمشروع فرز او ضم وفرز ان تكون واجهاتها موازية تقريبا للتخطيط او الطريق وان لا يزيد عمق العقار الجديد عن مرة ونصف طول الواجهة.

٢ ـ ٢ ـ تحسين القطع الموجودة من حيث المساحة والشكل:

تحسينا لعدد وقياسات بعض العقارات وزيادة لمساحات بعضها يمكن السماح باجراء عملية فرز وضم على اجزاء منها ضمن الشروط التالية:

أ ـ في العقارات التي تفوق مساحتها عن المساحة الدنيا لقطع الافراز المحددة في هذا النظام، ان لا تنقص هذه العقارات الجديدة بعد عملية الفرز والضم عن المساحة الدنيا لقطع الافراز المحددة في هذا النظام.

ب ـ في العقارات التي تقل مساحتها عن المساحة الدنيا لقطع الافراز، ان لا تنقص مساحة العقارات الجديدة بعد عملية الفرز والضم عن المساحات الاساسية مع امكانية تنقيص عددها.

ج ـ في العقارات التي تفوق مساحة بعضها عن المساحة الدنيا لقطع الافراز، يمكن فرز قسم منها لضمه الى عقارات مجاورة ميما كانت مساحة هذه الاخيرة شرط ان تبقى العقارات التي اقتطع قسم منها بعد عملية الفرز مستوفاة لشروط قطع الافراز وفقا لما هو محدد في نظام المنطقة.

٢ ـ ٣ ـ فرز او ضم وفرز العقارات المبنية:

بالاضافة الى الشروط المفروضة في مشاريع الضم والفرز في البنود ٢ ـ ١ و٢ ـ ٢ـ يجب ان تكون نسبة مساحة الابنية الى مساحة العقارات المفرزة مطابقة لمعدل الاستثمار السطحي وعامل الاستثمار العام المفروضين في نظام المنطقة ويجب ان تكون المسافة بين الابنية الموجودة والحدود المستحدثة بمقدار التراجع القانوني المفروض في هذه الحالات.

٢ ـ ٤ ـ المساحات المخصصة للطرق والحدائق ضمن مشروع الضم والفرز:

يتوجب على كل مشروع فرز او ضم وفرز تفوق مساحته عشرة الاف متر مربع ان لا تقل المساحة الاجمالية للطرق والحدائق العائدة للمشروع عن خمسة وعشرين بالماية عن المساحة الاجمالية.

انما يمكن للادارة في حال تقسيم العقار الى خمس قطع وما دون لا تقل مساحة كل قطعة ناتجة عن هذا التقسيم عن اربعة اضعاف المساحة الدنيا المفروضة في المنطقة، الاكتفاء بفرض الحد الادنى اللازم لتأمين الطرق الخاصة بالمشروع وعدم التقيد بنسبة الخمسة وعشرين بالماية المفروضة اعلاه، شرط ان يفرض ارتفاق يسجل على الصحيفة العقارية لكل قطعة بوجوب تطبيق رصيد نسبة الخمسة وعشرين بالماية في حال افراز القطع الناتجة عن هذا التقسيم من جديد.

٢ ـ ٥ ـ الطرق والفسحات المخصصة لدوران السيارات الناتجة عن الفرز والضم:

يقتضي تأمين طرق بعرض عشرة امتار على الاقل وفسحات مخصصة لدوران السيارات لجميع القطع الناتجة عن مشروع الفرز او الضم والفرز شرط ان يكون القطر الادنى او الضلع الادنى للفسحات المخصصة لدوران السيارات مرة ونصف عرض طريق الافراز.

التسامح بعرض طرق الافراز:

أ ـ اذا كانت الطريق المستحدثة في مشروع الفرز او الضم والفرز غير قابلة للامتداد ضمن حدود العقار او العقارات الداخلة في المشروع اذا كانت مخصصة لقطع غير قابلة للتجزئة ولا يفوق عددها الاربعة عندئذ يمكن تخفيض عرض الطريق الى ثمانية امتار.

ب ـ اذا كانت الطريق المستحدثة في مشروع الفرز والضم والفرز لا تصلح لتكون طريقا للسيارات بل درجا نظرا لقوة انحدارها عندئذ يسمح بتخفيض سعتها الى ستة امتار مع فرض براح ادنى مترين على كل من جانبي الدرج.

شروط خاصة

اولا ـ المنطقة الأثرية القديمة A للسكن والتجارة:

يمنع ضمن هذه المنطقة انشاء واستثمار المؤسسات المصنفة باستثناء دور السينما والمقاهي والمطاعم والمحلات التجارية.

يسمح بانشاء المؤسسات الحرفية المصنفة من الفئة الثالثة بعد موافقة المجلس الاعلى للتنظيم المدني.

تخضع جميع اعمال البناء والترميم ووضع الارمات والطرش والدهان الخارجي وكذلك جميع الاشغال التي تبقى ظاهرة بعد انتهاء الاشغال كالتمديدات الكهربائية أو المائية أو الهاتفية والانارة العامة .... الخ لموافقة المديرية العامة للأثار المسبقة والمجلس الأعلى للتنظيم المدني شرط تقديم خرائط مفصلة عن البناء المطلوب ودرس تفصيلي لكامل الواجهات مع بيان المواد المستعملة والوان هذه الواجهات.

يجب ان تكون كافة واجهات الأبنية الجديدة أو المرممة من حجر رملي أو ورقة منحوتة أو مرشوشة وبالأشكال المألوفة في الهندسة القديمة. كما يجب ان يكون المنجور وابواب المحلات التجارية والنوافذ من الخشب وبأشكال هندسية قديمة.

- ثانيا ـ مناطق السكن والتجارة (B,C,D1,D,E,F) :

ـ يسمح ضمن هذه المناطق بانشاء واستثمار المؤسسات المصنفة من الفئة الثالثة باستثناء:

ـ الكسارات والمقالع
ـ معامل وأفران الكلس
ـ صبغ الجلود
ـ مستودعات المواد الكيماوية
ـ المجازر والمسالخ على انواعها
ـ المطابع في الطابق الأرضي وما يعلوه
ـ معالجة الخرق
ـ مصانع الكازوز

ـ يمنع ضمن هذه المناطق انشاء واستثمار المؤسسات المصنفة من الفئتين الأولى والثانية باستثناء دور السينما، المرائب العمومية للسيارات، المصابغ، استديوهات التصوير السينمائي، محلات تصليح كهرباء السيارات وتعبئة البطاريات، أفران الخبز، حمامات السباحة، المطابع في الطوابق السفلية ومحطات توزيع المحروقات وغسيل وتشحيم السيارات.

ـ يسمح في هذه المناطق في الطوابق السفلية فقط انشاء واستثمار محلات تصليح كهرباء السيارات و تعبئة البطاريات وتصليح دواليب السيارات.

ثالثا ـ المناطق السياحية G1 و G:

يمنع ضمن هذه المناطق انشاء او استثمار المؤسسات المصنفة والمؤسسات التجارية من اية فئة كانت باستثناء بعض المحلات التجارية التي يرتبط نشاطها بالسياحة وذلك في الطوابق الأرضية والسفلية للأبنية.

يسمح ضمن هذه المناطق بالانشاءات التالية: سكن خاص، ملاهي، مطاعم، مقاهي، فنادق، مسابح وحمامات بحرية وشاليهات.

يجب ان لا تتعدى واجهة البناء ٣٠٪ من طول واجهة العقار الموازية للبحر، او لنهر الأولي في المناطق G1 وG.

يخضع الترخيص بالبناء في جميع المناطق السياحية لتقديم مخطط حجمي يعرض على موافقة المجلس الأعلى للتنظيم المدني المسبقة.

رابعا ـ المنطقة D1 (سياحية أو سكن وتجارة):

يسمح للمؤسسات السياحية (مطاعم، مقاهي، فنادق، مسابح وحمامات بحرية وشاليهات) التي تقام في هذه المنطقة من الاستفادة من زيادة في عوامل الاستثمار لتصبح ٤٠٪ لعامل الاستثمار السطحي و١،٥٠ لعامل الاستثمار العام وفي حال تحوير وجهة استعمال البناء بعد ذلك يعتبر البناء مخالفا لنظام البناء العائد لهذه المنطقة.

خامسا ـ المنطقة NP :

يسمح ضمن هذه المنطقة باقامة المسابح الشعبية وفقا لمخطط حجمي يعرض على موافقة المديرية العامة للتنظيم المدني شرط أن لا يتعدى الاستثمار السطحي ٣٪ وأن لا يتجاوز علو الانشاءات عن ٢،٢٠ متر من مستوى الأرض الطبيعية.

تحدد مواد الانشاءات العائدة لهذه المسابح الشعبية من قبل المديرية العامة للتنظيم المدني التي يمكنها تحديد الاستثمار السطحي شرط أن لا يتعدى المعدل المذكور أعلاه.

سادسا ـ المناطق الصناعية I & II :

أ ـ يمنع ضمن هذه المناطق الصناعية انشاء أبنية للسكن باستثناء الانشاءات اللازمة لسكن مدير أو حارس المؤسسة.

ب ـ مع مراعاة أحكام الفقرة «د» من هذا البند يسمح في المنطقة I بانشاء المؤسسات المصنفة من جميع الفئات .

ج ـ مع مراعاة أحكام الفقرة «د» من هذا البند يسمح في المنطقة II بانشاء المؤسسات المصنفة من الفئتين الثانية والثالثة بالاضافة الى المؤسسات التالية من الفئة الأولى:

المسالخ، مصانع النجارة، أماكن تعبئة وخزن الغاز، محطات توزيع المحروقات مع غسيل وتشحيم السيارات.

د ـ ضمن عمق عقار واحد (أو ضمن عمق ٣٠ متر اذا كان عمق العقار يزيد عن ٣٠ مترا) وعلى طول الاطار الخارجي للمنطقتين II وI المتلاصقتين وعلى طول الاطار للمنطقة I يسمح فقط بالانشاءات التالية:

ـ صالات العرض والمكاتب ومحلات الاحتراف المهني للأشغال اليدوية والمقاهي والملاهي والمطاعم.

ـ المؤسسات المصنفة من الفئتين الثانية والثالثة التالية:

مستودعات الخشب، مستودعات القطن، مستودعات المواد الغذائية غير المحصورة، مستودعات أوراق التبغ، استديوهات التصوير ومصانع النجارة (الآلات في الطوابق السفلى)، مستودعات الحليب ومصانع الزبدة والجبنة، مستودعات الزيت والزيتون، مستودعات الورق، معجنات الحلويات، التسجيلات الصوتية والفنية، محلات بيع اللحوم والطيور الداجنة المذبوحة والسمانة، مستودعات مواد البناء ومواد البويا: المصابغ (تنظيف الأليسة على البخار)، محلات دهان الديكور ومحلات تصليح كهرباء السيارات وتعبئة البطاريات في الطوابق السفلية، الأفران، معامل السكاكر وما شاكلها، محلات تنفيض السجاد، لف موتورات ومواسير كهرباء (في الطوابق السفلية)، معامل الحلاوة والراحة.

ـ محطات توزيع المحروقات مع غسيل وتشحيم السيارات فئة اولى.

ـ المسلخ

سابعا ـ الساحات العامة للمشاة

الساحات العامة للمشاة المحددة بالمرسوم ٢٨٥٣ تاريخ ١٩٨٥/١٢/٥ تبقى خاضعة لأحكام هذا المرسوم.

ثامنا ـ نظام خاص بالبوليفار الشرقي وبعض تفرعاته:

أ ـ القسم (Z,W/ X,Y/ Z,V/ U,S/ M,N) حسب الخريطة المرفقة بهذا المرسوم في الأجزاء المنقطة.

١ ـ تشاد حكما واجهات الأبنية المطلة على شوارع وساحات المنطقة هذه على مستوى التراجع الاجباري المفروض دون السماح بتراجع اضافي لما هو ملحوظ.

٢ ـ يفرض غرس اشجار ضمن هذا التراجع المفروض وعلى طول واجهة العقارات المطلة على الشوارع على ان تغرس هذه الاشجار بخطين متوازين بمحاذاة الشوارع وبعمق ثلاثة أمتار وبأبعاد متساوية بين جذوع الأشجار لا يقل عن مترين.

يجب ان تظهر مواقع غرس الأشجار على خرائط رخصة البناء وتعتبر جزءا لا يتجزأ منها ولا تعطى رخصة الأشغال (الاسكان) الا بعد التأكد من غرس هذه الاشجار على أن يقترن نوع الأشجار بموافقة بلدية صيدا.

ب ـ القسم (Y,Z) حسب الخريطة المرفقة بهذا المرسوم في الأجزاء المبينة بخطوط متوازية:

١ ـ تشاد حكما واجهات الأبنية المطلة على شوارع وساحات المنطقة هذه على مستوى التراجع الاجباري المفروض دون السماح بتراجع اضافي لما هو ملحوظ.

٢ ـ يسمح في الطابق الارضي فقط وعلى امتداد الشارع بانشاء ممرات مسقوفة ضمن التراجع الاجباري بحيث تغطي هذه الممرات ثلاثة أمتار من خط التراجع الاجباري لجهة حدود البناء ويترك المتران الباقيان من التراجع بدون أي إنشاءات.

٣ ـ يكون عرض الممرات المسقوفة ثلاثة أمتار وارتفاعها الاجمالي ٥،٥ مترفوق سطح

الرصيف ويكون ارتفاع الطابق الارضي الاجمالي ٥،٥ متر وتبنى الأعمدة الظاهرة في الطابق الارضي بذات المقاييس (٥٠ سم x ٣٠ سم) ويكون شكلها المعماري متناسقا فيما بينها ومع محيط البناء المراد انشاءه.

٤ ـ لا تدخل مساحة الممرات المسقوفة هذه في حساب عامل الاستثمار العام أو السطحي.

٥ ـ على كل بناء ينشأ على زاوية يكون احد جانبيها على الشارع المذكور أن يقوم بتسوية الأقسام المتعمة للشارع والتي تشمل منطقة الممر المسقوف بما يضمن سلامة وراحة المشاة، الامر الذي يوجب التنسيق مع الاجزاء المجاورة لجهة مستوى الرصيف ويمنع داخل هذه الاجزاء بناء التصاوين والجدران التي تحجب النظر أو تعيق مرور المشاة.

٦ ـ في حال عدم انشاء الممرات المسقوفة يفرض غرس الأشجار حسب النظام المذكور في البند أ أعلاه.

تاسعا ـ أحكام إنتقالية:

يسمح بصورة استثنائية باستثمار المؤسسات المصنفة التي سبق واستحصلت على رخصة انشاء وبوشر ببنائها بموجب رخصة بناء قبل تاريخ ١٩٦٧/١٠/٢٤ ضمن المنطقة الصناعية القديمة التي كانت مصدقة بالمرسوم رقم ٨٨١٥ تاريخ ١٩٦٢ وذلك ريثما تتخذ التدابير اللازمة لنقل هذه المؤسسات الى المنطقة الصناعية الجديدة المحددة بموجب هذا التصميم.

عاشرا ـ أحكام عامة:

أ ـ اذا شطر عقار بأحد الخطوط الفاصلة بين المناطق الارتفاقية الى قسمين أو أكثر واقعة ضمن مناطق ارتفاقية مختلفة، ولم يعد أحد هذه الأقسام قابلا للفرز وفقا لنظام المنطقة التي هو فيها، تطبق على هذا القسم شروط البناء العائدة للمنطقة التي يقع فيها القسم الأكبر من العقار.

ب ـ أما إذا كان أحد هذه الأقسام قابلا للفرز وفقا لنظام المنطقة التي هو فيها، فتطبق عليه شروط البناء العائدة للمنطقة التي يقع فيها هذا القسم.

وفي هذه الحالة ومهما كان تركيز البناء المطلوب ضمن العقار، تطبق أنظمة البناء العائدة لكل منطقة ارتفاقية تخضع لها أقسام العقار على أجزاء البناء الواقعة ضمنها (استثمار سطحي ـ تراجع عن الحدود ـ عدد طوابق ـ إرتفاع أقصى) كما يطبق مجموع ما ينتج من حساب عامل الاستثمار العام في كل قسم على مساحة البناء المطلوب.

حادي عشر ـ في الفرز والضم والفرز:

أن الاجازة بالافراز أو الضم والفرز تخضع لشروط خاصة تتعلق بتنفيذ ترتيبات تجميلية معينة (ايجاد فسحات حرة، تقسيم القطع وشكلها، تقديم خريطة حجمية للأبنية ضمن القطع في بعض الحالات ...).

ويخضع مشروع الفرز لكل عقار بمفرده، والضم والفرز لعدة عقارات للأنظمة والشروط العامة والخاصة المبينة في الجدول المرفق وفقا لنظام المنطقة الارتفاقية الواقع فيها العقار وللأسس المحددة أدناه.

أ ـ يفهم بالطول الأدنى للواجهة والعمق الأدنى الوارد ذكرهما في جدول النظام قياسات المستطيل او المربع المفروض تركيزه ضمن مساحة العقار الصافية بعد حسم المساحة المصابة بالتخطيط المصدق.

ب ـ على العقارات المطلوب استحداثها بمشروع فرز أو ضم وفرز ان تكون واجهاتها موازية تقريبا للتخطيط أو للطريق.

ج ـ يجب ان تتوفر في العقارات الناتجة عن الفرز أو الضم والفرز المساحة الدنيا والقياسات المحددة في النظام الخاص للمنطقة الواقع فيها المشروع.

د ـ يسمح بتخفيض الطول أو العمق الأدنيين والمحددين في نظام المنطقة للقطع الناتجة عن الفرز بنسبة ١٠٪ شرط ان يقابلها زيادة في مساحة القطع بنفس النسبة.

هـ ـ تحسنا لعدد وقياسات بعض العقارات وزيادة لمساحات بعضها يمكن السماح باجراء عملية فرز وضم على أجزاء منيا ضمن الشروط التالية:

١ ـ في العقارات التي تفوق مساحة بعضها المساحة الدنيا لقطع الافراز المحددة في هذا النظام ان لا تنقص مساحة كل من هذه العقارات بعد عملية الفرز وعن المساحة الدنيا لقطع الافراز المحددة في هذا النظام.

٢ ـ في العقارات التي تفوق مساحة بعضها المساحة الدنيا لقطع الافراز يمكن فرز قسم

منها لضمه الى عقارات مجاورة مهما كانت مساحة هذه الأخيرة شرط ان تبقى العقارات التي اقتطع منها بعد عملية الفرز مستوفاة لشروط قطع الافراز وفقا لما هو محدد في المنطقة.

و ـ عندما يتناول مشروع الفرز عقارات عليها ابنية قائمة يجب، بالاضافة الى الشروط المفروضة في مشاريع الضم والفرز في نظام المنطقة ان تكون نسبة مساحة الأبنية الى مساحة العقارات المفرزة، مطابق لمعدل وعامل الاستثمار المفروضين في نظام المنطقة ويجب ان تكون المسافة بين الأبنية الموجودة والحدود المستحدثة بمقدار التراجع القانوني المفروض في هذه الحالات.

ز ـ يتوجب على كل مشروع فرز أو ضم وفرز تبلغ مساحته عشرة الاف متر مربع وما فوق أن لا تقل المساحة الاجمالية للطرق والحدائق العائدة للمشروع عن خمس وعشرين بالمائة من المساحة الاجمالية انما يمكن في حال تقسيم العقار الى خمس قطع وما دون لا تقل مساحة كل قطعة ناتجة عن هذا التقسيم عن أربعة أضعاف المساحة الدنيا المفروضة للافراز في المنطقة الاكتفاء بفرض الحد الأدنى اللازم لتأمين الطرق الخاصة بالمشروع وعدم التقيد بنسبة الخمسة والعشرين بالمائة المفروضة اعلاه شرط ان يفرض ارتفاق يسجل على الصحيفة العقارية لكل قطعة بوجوب تطبيق نسبة الخمسة والعشرين بالماية في حال افراز القطع الناتجة عن هذا التقسيم من جديد.

ف ـ يقتضي تأمين طرق بعرض عشرة أمتار على الأقل وفسحات مخصصة لدوران السيارات لجميع القطع الناتجة عن مشروع الفرز او الضم والفرز شرط أن يكون القطر الأدنى أو الضلع الأدنى للفسحات المخصصة لدوران السيارات مرة ونصف عرض طريق الافراز اذا كانت الطريق المستحدثة في مشروع الفرز أو الضم والفرز غير قابلة للامتداد ضمن حدود العقارات المفرزة أو العقارات الداخلية التي تليها واذا كانت مخصصة لقطع غير قابلة للتجزئة ولا يفوق عددها الأربعة عندئذ يمكن تخفيض عرض الطريق الى ثمانية أمتار اذا كانت الطريق المستحدثة في مشروع الفرز والضم والفرز لا تصلح لتكون طريق للسيارات بل درجا نظرا لشدة انحدارها عندئذ يسمح بتخفيض سعتها الى ستة أمتار مع فرض براح أدنى مترين على كل من جانبي الدرج.

ط ـ في حال تنظيم المناطق E,F أو أجزاء منها بواسطة الضم والفرز العام بقرار من السلطات العامة يصدر بعد تاريخ تصديق هذا النظام وفقا لقانون ضم الأراضي وفرزها في الأماكن الآهلة يخضع النظام في هذه المنطقة لأحكام المنطقة D ما عدا فيما يختص بالمساحة الدنيا للافراز فتكون ١٢٠٠ مترا مربعا وتتم عمليات الضم والفرز وفقا لذلك وذلك باستثناء المناطق المحاذية للأوتوستراد وعلى مسافة ٥٠ مترا من حدود استملاك الأوتوستراد والتي تبقى خاضعة للنظام المعتمد قبل الضم والفرز يخضع مشروع الضم والفرز لمخطط حجمي تتم الموافقة عليه مسبقا.

ثاني عشر ـ المدافن:

مع مراعاة الأحكام الخاصة العائدة للمدافن يشترط في اختيار الأراضي التي ستخصص للمدافن ان يؤخذ بعين الاعتبار طبيعة الأرض والمناطق المجاورة وتأثيرها على المياه الجوفية والمساحات اللازمة وتأمين طرق المواصلات.

يتوجب على كل طلب بانشاء مدفن بيان المساحة اللازمة بالنسبة للاهلين المستفيدين من هذا المدفن (نسبة مئوية ـ المساحة لكل شخص).

تبت المديرية العامة للتنظيم المدني بكل طلب يقدم بانشاء مدفن كل على حدة وعلى ضوء الأسس أعلاه.

نظر

المدير العام للتنظيم المدني

نظر

وزير الاشغال العامة

الامضاء: محمد بسام مرتضى

موافق

رئيس مجلس الوزراء

الامضاء: رفيق الحريري

صدق

رئيس الجمهورية

الامضاء: الياس الهراوي

APPENDIX II:

LPS DECREE AND APPLICATION TO WEST WASTANI

A. LPS Legislative Decree (70/1983)

ضم الأراضي وفرزها في الأماكن الآهلة — مرسوم اشتراعي رقم ٧٠ تاريخ ١٩٨٣/٩/٩

ضم الأراضي وفرزها في الأماكن الآهلة

مرسوم اشتراعي رقم ٧٠

صادر في ٩ أيلول سنة ١٩٨٣

ضم الأراضي وفرزها في الأماكن الآهلة

إن رئيس الجمهورية

بناء على الدستور

بناء على القانون رقم ٨٢/٣٦ تاريخ ١٩٨٢/١١/١٧ (منح الحكومة حق إصدار مراسيم اشتراعية)،

بناء على القانون رقم ٨٣/١٠ تاريخ ١٩٨٣/٥/٢١ (تمديد العمل بأحكام القانون رقم ٨٢/٣٦ تاريخ ١٩٨٢/١١/١٧)،

وبعد استطلاع رأي المجلس الأعلى للتنظيم المدني،

وبعد استشارة مجلس شورى الدولة،

بناء على اقتراح وزير الأشغال العامة والنقل،

وبعد موافقة مجلس الوزراء بتاريخ ١٩٨٣/٨/٢٤،

يرسم ما يأتي:

الفصل الأول

تقديم الطلب ودرسه

المادة ١ - للإدارات العامة والهيئات البلدية ولأصحاب العقارات أن تطلب ضم الأراضي وفرزها في الأماكن الآهلة تحقيقاً لأحد الأمور الآتية:

١ - إيجاد مناطق تحميل أو اتساع للمدن والقرى.

٢ - إجراء تقسيم جديد للأحياء القديمة والمناطق المبنية بغية تجميلها أو توفير الأسباب الصحية فيها.

٣ - إعادة بناء الأحياء القديمة أو المخربة من جراء كارثة.

٤ - شق الطرق العامة المصدقة.

٥ - إنشاء مناطق سكنية جديدة.

٦ - تنفيذ كامل أو جزء من التصميم التوجيهي العام المصدق.

٧ - تعديل الحدود بين عقارين أو أكثر.

المادة ٢ - يشترط في قبول الطلب إذا كان مقدماً من أصحاب العقارات أو ممثليهم الشرعيين أن يكونوا مالكين لثلثي مساحة العقارات الإجمالية الواقعة في المنطقة المطلوب فيها الضم والفرز.

المادة ٣ - ينبغي أن يرفق بالطلب إذا كان مقدماً من أصحاب العقارات:

١ - بيان بأسماء المالكين وشهرتهم وعناوينهم والحصص التي يملكونها مع إفادات عقارية في المناطق الممسوحة أو المناطق المحددة موقتاً، أو إفادات من مختار القرية التي تقع العقارات في نطاقها خارج المناطق الممسوحة.

٢ - مشروع تمهيدي للتخطيط وتقسيم الأراضي المقترحين مع بيان مفصل عن المنافع التي ترجى من تنفيذه.

المادة ٤ - يصدق طلب أصحاب العقارات من قبل كاتب العدل المثبت من صحة التواقيع ويقدم إلى المديرية العامة للتنظيم المدني التي يبلغ نسخة عنه إلى البلدية المعنية، أو إلى المحافظ أو القائمقام المختص في القرى التي لا يوجد فيها بلديات لأخذ العلم.

ضم الأراضي وفرزها في الأماكن الآهلة — مرسوم اشتراعي رقم ٧٠ تاريخ ١٩٨٣/٩/٩

المادة ٥ - تقوم المديرية العامة للتنظيم المدني بدرس المشروع بما فيه تحديد نطاق منطقة الضم والفرز ويصدر مرسوم بناء على اقتراح وزير الأشغال العامة والنقل بإجراء الضم والفرز وباعتبار الأشغال من المنافع العامة.

يشر المرسوم في الجريدة الرسمية ويعلق في مركز البلدية، أو مركز المختار حيث لا يوجد بلدية، ويبلغ إلى أمين السجل العقاري المختص لوضع إشارته على الصحائف العينية للعقارات التي يطالها.

الفصل الثاني

إعداد المشروع

المادة ٦ - اعتباراً من تاريخ نشر المرسوم في الجريدة الرسمية:

أ - تعد من نوع الملك بمفهوم المادة الخامسة من القرار رقم ٣٣٩٩ تاريخ ١٩٣٠/١١/١٢[1] تطبيقاً لأحكام هذا المرسوم الأشتراعي جميع العقارات في منطقة الضم والفرز وتسقط حكماً الهبة الغاية الأملاك العمومية الواقعة ضمن هذه المنطقة بفعل هذا المرسوم الاشتراعي إلى الأملاك الخصوصية.

ب - توقف رخص البناء والمقاولة والإنشاءات الجارية بموجبها، وتوقف المعاملات العقارية مع حفظ حقوق الأفراد بالتعويض تجاه الإدارة أو الجهة المستفيدة إلا أنه يبقى للقاضي المشرف بعد استطلاع رأي لجنة الضم والفرز عند الاقتضاء، أو يرخص بمتابعة الإنشاءات المرخص بها وبإجراء المعاملات العقارية.

ج - يمنع إعطاء رخص بناء أو فرز جديدة.

د - تصبح ملغاة جميع التحفيظات العصدقة ضمن منطقة الضم والفرز ويعتبر هذا الإلغاء، وكأنه لم يكن في حال إلغاء مشروع الضم والفرز أو سقوطه بانقضاء المهل.

المادة ٧ - يشرف على أعمال الضم والفرز قاض من الدرجة العاشرة على أن يكلفه وزير العدل بهذه المهمة ويمكن أن يكون متفرغاً لها إذا نص قرار تكليفه على ذلك.

المادة ٨ - تحدد مهلة إنجاز أعمال الضم والفرز في مرحلتي التخمين موضوع المادتين ١٠ و١٣ من هذا المرسوم الاشتراعي بستين اعتباراً من تاريخ إعلان القاضي افتتاح أعمال الضم والفرز الرسمية، ويمكن تمديد هذه المهلة ستين أخريين مرة واحدة بموجب قرار من وزير الأشغال العامة والنقل.

تسري مهلة الستين بالنسبة لمراسيم الضم والفرز الصادرة بتاريخ سابق لهذا المرسوم الاشتراعي ابتداء من تاريخ العمل به.

الفصل الثالث

تخمين الأملاك والحقوق

المادة ٩ - تخمن الأملاك والحقوق العينية بواسطة لجنة تؤلف لكل مشروع بقرار من وزير الأشغال العامة والنقل، على الوجه التالي:

- مهندس رئيس قسم على الأقل من ملاك المديرية العامة للتنظيم المدني - رئيساً.
- مهندس من العاملين في دوائر المديرية العامة للتنظيم المدني أو مهندس من الدوائر العقارية لكل من بلديتي بيروت وطرابلس يختاره رئيس اللجنة التنفيذية لها - عضواً.
- خبير يختاره القاضي المشرف على أعمال الضم والفرز ويختاره من بين الخبراء لدى المحاكم - عضواً.

يشترط في من تتألف منهم اللجنة أن لا يكونوا من المالكين في منطقة الضم والفرز. ويمكن أن يكون كل منهم متفرغاً إذا نص قرار التعيين على ذلك.

يمكن للجان المعينة قبل صدور هذا المرسوم

(١) ان القرار رقم ٣٣٩٩ تاريخ ١٩٣٠/١١/١٢ هو قانون الملكية العقارية.

الاشتراعي والتي باشرت أعمال مشاريع ضم وفرز معينة، متابعة العمل في هذه المشاريع لغاية إنهائها وذلك مع التقيد بأحكام هذا المرسوم الاشتراعي.

المادة ١٠ - تقوم اللجنة بالأعمال التالية:

١ - تخمين قيمة الأرض والإنشاءات والأغراس القائمة عليها بالأسعار الرائجة عند التخمين.

٢ - وضع جدول بإشراف القاضي المختص يبين أصحاب الحقوق على العقارات ومقدار القيمة المخمنة لحقهم مفصلة بالنسبة للأرض والإنشاءات والأغراس وغير ذلك.

المادة ١١ - تودع خريطة المنطقة وجداول التخمين مركز القاضي ويعلن عن هذا الإيداع في الجريدة الرسمية وفي ثلاث صحف محلية يحددها القاضي ويبلغ الإعلان إلى البلدية، أو إلى المختار حيث لا بلدية ويجري تعليقه على باب مركزها ويمكن للقاضي عند الاقتضاء أن يأمر بإجراء الإعلان بمختلف الوسائل.

لصاحب العلاقة أن يطلع على الوثائق في محل إيداعها، وله أن يبدي بخلال ثلاثين يوماً من تاريخ إتمام الإعلان بالوسائل المبينة في الفقرة الأولى أعلاه ما لديه من اعتراضات بموجب استدعاء يقدمه إلى القاضي الذي يحيل الاعتراضات إلى اللجنة فتبدي رأيها في كل منها.

يفصل القاضي بالدرجة الأخيرة في هذه الاعتراضات ويصادق على جدول التخمين النهائي ويعين بقرار منه تاريخ الشروع بأعمال الضم والفرز.

الفصل الرابع

الضم والفرز وتخمين القطع الجديدة

المادة ١٢ - تعد المديرية العامة للتنظيم المدني مشروع الضم والفرز على أساس التصميم التوجيهي المصدق والنظام الملحق به وتقتطع للأملاك العمومية مساحة الـ ٢٥ ٪ المنصوص عليها في المادة

١٨ من هذا المرسوم الاشتراعي لتستعمل في الأغراض المبينة في المادة ذاتها وتفرز المساحة الباقية من الملك الخاص إلى قطع جديدة.

يمكن للإدارة تكليف المكاتب الهندسية ومكاتب المساحة الخاصة القيام بهذا العمل لحسابها. وإذا كان طلب الضم والفرز مقدماً من المالكين حق لهم أن ينتدبوا مهندساً للاشتراك مع الإدارة في إعداد المشروع.

المادة ١٣ - تقوم اللجنة بتخمين القطع الجديدة وتأخذ بعين الاعتبار في التخمين بوجه خاص التحسين الناتج عن أعمال الضم والفرز وتودع خريطة المنطقة وقرارات التخمين مركز القاضي ويجرى الإعلان وتقدم الاعتراضات ويفصل بها وفقاً لما جاء في المادة ١١ أعلاه.

وقبل المباشرة بأعمال التوزيع تقوم اللجنة بمقارنة التخمين للقطع الجديدة بالتخمين موضوع المادة ١٠ من هذا المرسوم الاشتراعي فإذا زاد مجموع قيم هذه القطع أو نقص عن مجموع الحقوق المبينة في جدول التخمين يعدل حق كل واحد من أصحاب الحقوق بالنسبة لهذه الزيادة أو النقصان ثم تقوم اللجنة بعملية التوزيع.

الفصل الخامس

توزيع القطع الجديدة

المادة ١٤ - تراعى في توزيع القطع الجديدة لمستحقيها القواعد التالية:

١ - يخصص صاحب الحق بقطعة أو أكثر توازي قيمة حقه.

وإذاكانت قيمة الحق لا تمكن من إعطاء صاحبه أياً من القطع الجديدة بكاملها فيمكن تخصيصه بحصة شائعة.

٢ - تكون القطع المخصصة لأصحاب الحقوق واقعة ضمن أملاكهم القديمة أو بالقرب منها على قدر

المستطاع.

٣ - إذا اختلفت قيمة القطعة المخصصة لذي حق عن قيمة حقه فتعين اللجنة قيمة التعويض الذي يجب عليه أن يدفعه في حالة الزيادة أن يتقاضاه في حالة النقص ويكون هذا التعويض مستحق الإداء فوراً.

٤ - إذا تمنع من يترتب عليه دين للمشروع بنتيجة الفقرة (٣) السابقة عن الإيفاء، وإذا ارتضى أحد دائني المشروع إمهاله، تؤمن حصته لمصلحة هذا الدائن حتى إيفاء الدين مع الفائدة بالمعدل المعتمد قانوناً في التأمينات العقارية ويقيد القاضي التأمين، وتعتمد الطريقة ذاتها إذا وجد المدين من يدفع عنه بهذه الشروط.

٥ - وفي أي حال تضع وزارة المالية تحت تصرف القاضي سلفة تمكن من تغطية ما يبقى مترتباً من ديون للمشروع بفعل تطبيق الفقرة (٣) أعلاه على أن يدون لها على صحيفة عقار المدين امتيازاً بمقدار ما يجرى تسديده عنه، ولها حق تحصيل الدين المقيد وفقاً للأول القانونية المرعية لتحصيل الضرائب والرسوم مع غرامات التأخير التي تسري على المدين حكماً بعد انتهاء المهلة التي تعطى له من قبل القاضي للإيفاء والتي يجب أن لا تتعدى السنة.

المادة ١٥ - يخصص للشخص الذي يملك حقاً تصرفياً في عقار من الأملاك الأميرية ثلاثة أرباع قيمته وللدولة الربع الباقي ويأخذ كل منهما في التقسيم لجهة ما يوازي المبلغ العائد له.

يبقى للقطع الجديدة المعطاة بدلاً من الأملاك المتروكة المرفقة أو الأملاك الموضوعة بتصرف الجماعات الصفة القانونية ذاتها والاستعمال ذاته الذي كان للعقارات القديمة.

تسقط بمجرد أعمال الضم والفرز حقوق السطحية وجميع حقوق الارتفاق التي له أو عليه ما عدا التي تقرر اللجنة إبقائها أو إنشائها وذلك بعد أن تكون قد أخذت بعين الاعتبار عند تخمين قيمة العقارات لا المباشرة بتلك الأعمال.

المادة ١٦ - يعطى أصحاب التأمينات والحجوزات وسائر الحقوق العينية ضمانات موازية للتي كانت لهم قبل عملية القسم والفرز. وتنتقل هذه الحقوق إلى قطعة أو أكثر من القطع العائدة لصاحب الأرض القديمة المؤمنة والتي أعطيت له عوضاً عنها.

تطبق أحكام الفقرة السابقة في حالة التأمين الواقع على حصص شائعة في العقار.

عند انتهاء عملية الضم والفرز يبلغ السجل العقاري بكتاب مضمون أصحاب التأمينات والحجوزات وسائر الحقوق العينية الأخرى انتقال حقوقهم إلى العقارات الجديدة.

لا يجوز إكراه المدين الذي تملك قطعة جديدة على الإداء المسبق بسبب الضم والفرز.

إذا تحول حق الملك من أرض إلى بدل وكان على هذه الأرض حقوق عينية للغير فتستوفي هذه الحقوق من أصل البدل العائد للمالك قبل تسديده له.

المادة ١٧ - بعد وضع جدول التوزيع يودع مركزالقاضي ويجرى الإعلان عن هذا الإيداع ويفتح باب الاعتراض وإبداء الملاحظات أمام كل صاحب مصلحة (مالك، دائن، صاحب تأمين، صاحب حق عيني إلخ...) ويبت بالاعتراضات، ويتم ذلك كله وفقاً للأصول الواردة في المادة ١١ من هذا المرسوم الاشتراعي.

الفصل السادس

حقوق الدولة والبلديات

المادة ١٨ - إذا انطوت عملية الضم والفرز على تنفيذ تصميم أو تخطيط أقرته الإدارة فللدولة وللبلديات أن تضم مجاناً إلى أملاكها العمومية من أجل إنشاء وتوسيع وتجميل الطرق والشوارع والفسحات الحرة والحدائق والمباني والمصالح العامة ما يعادل ٢٥٪ من كامل مساحة الأملاك

الخصوصية. ولا تدخل في حساب الـ ٢٥ ٪ الأملاك العمومية الكائنة أو التي صدرت قرارات وضع اليد بشأنها قبل صدور مرسوم الضم والفرز.

يجرى اقتطاع الـ ٢٥ ٪ المجانية هذه مرة واحدة في عمليات الضم والفرز بمعنى أن القطع الخاصة الناتجة عن عملية ضم وفرز سابقة بمفهوم هذا المرسوم الاشتراعي لا تدخل في حساب المساحة الخاضعة للربع المجاني في أي عملية ضم وفرز لاحقة.

وإذا اقتضى تنفيذ التصميم المقرر في نطاق الضم والفرز أن يضم إلى الأملاك العمومية ما يزيد عن ربع مساحة العقارات الخاصة، وإذا اقتضى هدم إنشاءات واقتلاع أغراس فتبطق اللجنة في تخمين قيم الحقوق المستملكة الأسس المقررة في قانون الاستملاك المرعي الإجراء.

وعندئذ وفي كل مرة يترتب على الدولة أو البلدية المعنية مبالغ من هذا القبيل، تقوم وزارة المالية بوضع المبالغ المترتبة على الدولة تحت تصرف القاضي ليدفعها إلى المستحقين. كما تسلف القاضي المبالغ التي قد تكون مترتبة على البلدية من القبيل ذاته إذا تقاعست هذه الأخيرة عن دفعها ويعود لوزارة المالية في هذه الحالة الأخيرة أن تستوفي المبالغ المسلفة من الأموال العائدة للبلدية لديها أو لدى أي إدارة أخرى.

المادة ١٩ - تخضع لضريبة التحسين المنصوص عليها بموجب مشروع القانون الموضوع موضع التنفيذ بموجب المرسوم رقم ١٨٨ تاريخ ١٩٧٧/٦/٦ وتعديلاته، الزيادة التي قد يكون أفاد منها أصحاب العقارات الخاصة من مشروع الضم ولا فرز بفعل المقارنة المنصوص عليها في الفقرة الأخيرة من المادة ١٣ من هذا المرسوم الاشتراعي ويجرى حساب الضريبة على هذه الزيادة وفرضها من قبل المرجع المعين بالقانون المذكور ووفقاً للمعدلات والأصول المحددة فيه.

الفصل السابع

سندات الملكية بالعقارات المستحدثة

المادة ٢٠ - توضع حدود العقارات المستحدثة على الأراضي وفقاً للشروط المعينة في المادة ١٤ من القرار رقم ١٨٦ المؤرخ في ١٥ آذار سنة ١٩٢٦ بإقامة معالم نظامية. ويمكن للمديرية العامة للتنظيم المدني تكليف المكاتب الهندسية أو مكاتب المساحة الخاصة القيام بهذا العمل لحسابها وبإشراف مصلحة المساحة الفنية، وتعتمد مصلحة المساحة الخرائط النهائية الموضوعة بهذا الشكل.

ينظم محضر ضم وفرز لكل عقار مستحدث يصادق عليه القاضي.

بعد نهاية الأعمال يباشر القاضي تسليم العقارات لمالكيها مع شهادات بها موقتة معفاة من جميع الرسوم وتستبدل هذه الشهادات بسندات نهائية تسلمها الدوائر العقارية.

المادة ٢١ - تودع السندات والمحاضر وجداول التخمين والتوزيع النائية والتصاميم وسجلات الملكية وسائر الوثائق المتعلقة بالأراضي المفرزة، مديرية الشؤون العقارية بغية تصنيفها وحفظها في دائرة المحفوظات المركزية.

الفصل الثامن

نفقات أعمال الضم والفرز

المادة ٢٢ - تتحمل الدولة جميع النفقات الإدارية العائدة لعمليات الضم والفرز كما تتحمل من النفقات الفنية ما يعود لإعداد مشروع الضم والفرز بما فيها نفقات دراسة المشروع بواسطة مكاتب هندسية خاصة.

وتسلف وزارة المالية نفقات أعمال القاضي ومعاونيه وتعويضاتهم ونفقات اللجان ونفقات الأعمال الفنية التي يقتضيها تحقيق المشروع على

الأرض بما فيها أعمال التوتيد للقطع الجديدة وأعمال المسح النهائي على أن يتحمل المالكون هذه النفقات بنسبة قيمة حقوقهم ويوزعها القاضي فيما بينهم وتستوفى بمعرفته عند تسليم شهادات الملكية الموقتة والبدلات المالية. ويمكن للقاضي أن يمنح مهلة لإداء هذه النفقات أقصاها خمس سنوات على أن يقيد به امتيازاً لصالح الدولة على الصحيفة العقارية.

يجرى صرف السلفات الموضوعة تحت تصرف القاضي بموجب قرارات منه كما يسددها خلافاً لأي نص آخر عند الانتهاء من صرفها.

تقوم السلطة المنفذة للمشروع بمبادرتها بشق الطرق الجديدة على نفقتها ويقع هذا الموجب على عاتق المالكين إذا كان المشروع قد وضع بطلب منهم.

يمكن للجهة المعنية بعد إتمام النشر المذكور في الفقرة الثانية من المادة الخامسة من هذا المرسوم الاشتراعي وفي أي مرحلة من مراحل الاجراءات اللاحقة، أن تسرع بتنفيذ الطرق والإنشاءات العامة الملحوظة في نطاق مشروع الضم والفرز المعد، بعد موافقة القاضي المشرف الذي يستطلع رأي لجنة الضم والفرز عند الاقتضاء.

الفصل التاسع

أحكام ختامية

المادة ٢٣ - تحدد عند الاقتضاء تطبيق أحكام هذا المرسوم الاشتراعي بمراسيم تتخذ في مجلس الوزراء بناء على اقتراح وزير الأشغال العامة والنقل.

المادة ٢٤ - تلغى جميع الأحكام المخالفة لأحكام هذا المرسوم الاشتراعي لا سيما أحكام القانون الصادر في ٧ كانون الأول سنة ١٩٥٤ وأحكام المرسوم الاشتراعي رقم ٦٩ تاريخ ١٩٧٧/٦/٢٥ والمتعلقين بهم الأراضي وفرزها في الأماكن الآهلة.

المادة ٢٥ - يعمل بهذا المرسوم الاشتراعي فور نشره في الجريدة الرسمية.

بعبدا في ٩ أيلول سنة ١٩٨٢
الإمضاء: أمين الجميل

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الإمضاء شفيق الوزان

وزير الأشغال العامة والنقل
الإمضاء: بيار الخوري

نشر هذا المرسوم الاشتراعي في عدد الجريدة الرسمية رقم ٣٨ تاريخ ١٩٨٣/٩/٢٢

Decree 70/1983 of public LPS in urbanized areas was issued in 9/9/1983, as part of the revised Urban Planning Law. It consists of 9 chapters and 25 articles, including later amendments (Article 9, in 13/3/1985). The decree specifies the acceptable reasons for undertaking an LPS project, the necessary preparatory steps, the required documentations and valuation of lots, the procedures of lot amalgamation and subdivision, new lot distribution as well as government and municipal rights. For the purpose of this research, specific articles from the decree 70/1983, relating to urban design and planning components are herein translated into (Table 9) English as basis for further discussions.

In addition to the key articles mentioned in Table 9, there are others that may have bearings on the process of LPS. They are herein discussed according to interviews conducted with the planner Mustafa Fawaz, head of the *Bureau Technique d'Urbanisme et de Travaux Publics*, (Fawaz M. , 2011).

Once the decree (مرسوم) to pool and subdivide a given area is issued by the Directorate General of Urbanism (DGU), a juridical committee is appointed to supervise the works. The DGU usually assigns a consultancy office to conduct the works. The decree also defines the scope or boundaries of the intervention area where the consultancy team will conduct the required analysis, outline the plans for the future infrastructure of the area, the new lot distribution, etc. The assessment of property values and its distribution is controlled by the appointed judicial committee, under the supervision of a real-estate judge whose responsibility is to estimate the value of parcels (old and new) and to solve property conflicts between affected landowners. The judicial committee is composed of an engineer from the DGU (Head of the Committee), an engineer representative of the Cadastral department in the municipality (member), and

an expert juror selected by the judge. None of the committee members can own property in the intervention area.

Table 9: Articles of Decree 70/1983

		ضم الاراضي و فرزها في الاماكن الاهلة مرسوم رقم ١٩٨٣/٧٠	**Land Pooling and Subdivision (LPS) in Urbanized Areas Decree 70/1983**
		الفصل الاول: تقديم الطلب ودرسه	Chapter 1: Submission of the request and its study
		المادة ١	Article 1
اسباب الضم و الفرز	Reasons for LPS	للإدارات العامة و الهيئات البلدية و لأصحاب الاراضي ان تطب ضم الاراضي وفرزها في الاماكن الاهلة لاحد الامور التالية:	Municipalities and public / governmental departments have and land owners the right to ask for LPS in urbanized zones based on one of the following reasons:
		١- ـ ايجاد مناطق تجميل او اتساع للمدن والقرى	1- Finding areas for the beautification or expansion of cities and villages
		٢ ـ اجراء تقسيم جديد للأحياء القديمة والمناطق المبنية بغية تجميلها او توفير الاسباب الصحية فيها	2- Carrying out subdivision for old neighborhoods and built-up areas in order to beautify or provide better health conditions
		٣ ـ اعادة بناء الاحياء القديمة او المخربة من جراء كارثة	3- Reconstructing old or damaged neighborhoods as a result of a disaster.
		٤ ـ شق الطرق العامة المصدقة	4- Constructing the approved road networks
		٥ ـ انشاء مناطق سكنية جديدة	5- Establishing new residential areas
		٦ ـ تنفيذ كامل او جزء من التصميم التوجيهي العام المصدق	6- Executing complete or partial implementation of the approved design Master plan
		٧ـ تعديل الحدود بين عقارين او اكثر	7- Modifying the boundaries between two or more lots

		الفصل الثاني: إعداد المشروع	Chapter 2: Project Preparation
		المادة ٦	Article 6
الضم	Land pooling Cancelation of all approved plans	أ ـ تعد من نوع الملك بمفهوم المادة ٥ من القرار رقم ٣٣٣٩ تاريخ ١٩٣٠/١١/١٢ تطبيقا لأحكام هذا المرسوم الاشتراعي جميع العقارات في منطقة الضم و الفرز وتسقط حكما لهذه الغاية الاملاك العمومية الواقعة ضمن هذه المنطقة بفعل هذا المرسوم الاشتراعي الى الاملاك الخصوصية	a- All lots within LPS area are considered as a kind of 'property', according to the provisions of article 5 decree number 3339, dated 12/11/1930 and by applying the provisions of this legislative decree. Hence for this purpose, the public properties within this area will be considered as private properties by virtue of this legislative decree.
		د ـ تصبح ملغاة حكماً جميع التخطيطات المصدقة ضمن منطقة الضم والفرز ويعتبر هذا الإلغاء وكأنه لم يكن في حال إلغاء مشروع الضم الفرز أو سقوطه بانقضاء المهل.	d- All the approved plans within the LPS area become automatically canceled, and this cancelation is considered as null as if it was not existing in case the LPS project had been canceled or dropped as a result elapsed time frame* * two years renewable for another 2 years according to article 8 of the same decree
		الفصل الثالث: تخمين الاملاك والحقوق	Chapter 3: Assessment of properties and rights
		المادة ١٠	Article 10
تخمين الاملاك	Evaluation of property	تقوم اللجنة بالأعمال التالية: ١ ـ تخمن قيمة الاراضي والانشاءات و الاغراس القائمة عليها بالأسعار الرائجة عند التخمين	The juridical committee shall carry out the following works: 1- Assessment of the value for land, buildings and existing plantation according to prevailing the market prices at the time of assessment
		٢ ـ وضع جدول بإشراف القاضي المختص يبين اصحاب الحقوق على العقارات ومقدار القيمة المخمنة لحقهم مفصلة بالنسبة للأرض و الانشاءات والاغراس وغير ذلك	2- The Placement of schedule under the supervision of the concerned judge showing the rights of lots owners and the amount of assessed value of their rights detailed with respect to the land, buildings, plantations, and others.

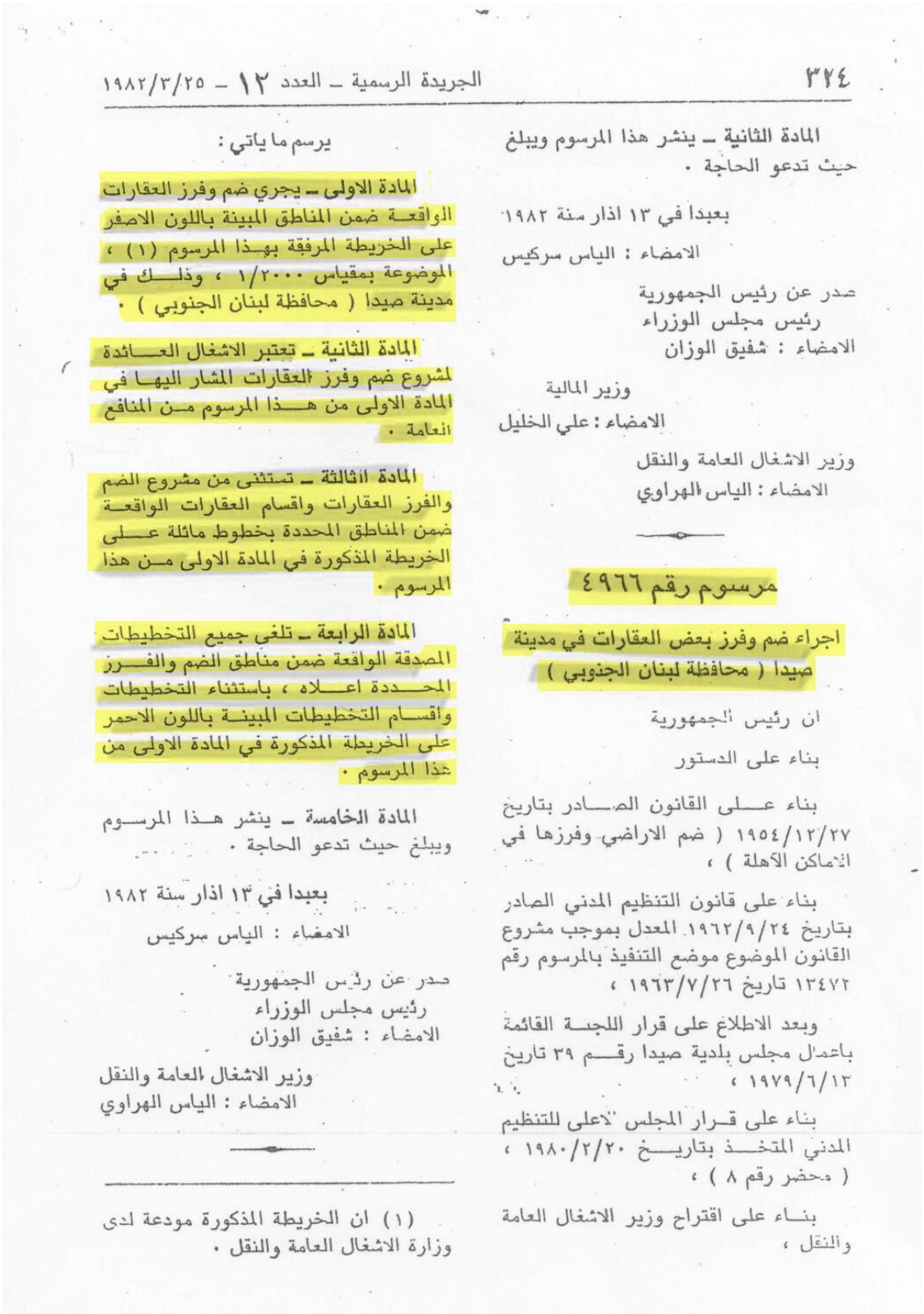
		الفصل الرابع: الضم والفرز وتخمين القطع الجديدة	Chapter 4: lot pooling and re-subdivision and assessment of new lots
		المادة ١٢	Article 12
٢٥٪ الاملاك العمومية	25% public property	تعد المديرية العامة للتنظيم المدني مشروع الضم والفرز على اساس التصميم التوجيهي المصدق و النظام الملحق به وتقتطع للأملاك العمومية مساحة ٢٥٪ المنصوص عليها في المادة ١٨ من هذا المرسوم الاشتراعي لتستعمل في الاغراض المبنية في المادة ذاتها وتفرز المساحة الباقية من الملك الخاص الى قطع جديدة	The DGU prepares the LPS project based on the approved design master plan and the annexed regulations. An area of 25% for public property shall be deducted as stipulated in article 18 of this legislative decree to be used for the purposes indicated in the same article, and the remaining of the private property shall be subdivided into new lots
		المادة ١٣	Article 13
التخمين القطع الجديدة	Valuation of new lots	تقوم اللجنة بتخمين القطع الجديدة و تأخذ بعين الاعتبار في التخمين بوجه خاص التحسين الناتج عن اعمال الضم والفرز وتودع خريطة المنطقة وقرارات التخمين مركز القاضي ويجرى الاعلان وتقدم الاعتراضات ويفصل بها وفقا لما جاد في المادة ١١	The committee shall assess the new lots while taking into consideration specifically the amelioration resulting from the LPS works. The plan of the area along with the assessment decisions shall be deposited in the office of the supervising judge, and shall be announced so that objections shall be made and resolved according to what is stipulated in article 11
		الفصل الخامس: توزيع القطع الجديدة	Chapter 5: Distribution of new lots
		المادة ١٤	Article 14
توزيع القطع الجديدة	New lots distribution	ترعى في توزيع القطع الجديدة لمستحقيها القواعد التالية: ١- يخصص صاحب الحق بقطعة او اكثر توازي قيمة حقه. و اذا كانت قيمة الحق لا تمكن من اعطاء صاحبه أيا من القطع الجديدة بكاملها فيمكن تخصيصه بحصة شائعة	The following rules shall be considered while distributing the new lots to deserved owners : 1- The right owner shall be assigned one lot or more equivalent to his right. If the value of the right does not allow its owner any single lot then he shall be assigned a common share.

		٢ـ تكون القطع المخصصة لأصحاب الحقوق واقعة ضمن املاكهم القديمة او بالقرب منها على قدر المستطاع	2- The assigned lots to the rights owners shall be located within their old properties or as close as possible
		الفصل السادس: حقوق الدولة والبلديات	Chapter 6: Governmental and Municipal rights
		المادة ١٨	Article 18
الربع المجاني	25% for public services	اذا انطوت عملية الضم والفرز على تنفيذ تصميم او تخطيط اقرته الادارة فللدولة و للبلديات ان تضم مجانا الي املاكها العمومية من اجل انشاء وتوسيع وتجميل الطرق والشوارع والفسحات الحرة والحدائق والمباني والمصالح العامة مل يعادل ٢٥٪ من كامل مساحة الاملاك الخصوصية. ولا تدخل في حساب ال٢٥٪ الاملاك العمومية الكائنة او التي صدرت قرارات او وضع اليد بشأنها قبل صدور مرسوم الضم والفرز.	If the LPS process called for the implementation of a design or a plan approved by the DGU, the government and the municipalities shall have the right to include, free of charge, to its public properties an area equivalent to 25% out of the total private properties , in order to establish, expand and beautify roads and streets, open spaces, gardens, buildings and public facilities. The 25% shall not include existing public properties or those obtained by virtue of decisions or confiscated before issuing the LPS decree
		يجرى اقتطاع ال٢٥٪ المجانية هذه مرة واحدة في عمليات الضم والفرز بمعني أن القطع الخاصة الناتجة عن عملية ضم وفرز سابقة بمفهوم هذا المرسوم الاشتراعي لا تدخل في حساب المساحة الخاضعة للربع المجاني في أي عملية ضم وفرز لاحقة	The deduction of the 25% shall be carried out only once in the LPS process, which means that the private lots resulting from a previous LPS project, according to the provisions of the legislative decree, shall not be included in the calculation of the area subject to the free quarter or in any subsequent LPS process.
		وإذا اقتضى تنفيذ التصميم المقرر في نطاق الضم والفرز ان يضم الى الاملاك العمومية ما يزيد عن ربع المساحة العقارات الخاصة، واذا اقتضى هدم إنشاءات واقتلاع أغراس فتطبق اللجنة في تخمين قيم الحقوق المستملكة الأسس المقررة في قانون الاستملاك المرعي الاجراء	If the execution of the approved plan within the LPS process requires adding an area to the public property exceeding quarter of the area of the private properties, and if the destruction of buildings or the demolition of plants is necessary, then the committee shall estimate the value of rights to be acquired on the basis of the prevailing expropriation law .

		المادة ١٩	Article 19
ضريبة التحسين	Enhancement tax	تخضع لضريبة التحسين المنصوص عليها بموجب المرسوم ١٨٨ تاريخ ١٩٧٧/٦/٦ وتعديلاته، الزيادة التي قد يكون أفاد منها أصحاب العقارات الخاصة من مشروع الضم والفرز بفعل المقارنة المنصوص عليها بالفقرة الاخيرة من المادة ١٣ من هذا المرسوم الاشتراعي ويجري حساب الضريبة على هذه الزيادة وفرضها من قبل المرجع المعين بالقانون المذكور ووفقا للمعدلات والاصول المحددة فيه	The assessment tax stipulated thereof by virtue of the decree 188 dated 6/6/1977 and its amendments shall be subject to the increase that the private lot owners had benefited from the LPS project as a result of the comparison stated in the last paragraph of article 13 of this legislative decree and the tax shall be assessed on this increase and imposed by the concerned authority in the said law and according to the levels and principles specified therein.

B. West Wastani LPS:

1. ***Decree 4966/1982***



٣٢٤ الجريدة الرسمية ـ العدد ١٢ ـ ١٩٨٢/٣/٢٥

المادة الثانية ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة .

بعبدا في ١٣ اذار سنة ١٩٨٢

الامضاء : الياس سركيس

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : شفيق الوزان

وزير المالية
الامضاء : علي الخليل

وزير الاشغال العامة والنقل
الامضاء : الياس الهراوي

مرسوم رقم ٤٩٦٦

اجراء ضم وفرز بعض العقارات في مدينة صيدا (محافظة لبنان الجنوبي)

ان رئيس الجمهورية

بناء على الدستور

بناء على القانون الصادر بتاريخ ١٩٥٤/١٢/٢٧ (ضم الاراضي وفرزها في الاماكن الآهلة) ،

بناء على قانون التنظيم المدني الصادر بتاريخ ١٩٦٢/٩/٢٤ المعدل بموجب مشروع القانون الموضوع موضع التنفيذ بالمرسوم رقم ١٣٤٧٢ تاريخ ١٩٦٣/٧/٢٦ ،

وبعد الاطلاع على قرار اللجنة القائمة باعمال مجلس بلدية صيدا رقم ٣٩ تاريخ ١٩٧٩/٦/١٣ ،

بناء على قرار المجلس الاعلى للتنظيم المدني المتخذ بتاريخ ١٩٨٠/٢/٢٠ ، (محضر رقم ٨) ،

بناء على اقتراح وزير الاشغال العامة والنقل ،

يرسم ما ياتي :

المادة الاولى ـ يجري ضم وفرز العقارات الواقعة ضمن المناطق المبينة باللون الاصفر على الخريطة المرفقة بهذا المرسوم (١) ، الموضوعة بمقياس ١/٢٠٠٠ ، وذلك في مدينة صيدا (محافظة لبنان الجنوبي) .

المادة الثانية ـ تعتبر الاشغال العائدة لمشروع ضم وفرز العقارات المشار اليها في المادة الاولى من هذا المرسوم من المنافع العامة .

المادة الثالثة ـ تستثنى من مشروع الضم والفرز العقارات واقسام العقارات الواقعة ضمن المناطق المحددة بخطوط مائلة على الخريطة المذكورة في المادة الاولى من هذا المرسوم .

المادة الرابعة ـ تلغى جميع التخطيطات المصدقة الواقعة ضمن مناطق الضم والفرز المحددة اعلاه ، باستثناء التخطيطات واقسام التخطيطات المبينة باللون الاحمر على الخريطة المذكورة في المادة الاولى من هذا المرسوم .

المادة الخامسة ـ ينشر هذا المرسوم ويبلغ حيث تدعو الحاجة .

بعبدا في ١٣ اذار سنة ١٩٨٢

الامضاء : الياس سركيس

صدر عن رئيس الجمهورية
رئيس مجلس الوزراء
الامضاء : شفيق الوزان

وزير الاشغال العامة والنقل
الامضاء : الياس الهراوي

(١) ان الخريطة المذكورة مودعة لدى وزارة الاشغال العامة والنقل .

2. *Project Steps*

The Municipality issued the decision 39 of lot pooling and re-subdivision for the Wastani area on 13/6/1979. The project officially lunched on the 13/3/1982 by the decree number 4966 of the lot pooling and re-subdivision of Wastani area following the decree of public lot pooling and re-subdivision in urbanized areas issued in 1954 (that was latter modified 70/1983) (El-Kalash, Feb 2010). The project scope covered the execution the public projects of Eastern Boulevard, school, hospital, and public garden amended in the master plan of 1967. Table 10 was developed to compare details of applying the articles and amendments of the LPS Decree.

Table 10: Steps of West Wastani LPS Project

ضم الاراضي و فرزها في الاماكن الاهلة مرسوم رقم ١٩٨٣/٧٠	ضم و فرز منطقة الوسطاني (١٩٨٢) قرار البلدي رقم ١٩٧٩/٣٩ مرسوم رقم ١٩٨٢/٤٩٦٦
Public Lot pooling ans subdivision in urbanized area Decree 70/1983	Saida Land pooling 1982 Municipal Decision 39/1979 Decree 4966/1982
Chapter 1: Project proposal and study	
Article 1: Reasons for land pooling and re-subdivision	
Municipalities and public / governmental departments have and land owners the right to ask for LPS in urbanized zones based on one of the following reasons:	Municipality of Saida - LPS of East Wastani
1- Finding areas for the beautification or expansion of cities and villages	1- Finding areas for the beautification or expansion of cities and villages
2- Carrying out subdivision for old neighborhoods and built-up areas in order to beautify or provide better health conditions	
3- Reconstructing old or damaged neighborhoods as a result of a disaster.	
4- Constructing the approved road networks	4- Implementing approved road network
5- Establishing new residential areas	
6- Executing complete or partial implementation of the approved design Master plan	6- Complete or partial implementation of the approved Master plan
7- Modifying the boundaries between two or more lots	

Chapter 2: Project Preparation	
Article 6	
a- All lots within LPS area are considered as a kind of 'property', according to the provisions of article 5 decree number 3339, dated 12/11/1930 and by applying the provisions of this legislative decree. Hence for this purpose, the public properties within this area will be considered as private properties by virtue of this legislative decree.	Total East Wastani: 88.7 hectar 71.6 hectares private 10.7 hectares public (roads) 6.5 hectares excluded
d- All the approved plans within the LPS area become automatically canceled, and this cancelation is considered as null as if it was not existing in case the LPS project had been canceled or dropped as a result elapsed time frame* * two years renewable for another 2 years according to article 8 of the same decree	
Chapter 3: Valuation of property and rights	
Article 10	
The juridical committee shall carry out the following works: 1- Assessment of the value for land, buildings and existing plantation according to prevailing the market prices at the time of assessment	Juridical committee headed by Judge Abdul Ghanni Hajjar
2- The Placement of schedule under the supervision of the concerned judge showing the rights of lots owners and the amount of assessed value of their rights detailed with respect to the land, buildings, plantations, and others.	29/9/1983 judge announced the accomplishment of the surveying works and the committee placed the initial valuation and opened the floor for duration of 30 days to allow the owners to present their objection if any.

Chapter 4: lot pooling and re-subdivision and valuation of new lots	
Article 12	
The DGU prepares the LPS project based on the approved design master plan and the annexed regulations. An area of 25% for public property shall be deducted as stipulated in article 18 of this legislative decree to be used for the purposes indicated in the same article, and the remaining of the private property shall be subdivided into new lots	Master plan/ decree number 9016/67, edited by 6405/73. Plans and valuation of new lots was done taken into account the improvements resulting out of LPS and the judged announced that these documents were deposited at his office on the 28/02/1986 25% of the private plot (71.6hectares) = 17.9 hectares
Article 13	
The committee shall assess the new lots while taking into consideration specifically the amelioration resulting from the LPS works. The plan of the area along with the assessment decisions shall be deposited in the office of the supervising judge, and shall be announced so that objections shall be made and resolved according to what is stipulated in article 11	Distribution of the lots were announced by the judge on the 23/7/1987 More than150 objections submitted

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