

# BEIRUT'S RIVERSIDE MARGINAL LANDSCAPE

## FROM ABANDONED AGRICULTURAL SPACES TO FORSAKEN INDUSTRIAL HERITAGE: THE CASE STUDY OF MKALLES INDUSTRIAL AREA

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### INTRODUCTION

There is an odd case of cohabitation happening along the riverside of Beirut, a situation in which what remains of the agricultural lands now residual and unused, floats around the remains of an industrial area already in decay. Throughout continuous and progressive urbanization along with a sense of necessity for industrialization, the riverside area of Mkalles have witnessed a complete mutation from an agricultural area to a densely urbanized industrial one. This paper aims to problematize the marginal nature of Riverside areas such as Mkalles industrial area (MIA), in comparison to the existence of somehow "active" industrial activity located within its edges surrounded by what remains from the agricultural heritage now given place to unused terraces and abandoned fields overtaken by dense vegetation. This paper builds on a review of approaches towards the concept of appropriation of marginalized urban spaces focusing on re-naturalization as a specific mode of space transformation. By examining the specificities of unused vacant land and degrading industrial facilities and the role they could play in enhancing the relationship of the area to its context, this paper will attempt to examine the impact of these urban transformations on cities' urban fabric and the sustainable revitalization this form of transformation might have on society. Throughout this paper, the re-naturalization process in the form of space appropriation and the components necessary for the activation of such residual spaces will be defined, and new urban strategies will be discussed. Moreover, this paper will attempt to shed some light upon the status

of historical industrial structures v/s the agricultural heritage or what's left of it along Riverside Beirut. Moreover, this paper will attempt to seek the main actors and interest groups fueling the discussion about industrial/agricultural heritage, and what arguments are being used in the discourse.

### THE MODERN MOVEMENT LEGACY

The concepts of the Modern Movement and their undeniable impact on the image and structure of today's cities, have succeeded through the Charter of Athens and the efforts and ingenuity of its creators, to build a solid legacy of city planning tools. However, these tools could be facing some limitations regarding quantitative and qualitative measurements of more delicate interventions (Van den Heuvel 2008). The constant juggling between the different scales (urban mega structures, neighborhoods and parcels) is persistently blurring the lines that define the connectivity of small local interventions to the broader city network.

Tools such as the master plan and the national physical master plan of the Lebanese territory (NPMPLT) have generalized and flew over real needs of the population. Their limitation rest in the case that they ignore the different emerging drivers behind decaying areas such as the MIA. While processes for their development diverge, master plans are most helpful when they represent a vision that brings simultaneously the concerns of different interest groups, and their recommendations create a rapid growth of community and political support. The master plan may have become too rigid and top down of a strategy to be acknowledged from many different organizations, communities or municipalities that may be impacted by a specific facility. On the other hand, valuable master plans could develop to become more flexible, involving, since its beginnings, the community and other stakeholders, giving the plan a legitimate base, and a better chance to be implemented. While circumstances vary from place to place, the decision to develop a master plan is often determined by the need to understand the current conditions of the area, to generate and build community interest and participation, to create a new and common vision for the area's future, and/or to develop a clear and solid set of recommendations and implementation strategy (Project for Public Spaces 2000).

### THE SHIFT

Today, Mkalles Industrial Area (MIA) is a forsaken part on the edge of the city paying the high price for ineffective modernist planning tools such as zoning and lack of authorities' decision making and smart action planning, hence, the high percentage (almost 65%) of unused/abandoned/residual spaces within its fabric (Figure 1). The area started shifting from agricultural land to industrial

by attracting limited but large-scale industrial factories and warehouses as early as the 1960's. What used to be a fully-fledged river-front industrial destination that holds within its fabric different types of land-uses like high-tension electric poles, power stations zones and local/foreign labor settlements, portrays today an urban situation full of contradictions.

Subject to speculative industrial development and physical and environmental degradation, MIA, since the 1960's, have seen itself slowly isolated from its context. Its unique location on the Beirut riverside, and on the edges of the city, have been undermined. What could be today categorized as Industrial Heritage is nothing more than an under-utilized land that fails to connect to its context (Al-Tayeb 2012). Moreover, MIA has yet to attract new opportunity seekers to investigate and invest, mainly due to its limitations in terms of zoning and ineffective planning decisions, turning it to a residual area in constant degradation. Underutilized lots versus built space, disconnected roads and a sensitive environmental condition has turned MIA into marginalized urban spaces. However, MIA holds within its realm all the right precursors for an effective and genuine re-naturalization process.

### THE RE-NATURALIZATION PROCESS

The re-naturalization process in the form of space appropriation is driven by undeniable social, economic, political and regulatory factors (Bishop and Williams 2012).

### THE DRIVERS

#### Spatial

The physical manifestation of cities features certain elements such as density, transportation, infrastructure, parcels and the built. The examination of these elements must acknowledge those that have the greatest impact on individual urban fabrics and thereby on the development of the entire city. Studio Urban Catalyst (Studio Urban Catalyst 2003) acknowledges that urban development processes in Europe produces time gaps. These time gaps are where the former use comes to an end whereas the future use has not yet started. In another word time gaps are times where the urban context is shifting from one state to another, resulting from crisis. Large-scale residual spaces such as the abandoned Mkalles industrial area, have the potential to generate time gaps and spatial vacuums, hence attract the implementation of urban regenerating programs. The first shift was after 1964, when MIA began its industrialization process and rapidly agriculture land was replaced by factories and warehouses; the second shift is slowly taking its toll on the industrial area, and it will be shown later how new creative and bottom-up strategies/programs are

replacing the old industrial ones. It is worth mentioning that this second shift have begun back in 2015 and still today its shy impact on the landscape is yet to be felt. The spatial vacuum created by the time gaps could indicate to a certain degree how receptive is a neighborhood, area or district to the implementation of new and creative programs within residual areas and hence encourage the elaboration of bottom-up strategies to accompany their development. It is evident that the scale of the projects varies from one project to the other (Aouad 2014).

**Social**

MIA's human reservoir draws mainly from the local/foreign labor settlements (Zone G). There is a total of 65 workshops/industries in the area averaging a total built area of 20,000 m2. The number of workers exceeds 1330 and 85% of them live in extensions whether above the workshops (roofs) or adjacent to them. Those fragile extensions (superposition, insertion, juxtaposition, protrusion) have become interesting typologies contrasting with the brutalist language that main buildings impose onto the landscape. The superposed typology acts as a living/sleeping space on building roofs as well as workspace extensions; the insertion typology serves as circulation and technical extensions; the juxtaposition typology serves as informal living and the protrusion provides extra spaces for storage. Most facilities have seen over time the implementation of a combination of these typologies. The South-Western entrance to MIA consists of a residential/office space neighborhood with commercial ground-floors that mixes with some large scale industrial buildings at its Eastern and Northern edge. This social mix highly contributes to a feeling of insecurity within the boundaries of these neighborhoods, creating at night empty streets and dark alleyways.

**Economic**

The main economic activity of the area comes from the factories, workshops and warehouse facilities located in Zone G. There is steel (7%), wood (50%), glass, paper/printing (10%), plastic workshops and other, ranging from small to large scale economies. Some food distribution industries are located within the area, mainly on the outskirts of the Mkalles main road. However, this economic activity has tremendously slowed down since most industrial facilities are considered outdated and, apart from a few recent radical changes in few of them, they are relegated to a status of craftsmanship rather than industrial. The country has witnessed recently the emergence of new and fully equipped industrial areas such as The Nahr Ibrahim industrial region, set-up by a prominent local property development company and they are ready to host industries seeking international standards.

"It will be equipped with required infrastructure including roads, waste, water and sewage treatment, power generation, smart systems, and a business center for

offices, and meeting halls. The city will also include fast food restaurants, mini-markets, and labor lodges. It will be built according to international standards, and similar in quality to industrial cities in Jabal Ali and others" said George Khouri, Group Marketing Director (Ghanem 2017).

**Cultural**

Economic downfall, industry migration and worsening financial situations have pushed factory owners to start selling or renting their premises. Low rents, large spaces and high ceilings with a loft-style typology have attracted some opportunity seekers ready to invest in new programs. Creative labs, hubs for start-ups, co-working spaces have begun to replace some of the most attractive facilities on the market. The area has witnessed, since 2015, the incoming of few young, creative entrepreneurs looking for freedom of work and corresponding atmospheres. While investments put in renovation remain high due to the large areas of premises, a recycling low cost renovation process have begun to surge, leading to unusual office spaces and creative hubs. While this trend hasn't completely taken over the area yet, it remains a potential direction for future growth and area regeneration. However, this

informal talk with owners shows that for the right price, they were willing to move out to host tenants. Most of these owners have hired on site lawyers and real estate agencies to deal with these new types of transactions.

**The regulatory and legislative mechanisms**

What used to be a fertile agricultural land, now follows the Greater Beirut master plan of 1964. It had previously organized MIA, along with Karantina and Baouchrieh areas, as B1, i.e. a footprint exploitation ratio of 50% for mixed uses and 60% for industrial use, combined with a total exploitation ratio of 1.65. Since 1997, the zoning policy in Mkalles is composed of the following four types of exploitation areas (Figure 2): Zone G - currently as densely-built industrial, its transitional extensions, Zone T, T1 and O - presently used as light industrial and/or abandoned and under-utilized estates due to ownership issues, but with high development potential in the planning law (T and T1 exploitation ratios are higher than zone G) and since 2005, a 100m offset (to replace the 500m offset of 1997) from the river mid-axis, under study by the DGU and frozen from development. Add to that an area previously planned and now free from any organizing law and yet to be developed (Al-Tayeb 2012).



Figure 1

shift comes at the cost of workers already established in these factories, as they find themselves obliged to depart elsewhere for other work opportunities. It was surveyed that 10 to 15% of existing factories have already put on the market, either all or part of, their premises. An

The industrial zone of Mkalles is regulated under a specific land-use policy issued by the DGU, accompanied by three administrative procedures by the ministry of the Public Health, the Ministry of Industry with IDAL, the Ministry of the Environment and the Council of

Ministers. The current zoning is very strict and does not allow for future expansions and flexibility in allocating future lots, moreover the 100m axis from the river is not accompanied with a clear map and could create confusion in future developments towards the river.

## FACING THE CHALLENGES

### The stakes

Poor safety measures and outdated facilities have put at risk the landscape of MIA. Recently, an oil factory on the northern edge of MIA have caught fire and almost one week after the incident took place, the old factory has been demolished (Figure 3). Incidents like these, not only are a direct hazard to neighboring residents, but also an indirect one to the micro-climate of the area. Residents and passers have been suffering from polluted air and oil residues for the past two weeks. The green area along the river of Beirut includes several types of green spaces and ecological features making it a vulnerable space. It is threatened by development and does not follow a management plan since it is partly considered previously classified in the Greater Beirut master plan. Therefore, it is characterized as a sensitive site and hence, needs to be protected from massive urban sprawl. A gentrification (in the most objective sense of the word) process is slowly taking place in the area, where local/foreign workers and facility owners are migrating leaving place for a young and creative crowd. But most importantly, the absence of planning and governmental guidance as to how this area will develop, leaving owners and developers with a blurred vision of the future, hence maintaining a status quo that could have a very high cost on the region.

### Urban strategies and new emerging approaches

Residual spaces in the form of environmental degradation, inflicted partly by modernist planning tools, require new types of urbanism. Today's emergence of integrated approaches to planning, City Form Labs and Design Labs are leading the digital revolution, betting on worldwide mobility, dealing with migration and increasing environmental awareness. New digital tools are being harnessed to create new means of involving citizens in the urban planning process, integrating a non-expert but practiced layer of knowledge to an already full-fledged array of expertise.

### City form labs

Globally, 70% of today's urban growth occurs outside the formal planning process with the expertise to create a well-planned city being seldom available thus far. The City Form Research Group at MIT has developed the only free tool available to help urban planners understand how the spatial patterns in cities affect the people who live there. The launch of the Urban Network Analysis, an open-sourced software inspired by social networks and

mathematical network analysis methods, is changing the way we look at urban environments. The tool measures traits such as reach, gravity, betweenness, closeness, and straightness (Cruz 2011). The tools are aimed at urban designers, architects, planners, geographers, and spatial analysts who are interested in studying the spatial configurations of cities, and their related social, economic, and environmental processes (MIT 2013). MIAs current and future planners could benefit from the use of such tools as the development process proves to be more delicate and the stakes could be about jeopardizing a crucial area along the river.

### Shared multidisciplinary platforms

Planners must still consider many land-use issues to achieve good city building, particularly in expanding cities where competition for land is intense. This includes factors such as environmental risks, protected green spaces, land values, in addition to social issues such as accessibility and segregation. Planners face an enormous number of factors, domains and issues that interact with and feed back to one another in very complex ways. Using integrated urban models provides simplified representations of the real world, and can help understanding the impact of various spatial planning policies in a systematic way. A typical integrated urban model allocates predicted numbers of buildings and workplaces spatially according to a specific planning policy, thereby creating a new urban landscape. Because one very important consequence of a new urban configuration is the change that can be expected in travel behavior, these urban models, applied to MIA, consider transport issues either by considering them in conjunction with a transport model or by integrating the two themes into a single model. The consequences of the future allocations can then be quantified in several ways (e.g. future land consumption, loss of green spaces, or identification of land-use conflict areas).

An integrated modeling system provides several parallel benefits to planners when they formulate strategic policy decisions. Apart from their explanatory role in understanding the dynamics of urban systems, they have a predictive role by enabling virtual experimentation of various development scenarios. This allows planners to visualize and measure the future impacts of different spatial planning strategies to determine which one's lead to the achievement of planning goals. Additionally, they can be used to stimulate thinking and to facilitate discussion, which means they are powerful tools to facilitate participatory processes of collaborative decision-making (Weber 2014).

### Smart cities

By using the planning information modeling (PIM) tool, urban planners will have a single platform to engage with stakeholders such as politicians, government departments, consultants and the public. The shared multidisciplinary platform will enable considered and

sustainable solutions for planning and upgrades in public transport, recreational areas, public buildings, water and waste technology and noise pollution, and will significantly speed up and clarify the planning process, the company claims. Design changes can be immediately reflected on plans and end the need for the exporting, importing, re-calculating and re-sharing of documents. It will create a greater understanding for dependencies between the parameters. Currently in development, the long-term goal for the integrated PIM platform is to connect various technical, economic and social urban planning disciplines to the 3D base tool. Any developer will be able to create extensions to the tool within their field of expertise, increasing the number of parameters for users to consider. This allows for more complex operations and high-detail analysis, resulting in viable proposals for the built environment of the future (Smart Cities World 2017).

### UN-Habitat and Design Labs

Launched in 2014, UN-Habitat's Urban Planning and Design Lab proposes and implements urban planning projects from neighborhood to city-wide scale worldwide. The Lab supports local, regional and national authorities to implement policies, plans and designs through participatory planning processes for more compact, better integrated and connected cities that foster equitable sustainable urban development and are resilient to climate change. Many cities in the developing world struggle with managing the explosive growth of their populations and built-up areas. The Lab was created as a response to the growing demand from local, regional and national governments for assistance in sustainable urban planning.

It translates UN-Habitat's sustainable urban planning principles into practice by developing plans and designs that can be implemented locally. It also enhances the implementation of these plans and designs by linking the

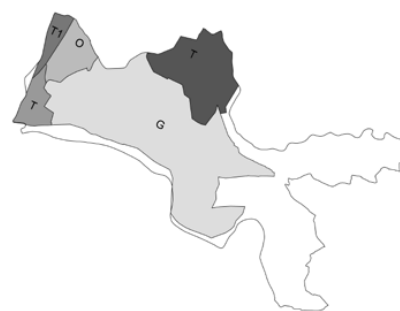


Figure 2

legal, financial and planning instruments Furthermore the Lab engages in the process design that helps to leverage political commitment. The Lab is an integrative facility that, with a clear project oriented approach, integrates

a variety of knowledge such as legal, economic urban planning and design expertise and brings together governments, specialists and UN agencies around urban interventions (UN Habitat 2016).

## CONCLUSION

As regions, such as the MIA, struggle to adapt to the changes in society, culture, technology and the economy, they are confronted to an array of new problems that planning departments are often unable to address. With today's migration of industrial spaces from dense neighborhoods to more adequate and equipped areas, planners and governments need to shift towards a more dynamic, flexible or adaptive urbanism, built around the ideas of connectivity, mobility, energy and sustainability. This new urbanism requires new approaches to planning that can create, navigate and accelerate the urban strategies and transformative projects to implementation within a complex set of actors and technical realities.

The odd cohabitation that is currently seen between the remains of agricultural land and the decaying industrial facilities in MIA, is one situation to be taken advantage of. It was not the objective of this paper to provide clear and practical solutions for the future of the region, but rather to highlight throughout the display of the array of problems MIA is faced with, the different approaches towards the concept of appropriation of marginalized urban spaces focusing on re-naturalization as a specific mode of space transformation. Even though integrated urban models are not intended to provide definite or

predictive statements about the future, they can be a very powerful tool-box to quantify several aspects of the complex urban system coherently and systematically, and to facilitate the design and assessment of appropriate plans and policies for green growth. That said, and given that these organizations cite a lack of understanding of the availability and benefits of integrated models as the main reason for not using them, more convincing information on the use and benefits of such models is required. This is particularly true for those integrated models that are easy to apply, relatively inexpensive, and proven to provide realistic and insightful outputs that foster deliberation within participatory planning processes.

## FIGURES

**Figure 1.** Mkalles Industrial Area, Abandoned / Residual Spaces

**Figure 2.** Mkalles Industrial Area. Current zoning

**Figure 3.** Mkalles Industrial Area's endangered landscape

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Figure 3