

**Can co-production partnerships lead to new forms of sustainable urban governance?
Waste management under conditions of enduring political crisis in Beirut**

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Statement of authenticity of material

This thesis contains no material which has been accepted for the award of any other degree or diploma in any institution and to the best of my knowledge and belief, the research contains no material previously published or written by another person, except where due reference has been made in the text of the thesis.

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Berlin, February 1st, 2017

Abstract

The confessional political system, blatant corruption and neoliberalist fraudulent practices have all led to Lebanon's failure to build functioning state institutions and reliable public services. With a lack of a consistent waste management strategy, ambiguous policies, no competitive bids for service provision, and a citizenry distanced from participation, the state and the private service provider held absolute authority over the waste management sector until its collapse in July 2015. Those events sparked an unprecedented wave of social, political and environmental activism leading various grassroots initiatives to contest the system and request transparency, inclusion, participation, and more effective services. Although the current circumstances regarding the waste sector in Beirut create a situation where a modus operandi change is imperative, not much has been done to provide a successful model for service provision. The technical solutions for the problem are many and their abilities to remedy the cataclysm are debatable; however, it is crucial to recognize that the real crisis is in the citizen-state relationship.

Within the context of participation, inclusion and partnerships, the concept of co-production also addresses the issue of state-citizen relationships especially in contexts pertaining to state failure and hollowing out of the state. The aim of the study is to investigate co-production partnerships as vehicles towards new forms of sustainable urban governance in Lebanon.

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Introduction

Executive Summary

The confessional political system, blatant corruption and neoliberalist fraudulent practices have all led to Lebanon's failure to build functioning state institutions and reliable public services. With a lack of a consistent waste management strategy, ambiguous policies, no competitive bids for service provision, and a citizenry distanced from participation, the state and the private service provider held absolute authority over the waste management sector until its collapse in July 2015. Those events sparked an unprecedented wave of social, political and environmental activism leading various grassroots initiatives to contest the system and request transparency, inclusion, participation, and more effective services. Although the current circumstances regarding the waste sector in Beirut create a situation where a modus operandi change is imperative, not much has been done to provide a successful model for service provision. The technical solutions for the problem are many and their abilities to remedy the cataclysm are debatable; however, it is crucial to recognize that the real crisis is in the citizen-state relationship.

Within the context of participation, inclusion and partnerships, the concept of co-production also addresses the issue of state-citizen relationships especially in contexts pertaining to state failure and hollowing out of the state. The aim of the study is to investigate co-production partnerships as vehicles towards new forms of sustainable urban governance in Lebanon.

Problem Statement

Context of the Study

The lack of a consistent waste management strategy and flagrant unsustainable waste-related practices have been apparent since the mid-70s in greater Beirut. On the outbreak of the civil war in 1975, public services were paralyzed; though, while the collection of waste was consistent, its disposal was anarchic. Inarguably, it is the post-war era that instituted the present catastrophe. Thanks to its confessional political system, its blatant corruption and neoliberalist fraudulent practices, Lebanon has failed to build functional state institutions. In a system that has proven to be incompetent for decades, the arena of public services has either greatly suffered: such as the case of the healthcare, water and electricity sectors, or completely collapsed: such as the case of public transportation, and recently the waste sector. To cope with the ailing public services, an ad-hoc private unregulated service provision economy has emerged, and the Lebanese found themselves paying twice for various services; for example, a Lebanese citizen pays once for the government provided electricity, and once for the power-free gap hours that private generators fill. However, the case of waste collection and disposal services was different as the sector had been privatized in the post-war era in the early 90s. With an unclear strategy, ambiguous policies, no competitive bids for service provision, and a citizenry distanced from participation, the state and the private service provider held complete authority over the waste management sector. The financial, operational and contractual details pertaining to the privatization of

the sector were not publicized; in addition to that, the citizens of the greater Beirut area did not demand additional information about waste management services provided that the trash was being collected on a regular basis from the city's collection points. Soon thereafter, the country found itself in a repeated vicious cycle of landfilling all types of waste until maximum landfill capacity is reached, shutting down the landfill, and moving to a new location only to repeat the same process all over again. As a result, the interminable laxity pertaining to the waste management sector and inattention given to this integral matter accrued since the early 90s until this day, which has led to two waste washouts in both the years 1997 and 2015. The Lebanese practices pertaining to the waste management service provision have been characterized by a non-arguable top-down manner comprising of three main stakeholders: the state, the private company, and the citizens (receivers of the service). The practices are not in line with contemporary discourses on governance, where "public authorities are no longer directly responsible for the provision of services" but invite third parties to engage in the planning and delivery of those services. The collapse of the waste management sector in 2015 sparked an unprecedented wave of social, political and environmental activism; some were opportunistic and perpetuating the scenario of a business-oriented government, while others rooted from altruistic initiatives whose main aim was to initiate change. Albeit witnessing various movements and grassroots initiatives rallying against the system and requesting transparency, inclusion, participation, and more effective services, a successful model for service provision has yet to be adopted in Lebanon.

The state has yet to consider a more inclusive and participatory model for service delivery in all sectors, and most urgently its waste sector that has completely collapsed in 2015 has yet to recover. Ideally, this new model would entail a balance between efficient, affordable and effective service provision through an open, democratic process to the provision of that service.

Although there is ample information on the various technical solutions for waste management, the governance of those solutions remains characterized by a top-down, privatized, and non-participatory relationship between service provider and service user. In this context, there is an academic gap relating to alternative forms of public service planning, delivery, and governance which aim to produce more effective services.

Abreast this rationale, co-production contributes to an essential discourse in relation to efficient, effective and inclusive approaches to service delivery and appertains to a broader framework of 'new forms of urban governance' which is characterized by a service dominant approach (Osborne, Radnor, & Nasi, 2013).

Statement of the Problem

In response to the waste sector paralysis that started in July 2015 in Beirut, citizens rallied against the system by mobilizing and protesting in the streets of the capital. Those events also sparked a phenomenon of burgeoning initiatives relating to all forms of waste management, such as awareness raising, collection, sorting, and recycling. Unanticipatedly, the same citizens who purposefully disregarded the wrongdoings of the government and its neoliberalist agenda, voiced their anger and commenced alternative initiatives that went beyond the state. Albeit mostly technical in nature, the

various initiatives emanated from an intention to alleviate the crisis; indubitably, some succeeded in doing so. However, the lack of coordination, regulation, accountability, proper management and the absence of a holistic approach covering the whole area of crisis resulted in various ad-lib improvised band-aid solutions that would temporarily pacify the problem until its eventual recurrence. The current circumstances regarding the waste sector in Beirut creates a situation where a change in the operation of the whole system is imperative. The technical solutions for the problem are debatable and originate from various interest points; some solutions may be advocated because they generate more income, other because they are friendlier to the environment.

However, the real crisis is "in the relationship between citizens and their state" (Hickey & Mohan, 2004), and not in waste management technical solutions. Therefore, a recommended approach to address comparable cases range from reinforcing participation to promoting institutional change vis-à-vis better governance (Herrle, Fokdal, Ley, & Nebel, 2016). Within the context of participation, inclusion and partnerships, the concept of co-production also addresses the issue of state-citizen relationships especially in contexts pertaining to state failure and hollowing out of the state such as the case of Lebanon. Therefore, can co-production partnerships in Lebanon lead to new forms of sustainable urban governance? And how can Lebanon's grassroots initiatives act as vehicles for democracy for co-production?

Aim and Scope

In the context of the waste sector paralysis that has been affecting the greater Beirut area since July 2015, the aim of the study is to investigate co-production partnerships as vehicles towards new forms of sustainable urban governance.

The study will list movements, initiatives, and collaborations pertaining to co-production that have emerged in response to this cataclysm. It will assess the co-production characteristics within those dominant grassroots initiatives, analyze their potentials towards new forms of urban governance and investigate the measures to be taken in order to achieve a holistic strategy for waste management services in Lebanon. The limits of the research are to be noted: the research is narrowed to the delineated spatial scope of greater Beirut. It does not list all the grassroots initiatives resulting from Lebanon's waste cataclysm; however, it focuses only on the initiatives that are deemed to be relevant to the overall concept of co-production. The study does not delve into, or question technical waste management solutions or budgets. It does however focus on highlighting elements of state-citizen collaborations, an aspect of service provision that is still generally disregarded in Lebanon. The study also discusses the governance of service provision in terms of citizen engagement, power structure and decision-making processes.

Significance of the Study

The intended outcome of the study on a theoretical level is to recognize alternative, bottom-up, and co-produced waste management efforts in greater Beirut as the results of neoliberalization and austerity,

echoing Diana Mitlin's view that power shifts between organized citizens and the state are an inherent part of co-production. The research contributes to the field by introducing a case study from Beirut presenting social-movement-initiated bottom-up grassroots movements that operated beyond the typically dominant central government co-production in order to deliver a public service. Another case study showcases a shy state-initiated co-production solution on a municipal level. The purpose is to set co-production as a vehicle to new forms of urban governance and democratization in the context of Beirut. Another intended outcome on a practical level is to propose recommendations for a rounded approach to the revival of a public service sector, waste management in this case, based on governance that complements the technical aspects of service provision.

Structure

The thesis consists of an introductory chapter, two main parts, and a conclusory chapter. In the introductory chapter, the most pressing gaps in the field of study are identified and correspondingly, the research questions are posed. The chapter also addresses the adopted methodology and research design providing the theoretical foundations, case studies, and instruments used for data collection.

Part I presents the theoretical framework related to the emergence of co-production discourses in urban studies and urban management, and the context of this research. This part consists of four main chapters: The first chapter defines co-production vis-à-vis urban theory and as a contested concept in the context of austerity and neoliberalization. The second chapter discusses co-production in relation to democratic urban governance and lists the elements and types of co-production in the context of urban service delivery. The third and fourth chapters situate the study in the context of Lebanon. The third chapter begins with an overview of urban governance in Beirut under conditions of political crisis, it describes the post-civil war governance, presents the Ta'if agreement as the adopted confessional state structure and makes an entry point on Lebanon's notions of laissez-faire, privatization and networks of privilege. Once the context has been presented, the fourth chapter delves deeper to present Lebanon's waste management practices post-civil war. The chapter focuses on Lebanon's municipalities and municipal unions, its waste management legislations, and its post-war privatization and waste management practices.

Part II starts with addressing the recent and current situation pertaining to waste management in greater Beirut and later presents the two main case studies of the research. The first chapter of Part II starts with the depiction of the build-up of events and decisions that led to the sector paralysis such as the political gridlock, the Naameh landfill closure and the end of Sukleen's contract. The second chapter describes the events resulting from the waste sector collapse such as mobilization, state and civil society coping strategies, and various burgeoning grassroots initiatives. This chapter also highlights elements of co-production within the mobilization practices and assesses their successes and limitations. Later the case studies are presented. The first case study consists of a local government initiated project,

while the second describes a social movement initiated project. For each of the two case studies, the different phases of the project are described, the stakeholders and their levels of participation in the project are defined, and the elements pertaining to co-production are highlighted.

The conclusion is divided into three chapters. The first chapter compares the case studies by highlighting their successes and shortcomings in relation to co-production, and later selects and emphasizes the democratic qualities that each project perpetuates. The second chapter consists of recommendations for Lebanon's grassroots initiatives for the co-production of waste management to further act as vehicles for democracy. To sum up the study, the study returns to the main question of whether co-production partnerships can lead to new forms of sustainable urban governance.

Research Methods

This thesis is based on both literature review of cases and discussions of co-production, and on own empirical research. The data collection process for the study, associated with the qualitative approach, was divided into two phases, where the first aimed primarily at contextualizing the study. Qualitative research is an approach to research which "uses strategies of inquiry such as narratives, grounded theory studies, or case studies" (Creswell & Clark, 2010). Within this approach "the researcher collects open-ended, emerging data with the primary intent of developing themes from the data" (ibid.). Data in Phase 1 was collected through both desktop and empirical research via the following methods: *Participant Observation*_ According to D. Jorgensen,

"The methodology of participant observation is exceptional for studying processes, relationships among people and events, the organization of people and events, continuities over time, and patterns, as well as the immediate sociocultural contexts in which human existence unfolds".

(Jorgensen, 1989)

As a Beirut resident, I have personally witnessed the formation of the cataclysm from the trash mounding in the streets to the calls for mobilization, and taken part of the mobilization events from July 2015 till September 2015. Hence, as an active participator in the events described in the thesis, the participant observation method is useful for gaining a better understanding of the context in-situ.

*Documentary Research: Media and Press Sources*_ As the thesis focuses on recent and current events that have recurrently been highlighted in printed press, television and social media platforms, the review and analysis of those articles, documentaries and internet posts was highly important to this study. Starting from July 2015 till December 2016, I systematically tracked news articles addressing the ongoing waste management crisis on news websites and social media platforms. I also kept updated on the publications and studies relevant to the topic during the time of the study. Furthermore, I researched archives and homepages for articles from the past.

Literature Review_ To get familiar with the state of the art discourse relevant to the research, a literature review was conducted on theoretical basics of co-production such as Watson, Mitlin, Bovaird, Pestoff and others. I also researched other relevant topics to the study such as: waste management practices and theories; good governance; states under austerity; mobilization.

In addition to that, I referred to books on the history of Lebanon and specifically on the post-war re-structure of the state.

Later, information in the second phase of the research was obtained through:

Case study selection_ After setting the context of the study, the second phase of the study commenced by the selection of case studies and the procurement of data related to those.

was made through a research on the appearing alternative waste management practices that initiated as a consequence to the events of 2015 was conducted. After mapping practices and initiatives in the Greater Beirut area, the ones with dominant aspects of citizen participation were filtered and selected to be described and analyzed in detail.

Site Visits and Observations_ With the trash accumulating on the streets, the observation of one's surroundings sufficed to understand the dynamics pertaining to waste management in the city. I observed activities related to waste in two areas: one in central Beirut and one in Rabieh (part of Metn area, but under the scope of Sukleen). In this specific context, I did not face any difficulties to assimilate the crisis and observe state and citizen led malpractices in waste management.

I visited the two landfills that were recently re-opened: (1) Normandy Landfill, that had already been shut down for having reached maximum capacity in 1997; and (2) Costa Brava Landfill, the landfill deemed problematic for airplanes because of its proximity to the airport.

Semi-Structured interviews were conducted with four experts, two related to each case study.

The interviews relevant to Zero Waste Antoura project were (1) Antoine Abou Moussa, environmental engineer and co-producer in Zero Waste Antoura project; and (2) Mr.Labib Akiki, Mayor of Antoura.

As for the interviews relevant to Beirut Madinati case study, they were conducted with: (1) Abdulhalim Jaber, architect urban design consultant, university professor, civic activist, and Beirut Madinati election candidate; and (2) Nahida Khalil, landscape architect, urban design consultant, university professor, civic activist, and Beirut Madinati election candidate.

Part 1: The emergence of co-production discourses in urban studies and urban management

What is co-production?

Co-production with urban theory

In a time where 'command-and-control' management systems are failing and where the limits of centralized top-down decision making processes have proven to maintain power and decisions at the central government level only, citizen involvement in locally based self-help action has emerged as an interest to urban scholars. The concept of co-production is emerging as an alternative transformative approach to conventional public service provision especially in challenging contexts of hollowing out the state and state failure.

The term co-production originated with Ostrom who defined it as "the process through which inputs used to provide a good or service are contributed by individuals who are not 'in' the same organization are transformed into goods and services" (Ostrom, 1996). In a different publication authored by Ostrom in collaboration with Parks, co-production was defined as

"the mix of activities that both public service agents and citizens contribute to the provision of public services. The former are involved as professionals, or 'regular producers', while 'citizen production' is based on voluntary efforts by individuals and groups to enhance the quality and/or quantity of the services they use"

(Parks et al., 1981).

According to Mitlin (2008), the studies of the aforementioned scholars focused on citizen-state interaction in the United States and mainly on co-production as a means for the cost reduction of public services. They highlighted the improvement on services that public involvement would entail.

Whitaker (1980) however, views various types of interaction between citizen and state as co-production; his definition of the term includes not only "citizen productive involvement, but also efforts to enhance service consumption and influence policy making relevant to service delivery" (Percy, 1984). He also argues that in the case of services where consumer behavioral change is demanded, the involvement of those participants would be crucial to successful service delivery (Mitlin, 2008).

Criticized as being too broad and ambiguous, the term co-production has been re-defined by various scholars along the years. Recent publications also defined co-production as "the voluntary or involuntary involvement of public service users in any of the design, management, delivery and/or evaluation of public services" (Osborne et al., 2013), or simply as "the involvement of individual citizens and groups in public service delivery" (Pestoff, Brandsen, & Verschuere, 2012).

Albeit varying in phrasing, the commonality between the various existing definitions of co-production highlight the involvement of the third sector¹ -as individuals or groups- in the transformation of public service delivery. In that context, citizens have an active input in the shaping of the production or provision of a certain public service that they receive, and where both parties make "better use of each other's assets and resources to achieve better outcomes and improved efficiency" (Governance International, 2011). The term proposes "that state and citizens (service beneficiaries) have different but complementary forms of knowledge which together can improve the final outcome" (Watson, 2014). These definitions focus on the provision of public services where the state is involved within local communities to create a collaborative environment; they go beyond the perception of a one-directional and linear relationship between state as provider and third sector as recipient (Brandsen & Pestoff, 2006). Co-production understands services as a combined product by the actions of both state and citizenry; in those synergic situations, the various stakeholders' contributions to a project can complement each other. Through co-production, existing resources within citizens are invested within the state to maximize the efficiency of a certain public service provision in new and creative ways.

While being an aspect of citizen participation, co-production is different in the sense that it involves the "service consumers in the actual delivery of services" (Brudney, 1985). While participation is about consultation, co-production is about doing things jointly in an equal partnership. Hence, co-production includes participation, but takes it further; it is not only about consulting people in an early stage of a project, but mainly about involving stakeholders in the development of the project from start to finish. It is about tapping into undervalued human resources within communities that are hidden to service providers. Co-production "focuses on the achievement of 'better outcomes' or 'lower costs', rather than simply services (Bovaird & Loeffler, 2012)".

Traditionally, citizens remained passive in the process of public services delivery; they merely exchanged a fee to the delivery of the service. However, the discourse of co-production relies on that the citizens as service users are best placed to help design the service they receive since they can act as innovators and critical success factors. From this viewpoint, co-production aims to "improve urban service delivery by making better use of citizens as resources" (Sharp, 1980) because they have time, information, talents, and sometimes the financial capabilities to invest in improving their own quality of life, that of others, and that of the service in general. Co-production can alter the role of citizens from one of "mere passive consumption of public services to one of active involvement to jointly tackle social problems" (Mattson, 1986).

Joshi and Moore (2004) discussed the term 'institutionalized co-production' in their analysis of service provision in developing countries with weak or unorganized central governments. They defined the term

¹ "The third sector comes under various other names, such as the voluntary sector, the (private) non-profit sector, the social economy, civil society, all with slightly different defining characteristics, and with a large degree of overlap" (Brandsen & Pestoff, 2006).

as “the provision of public services (broadly defined, to include regulation) through a regular long-term relationship between state agencies and organized groups of citizens, where both make substantial resource contributions” (Joshi & Moore, 2004). They believed co-production to occur in contexts where power and control are ambiguously divided between citizens and state, which they did not necessarily view as positive. Joshi and Moore’s study also stated the two ‘drivers’ for co-production to occur: either a state failure (governance) to provide a particular service, or a difficult context for service delivery (logistical); however, the study does not suggest that community building is a main goal of co-production, nor that “co-production should extend beyond the delivery of services, or that changing the nature of the state and governance might be a significant outcome” (Watson, 2014).

The adopted definition of co-production for this study is that of Diane Mitlin who defined co-production as “the joint production of public services between citizen and state, with any one or more elements of the production process being shared” (Mitlin, 2008).

Co-production as a contested concept in the context of austerity and neoliberalization

Many parts of the developing world have been witnessing the limitation of public service provision by the state. This condition is not necessarily due to the citizen’s financial difficulty or poverty, but is often linked to the contexts of neoliberal politics with agendas focusing on servicing the elite. In similar cases where difficulties faced are state imposed, a higher income is unlikely to alleviate the matter. In those situations, citizens have not been passive and have frequently been forced to be resourceful and provide themselves with the needing services.

When confronted with pressing needs, limited finances, and incapacitated governments, citizens resort to different strategies to ease their situation. Among the various ways are ‘the social movement strategies’ which are “politicized mass action undertaken by collectives of the urban poor - in any one of a number of areas” (Mitlin, 2008). Although these movements may not specifically have purely political demands, their emphasis on state provided services renders them political in nature. These movements can take the form of contestations and protests, but can also take other forms pertaining to political and social change (ibid.). These protests can play an important role in the rise of social movements, emphasizing the ability for citizens to make their discontentment heard; they create a certain groundwork for change.

The activism of collective action, such as protests do not reflect the normal social structure, but emerge in spontaneous ways in response to a certain problem or a certain change. According to Watson (2014), Bebbington, Mitlin, Mogaladi, Scurrah, & Bielich (2010) state that social movements could be formed as a result of issues in public services and would also aim to alter the means through which the state provides or governs those services. Watson adds that the seek for change frequently aims beyond merely influencing policy but rather “engages the state at a more fundamental level,

sometimes using strategies of co-production and sometimes tactics of protest action” (Watson, 2014). “The role of co-production in public policy is also important as it creates opportunities for users’ empowerment through their greater involvement in the key aspects of services on which they rely” (Fotaki, 2015). Co-production in cases of austerity could have the potential to lead to the deepening of the democratization of public services.

Depending on the scale of involvement, citizens can replace the state in situations where one can operate more efficiently and effectively than the other. In this case, according to Bovaird (2007), co-production is undoubtedly political and implies a reallocation of power among stakeholders; however the shortcoming pertaining to co-production is that it “blurs the boundaries between public, private and voluntary sectors” (Bovaird, 2007). Hence, albeit known to present valuable outcomes, collaborative relationships can either be constructive or detrimental, depending on the means by which power structures, collaboration and conflicts are handled in order to attain institutional change.

Generally, various social organizations such as non-governmental organizations and community based organizations take an integral role in social movements as they aid civil society through professional support. They embrace collaborative arrangements between: providers and receivers of services or private and voluntary organizations; they also support emerging initiatives rallying against austerity-induced failure of services (Fotaki, 2015).

In the study entitled ‘With and beyond the state – co-production as a route to political influence, power, and transformation for grassroots organizations’, Mitlin (2008) explores the evidence that

“some grassroots organizations have chosen to go down the route of co-production in order to strengthen their political position as well as address their more immediate development needs”.

(Mitlin, 2008)

The example on Pakistan’s Orangi Pilot Project (OPP) NGO is described to demonstrate how grassroots organizations have utilized the co-production model as a mode to reach better services. The project pertaining to the provision of sanitation services to an informal settlement in Karachi, was developed by the NGO. The strategy consisted of having a collaborative model where the residents invest in the provision of their own street sanitation while the municipality provided the network the sewage was feeding into. Although the idea was rejected by the local government at first, OPP was adamant on the collaborative nature of the project for various reasons. These reasons include the lack of funding by the government for the completion of such a project, and the corruption within the state that was repetitively leading to works of unacceptable quality. Therefore, the overseeing and maintenance of the project by civil society was crucial considering the lack of trust demonstrated towards the local government. Moreover, the collaborative project would lead to more empowered and capacitated citizenry vis-à-vis future development projects in requiring participation. The project resulted in a service provision of quality, a heightened trust through a transparent relationship towards the local government,

and a sense of communal action. The co-produced sanitary service provision was deemed successful with the repetition of the plan influenced tens of thousands of houses to follow the same strategy with the aim to acquire sanitation services (ibid.), (Hasan, 2006).

Within the study, Mitlin provides three other cases where co-production was a product of grassroots organizations resulting from state-bred acrimony, lack of transparent and trustful relationships with the government and neoliberalist state agendas. Going through those cases, one takes away that co-production through collective social action was not only a means to achieve a service provision but was also a means of participating in politics. Contexts of austerity and neoliberalization are leading to the mobilization of formerly dormant civic society and enabling them to form social movement groups whose aim is to lay a foundation for the citizenry's inclusion in local politics and to deepen democratic values such as inclusion, participation, transparency and accountability.

Co-production and democratic urban governance

Co-production and good governance

While co-production is presented as a response to state-induced austerity, its potential lays in the reshaping of the social contract between state and citizen and in the incitement of representative democracy within civil society. There is a widespread comprehension that co-production is fundamental for constructive and long-lasting change to occur; it has been highlighted that changing the nature of the state and governance could be a possible substantial outcome of co-production (Watson, 2014), and that "it strengthens civil society capacity and teaches these groups new things and new ways of acting and, in particular, it strengthens collective practice" (Mitlin, 2008). However, there is a gap in the knowledge on the types of co-production that could provide "the conditions for potentially transformative effects on the participants and policy environment" (Fotaki, 2015).

According to Herrle et al. (2016), co-production partnerships at various levels should be utilized for urban development as they support cities in becoming more inclusive to marginalized societies; in addition, co-production paves a road to a dialogue towards new forms of sustainable urban governance. Co-production models go beyond conventional participation by involving the third sector "as active partners for development, and by sharing responsibilities with those partners rather than involving them as a target group only" (Herrle et al., 2016). Emerging as results of and triggers for mobilization and empowerment, co-production drives citizens to express their opinions freely, call for demands and changes in policies, and consequently improve their living conditions.

UN-HABITAT defines governance as

"the enabling environment that requires adequate legal frameworks, efficient political, managerial and administrative processes to enable the local government response to the needs of citizens. It can be defined as the many ways that institutions and individuals organize the day-to-day

management of a city, and the processes used for effectively realizing the short term and long-term agenda of a city's development. Urban governance is the software that enables the urban hardware to function".

("UN-Habitat," 2012)

Based on the existing theoretical overview on co-production, and the many cases researched by various scholars pertaining to the subject, co-production is characterized as democratic, inclusive, integrated and territorial. These characteristics lead to the better organization of the day-to-day management of a city, and to the adequate environment for the formation of an integrated and sustainable software that enables the urban fabric to function. Co-production, therefore, is as a vehicle towards redefining governance, and as an instrument for the production good governance.

Defining elements and types of co-production in the context of urban service delivery

Since there is no consensus on a transdisciplinary definition of the term co-production, it is unlikely for there to be a consensus on the elements that make co-production. Since the term has been coined in the 70s, scholars who have defined co-production have dissected their definitions in ways that define elements that enable one to label a service as co-produced or not. As unanimous elements outlining co-production have not been reached yet, a few of the scholars who have addressed the issue will be mentioned. To be considered a co-production, Watson deems the existence of some elements as vital, such as (1) the participation of stakeholders from planning to delivery; (2) power shifts between citizens and state; (3) the co-production of knowledge.

Among the early contributors to the discussion of co-production are distinguished between individual, group and collective forms of co-production. The way each was defined was as follows:

- Individual co-production - where citizens act as individuals and are compelled to participate in the top-down service delivery or when deliberate actions are made by citizens for their own consumption.
- Group co-production – where citizen's active participation is within the coordination of social enterprises where the action is collective but the benefits are individual.
- Collective co-production – where citizen participation is either on an individual level or in a collective form and where the benefits of the group action are collected by the entire community.

Bovaird and Löffler (2011) highlighted that co-production is not only pertinent to the service delivery phase of service management, but can encompass other phases of "service planning, design, commissioning, managing, delivering, monitoring, and evaluation activities" (Bovaird, 2007). They defined co-production as " User and community co-production can be defined as 'the provision of services through regular, long-term relationships between professionalized service providers (in any sector) and service users or other members of the community, where all parties make substantial resource contributions "(ibid.).

Within their research they defined the core principles of co-production where they identified the various

roles customers or service receivers could take. These roles were based on the added value that the customer had to offer to the service itself, such as: customers as innovators, for customers contributing knowledge; customers as critical success factors, for the ones scrutinizing a service or abiding by its requirements; customers as resources, for citizens investing time or money with the aim to better the service they receive and that of others; customers as asset holders, for individuals who have various competences and skills; and customers as community-developers, for the customers who are able to partake in collaborative relations with service professionals, other customers and civil society. In another publication, Bovaird drafted a definition for the term incorporating the various activities he dubbed pertaining to co-production; he defined co-production as “collaborative and egalitarian relationships in which users are involved in co-designing, co-delivering, co-managing, and co-evaluating public services” (ibid.). He later categorized these participatory activities that belong under the umbrella of co-production into two entities defining two phases as follows:

- *Co-commissioning of services, which embraces: co-planning of policy (deliberative participation); co-prioritization services (participatory budgeting); co-financing services (fundraising, charges, agreement to tax increases); co-design of services (user consultation, service design labs).*
- *Co-provision of services, which embraces: co-managing services (community management of public assets); co-performing of services (peer support groups, neighborhood watch); co-assessment (including co-monitoring and co-evaluation) of services (participatory village appraisals).*

(Bovaird, Loeffler, & Hine-Hughes, 2011)

Considering that most public services include at least one of those terms, then what service is not considered as co-produced? What does it take to call a service co-produced? According to Bovaird (Table 1), co-production is when both co-commissioning and co-provision (co-delivery) exist; in other terms, co-production exists when participation at the level of both design and implementation occur within the same project.

	<u>Level of user and community involvement in COMMISSIONING of services</u>	
	Low	High
<u>Level of user and community involvement in PROVISION of services</u>		
Low	Traditional services	Co-commissioned services
High	Co-provided services	Fully co-produced services

Table 1: The typology of co-commissioned and co-provided services as per Bovaird & Loeffler (2012)

In a more recent study, and in an effort to lessen the confusion associated to the term co-production, Taco Brandsen (2016) deconstructed the definitions pinned by Ostrom and Parks and discussed the terms he dubbed problematic to the better understanding of the term. From Ostrom’s definition², the term ‘in the same organization’ was selected; whereas the terms ‘voluntary efforts’ and ‘professionals’

² “The process through which inputs used to produce a good or service are contributed by individuals who are not ‘in’ the same organization” (Ostrom, 1996)

were highlighted from Park’s definition³. Resulting from his reservations on the Parks and Ostrom’s definitions, Brandsen articulated his own definition of co-production as: “a relationship between a paid employee of an organization and (groups of) individual citizens that requires a direct and active contribution from these citizens to the work of the organization” (Brandsen & Honingh, 2016). He distinguished different types of co-production and elements shaping those different types with the aim to render the research on the topic more comparable. He distinguished two elements of co-production: (1) “the extent to which citizens are involved, not only in the implementation but also in the design of professionally produced services, and (2) the proximity of the tasks that citizens perform to the core services of the organization” (ibid.). Extrapolating from these elements, Brandsen defined four types of co-production illustrated in the table below.

	Implementation	Design and Implementation
Complementary	Complementary co-production in implementation	Complementary co-production in service design and implementation
Noncomplementary	Co-production in the implementation of core services	Co-production in the design and implementation of core services

Table 2: Types of co-production as per Brandsen & Honingh (2015)

- *Complementary co-production in service design and implementation is when public engagement is present in tasks that are not core to the service provision but that complement the process through which the service is provided, such as the design or planning of the service.*
- *Complementary co-production in implementation occurs when civil society takes part in the delivery or implementation of a complementary but not core service, through skillful help, but not the design.*
- *Co-production in the design and implementation of core services happens when citizenry is involved in both the design and the production of the service which they are receiving.*
- *Coproduction in the implementation of core services occurs when civil society is involved in the production of the service that is fundamental to the project.*

To sum up, it is important to highlight that there is not one way to highlight elements of co-production and categorize the provision of a public service as such. Depending on the definition selected, one can define falls under co-production and what does not. Taking Mitlin’s definition into account, elements of co-production are not necessarily as Bovaird & Loeffler (2012) stated when participation happens at the level of both co-commissioning and co-provision. Mitlin also does not differentiate individual, group and collective forms of co-production as suggested by Brudney & England (1983). She does not specify egalitarian relationships, or the voluntary or involuntary participation in her definition of co-production. Hence, as adopted in this study, the umbrella under which a collaborative service provision is considered co-production is broad.

³ “The mix of activities that both public service agents and citizens contribute to the provision of public services. The former are involved as professionals, or ‘regular producers,’ while ‘citizen production’ is based on voluntary efforts by individuals and groups to enhance the quality and/or quantity of the services they use” (Parks et al., 1981)

Urban Governance in Beirut under conditions of political crisis

Post-civil war governance

Albeit having suffered both physically and institutionally from the civil war, Lebanon's problems related to public services are also rooted in the country's pre-war socio-political context. The distinctive traits of the Lebanese society, reflected on its politics, are a combination of primeval and patrimonial attachment to religion, sect, family and religion. To this day,

"Government in Lebanon is a crossbreed of traditional elements and modern institutions, including a judiciary, a legislature and executive authority. [...] Lebanon's modern institutions operate in a social context that retains significant proportion of its traditional features".

(Hout & Robison, 2008)

Public service institutions in Lebanon were founded during the Ottoman rule and were established over time with the French mandate and after the country's independence in 1943. While the Ottoman rule introduced the sectarian, autocratic and centralized administration, the French mandate reinforced those constituency of Lebanon's bureaucracy (ibid.). All of Lebanon's state institutions were infiltrated by its conventional and sectarian social and political culture, plaguing them with stagnation, and therefore rendering them characterized by a westernized reform while adopting a traditional and informal operational core (Khalaf, 1987). Hence, by the end of the civil war, Lebanon's public state organizations consisted of an amalgamation of a formal aspect inherited by western administrative approaches, an inherent traditional culture, institutionally and physically devastated institutions and a history of loosely controlled administrative bodies (Hout & Robison, 2008). The post-civil war era that started in 1990 witnessed the restitution of the national accord among Lebanon's different religious sects. For the next fifteen years, Lebanon was instated with a hegemony by the Syrian regime that interfered between the country's feudal powers, elite, warlords turned politicians and ensured that these stakeholders controlled both the state institutions and the major economic bodies. In 2015, the assassination of leading businessman and Prime Minister Rafic Hariri led to the retraction of the Syrian forces from Lebanese land; since then, the country has been witnessing perpetual political unrest (Tadamun, 2016).

Confessionalism: The Ta'if Agreement

By the end of the civil war, it became clear that none of the warring parties could decisively win the war, there came an overall acknowledgement that it was vital to draft an agreement ensuring the continuity of Lebanon as an entity with a central political structure.

In October 1989, the treaty was negotiated in Ta'if, Saudi Arabia by the surviving members of the 1972 pre-war parliament. The Ta'if agreement was reached in order to lay down the basis for the ending of the civil war and the return to political normalcy in Lebanon.

As much as the Ta'if accord did not bring any fundamental changes to the sectarian based system that was adopted in 1943; it did however take into account the country's new demographic reality and aimed to create a new and less biased political structure. "Although the Agreement stated that the abolition of confessionalism was a national goal, no specific deadline or time table was provided for its actualization"(Krayem, 2011), and the country's parliamentary seats are still divided accordingly. To better understand the country's political dynamics, it is necessary to break down the manner in which the country is divided:

Lebanon is divided into 26 districts (Qada') that are grouped into five governorates (Muhafaza) as follows: Beirut, Bekaa, Mount Lebanon, North Lebanon, and South Lebanon. Based on their respective populations, the various districts are assigned a determined number of parliamentary seats for the different religious groups inhabiting them, thus ensuring the representation of all minorities (Figure 1). For example, Beirut is both a governorate and a district and elects 19 deputies, where 10 are Christian seats and 9 are Muslim. These seats were also later sub-divided among both the Christian and Muslim sects. The division across Lebanon's various districts ensured the equal division of parliamentary seats between Christians and Muslims. Therefore, "Lebanon's delicate confessional balance within a society of minorities makes it extremely sensitive to internal changes and external forces" (CJPME, 2007), and any changes in the country's demographic environment can spark instability.

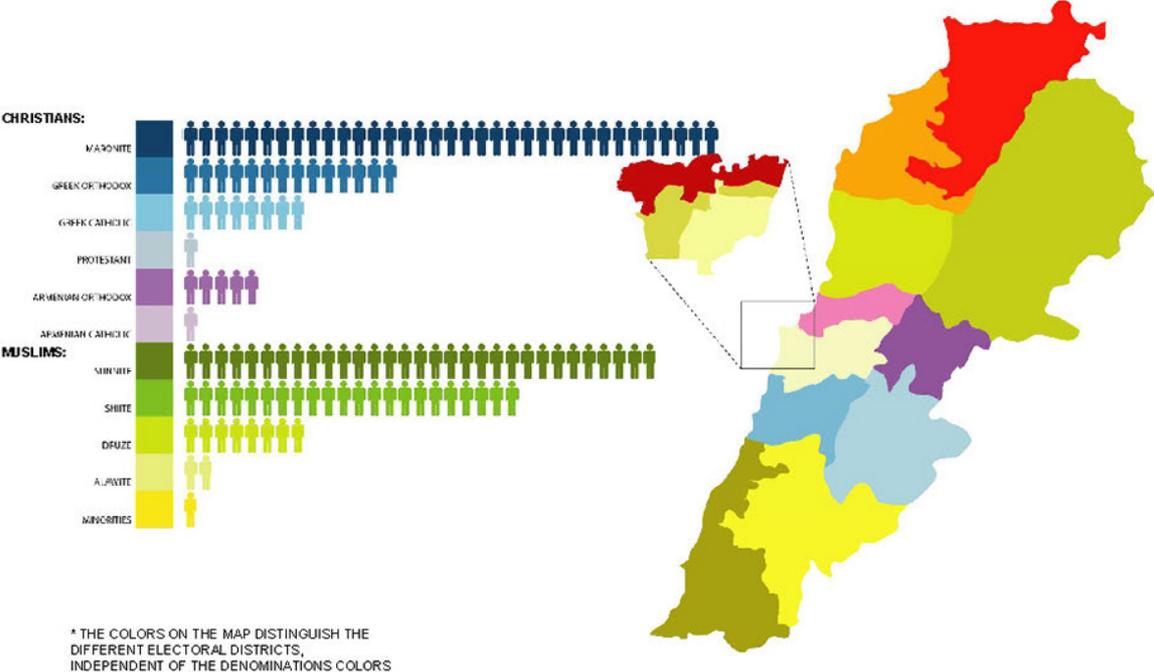


Figure 1: Lebanon's Electoral Districts and Parliamentary Seat Distribution (<http://www.whatiflebanon.org>)

In the era following the Ta'if agreement, the Lebanese state has been "arbitrarily controlled by contradictory and conflicting socio-political forces. On the one hand, the militias that were dominant during the war years were invited and encouraged to participate in the political reformation process. On the other hand, new socio-political forces

foreign to the war forces came into power; they represent the economic power of local capital allied with regional capital”.

(Krayem, 2011)

The implementation of Ta’if thus led to the amplification of confessional disagreements that in turn led to the paralysis of governmental authorities. This was manifested through various scenarios, mainly through the appointment of high grade public posts that were also distributed based on confessional allocation rather than competence or expertise (Krayem, 2011). The role of politics became the division of the state’s resources based on a sectarian basis which resulted in a clear social division that remains largely unresolved. As for the politicians, they “do not face much competition or accountability from within their own political machines, and it is difficult for newcomers with fresh vision to enter the political scene through existing electoral arrangements” (Salamey & Payne, 2008). As a result, and for the past few decades, the Ta’if agreement has resulted in a self-perpetuated monopolization of state power by the few ruling elite who are immune to accountability for their lack commitment to the public good.

Laissez-Faire, privatization and networks of privilege

Ayn Rand wrote: "We are fast approaching the stage of ultimate inversion: the stage where government is free to do as it pleases, while the citizens may act only by permission". However, in Lebanon, it is safe to say that this stage was reached a long time ago. "To support the freedom of its constituent communities, Lebanon holds, as a basic tenet, an economic philosophy premised on unrestricted free economy" (Hout & Robison, 2008). The referred to economic system, named laissez-faire, believes that the government should have a hands-off approach to business and that the free market, with unregulated exchange of goods and services would help all. Laissez-faire is an economic system that believes This free market would produce more goods at a lower price. Laissez faire has driven the 'neoliberal' push for free trade, enhanced privatization, globalization, and an overall reduction in the government’s control on the economy. The free-market economy has been regarded as an advantageous and successful model than any other controlled system for Lebanon’s post war recovery because it does not restrict foreign investment, and ensures sustainable development with egalitarianism and personal freedom.

Even during the Lebanese wars, the country’s economy continued to outperform most of its non-oil-producing Arab neighbors, leaving one Lebanese economist to describe the country’s "credo of laissez-faire" as so deeply engrained that no warlord—no matter how "socialist" in outlook—would think of touching it.

(Leenders, 2004)

After the civil war, the state’s treasury was devoid of resources and the country counted heavily on loans from local banks which burdened the government with large debts and laissez-faire was considered the savior economic model for private-led recovery.

Although the state's disengagement and little interference in local economic affairs classified Lebanon as a laissez-faire economy, economic activity was mostly shaped and constrained by something grander and more powerful than the free forces of demand and supply: social networks. As Leenders described, "the notion of networks as informal relations between businessmen and politicians and their lubricating effect on economic transactions is a recurring theme in Lebanon's popular discourse on postwar reconstruction" (Leenders, 2004). These social networks and personal relations are considered as fundamental and indispensable to anyone who seeks to achieve their political and economic ambitions in Lebanon. Based on reciprocity, preferentialism, and mutually supportive actions, they "allude to the general tendency of wheeling and dealing 'à la Libanaise' to facilitate sweetheart deals among befriended or connected businessmen and politicians" (Leenders, 2004). In this context, these social networks are a form of social capital whose definition fits to Margaret Levi's where she considers social capital "as detrimental to the promotion of egalitarianism and social cohesion" (Helly, Barsky, & Foxen, 2003). From an economic perspective, the abovementioned social capital between economic and political elites produces decisions that predominantly deviate towards private over public gains.

In parallel to the laissez-faire economy and the rise of the preferential social capital, many of the services that were under the municipalities' scopes were taken over by private companies allied with the dominant political groups and militias participating in the war. The war years in Lebanon resulted in the downfall of state-run institutions which later led to the immediate privatization of many public services and the "trend toward state disengagement has continued" (Leenders, 2004) thereafter.

"In its postwar reconstruction program, the state increasingly resorted to schemes wherein certain state assets or functions were leased, contracted out, or otherwise delegated to the private sector. [...] Also the building of public infrastructure has in some cases been left to the private sector via complex contracting schemes, most notably in the Beirut Central District where a private shareholding company, Solidere, carried out and financed infrastructure works on behalf of the state in return for the right to own and exploit landfills in the area."

(Leenders, 2004)

Thus, the practices of laissez-faire, privatization, and networks of privilege in addition to the participation of the country's leading businessmen in politics created a platform for widespread conflicts of interest that acted as catalysts to alter the Lebanese political system to one of absolute central power and despotism. Consequently, the Lebanese economy finds itself to this day indebted with a debt-to-GDP ratio ranking fourth highest in the world. With a frail economic growth, suffering from "corruption, arbitrary licensing decisions, complex customs procedures, high taxes, tariffs, and fees, and archaic legislation" (Central Intelligence Agency, 2016), public services and infrastructure suffer the consequences of these limitations as not much is invested in them.

Waste Management practices in post-civil-war Lebanon (1990s – 2015)

Municipalities and Municipal Unions in Lebanon

In Lebanon, the municipality is an independent local administrative body that exercises powers and obligations over the area it is granted by law; it is the sole form of administrative decentralization. There are 1,108 municipalities over the country's area of 10,452 km², a number considerably high relative to other countries such as: Croatia with 428 municipalities/56,594 km² for example. Most of these municipalities are grouped –with the approval of the Minister of Interior- into 'municipal unions' which are entities that group smaller municipalities.

Albeit having a wide range of responsibilities (according to the Lebanese Municipal Act: Decree Law no.118) such as planning, managing and implementing projects such as infrastructure, schools, streets, public spaces, etc., the municipalities' and unions' scope is in reality narrowed down to limited services such as waste collection, maintaining roads, managing traffic, etc.

In addition, Lebanon's municipalities suffer from obvious constraints, for example:

- 400 / 1,108 municipalities only have one employee.
- 87% of municipalities have fewer than 6 employees.
- 70% of municipalities have a registered population lower than 4,000.
- 43% of municipalities have an administrative structure.
- 58% of municipal unions do not have full-time employees.
- 21% of municipal unions have one or two full-time employees.

Municipalities are funded by various sources of revenue; however, the predominant ones are the direct tax fees from residents and the Independent Municipal Fund (IMF). With the IMF itself suffering from mismanagement and underfinancing (it receives 0.4% of GDP while compared to an average of 3% in other countries) in addition to financing the privatization of public services, little funding is left for the municipalities.

This results in two notable reasons for the remarkable reduction of the municipalities' scope: The first is that the municipalities lack essential financial resources (the share of local to central government spending is 6% in Lebanon, which is low compared to other countries Switzerland 42% Ireland 13% Denmark 85%), and the second is the administrative control of the central authority over decisions made by municipalities.

Therefore, most of the decisions and responsibilities that are figuratively assigned to municipalities are in fact controlled by the central authority. Evidently, the country's sectarian nature and the importance of social networks and affiliations are predominantly liable for this influence. Moreover, the allocation of public service funds is controlled exclusively by the central government without the participation of

municipalities. Therefore, when public taxes are collected by the central government, a portion should be allocated to municipalities for providing public services; however, the funds allocated to return to municipalities to provide their own services are deducted from the municipalities' funds and deviated towards the private sector (Whitling, 2012). In addition to that, some taxation policies have been altered in order to reduce the municipalities' revenues. The money is distributed following illogical criteria such as the registered number of citizens in a given area -which given the demographical discrepancies in not a precise indicator- as opposed to the resident population⁴. Due to such impediments, the municipalities' capability to deliver functioning public services is weakened, causing an incapacity to break out of the cycle of privatized services.

Waste management legislation in Lebanon

To date, there is no legislative framework or national policies that address solid waste management in Lebanon; there is not even a consensus on acceptable and adopted approaches for collection or disposal. What exist are very general and ambiguous recommendations and guidelines on responsibilities and financial incentives. Five key legal elements addressing the solid waste management sector are:

- *"Decree 8735/1974 on pollution from solid waste and wastewater, which designates SWM a municipal responsibility.*
- *Decree 9093/2002, which provides municipalities with a financial incentive to host a waste management facility by offering a five-fold increase in the budgeted Independent Municipal Fund (IMFU) allocation if the municipality establishes a sanitary land fill or a solid waste processing plant (incinerator/recycling/compost, etc.) within the municipal boundaries, and a 10-fold increase if at least 10 municipalities are allowed to dispose of their waste in the sanitary landfill or use the processing plant.*
- *Law 216/1993, which entrusts the MoE with assessing all sources of solid waste generation.*
- *Law 444/2002, which sets landfill standards and promotes recycling.*
- *A draft Law on Integrated Solid Waste Management, which was approved by the Council of Ministers (CoM) in 2012 and sent to the parliament for final approval under Decree 8003, dated 23/04/2012. It is currently still under discussion at the Parliament".*

(Massoud et al., 2016)

⁴ "More than forty two municipalities have resident populations that exceed the registered population by at least a factor of two, while 324 municipalities have a resident population that is less than its registered population by at least half" (Ostrom, 1996).

However, in the context of a hollow state, both the implementation and the reinforcement of those laws are quasi inexistent. "Hence, waste collection is clearly the responsibility of municipalities, under the tutelage of the Ministry of Interior and Municipalities (MoIM), while its treatment and disposal are somewhat vague. Municipal landfills and other treatment facilities have been thus heretofore operated on an ad hoc basis, while major landfills have been taken care of by the Council for Development and Reconstruction (CDR)" (ibid.).

Post-war privatization and waste management practices

In 1994, the Council for Development and Reconstruction (CDR) contracted the company Sukleen –a newly established Lebanese company- to collect waste in the areas of greater Beirut and Mount Lebanon, further narrowing down the scope of the municipalities in the area.

Initially, the value of the contract was around USD3.6 million annually; this number fluctuated considering the volume of the garbage collected. The contract also stated that:

- The CDR would pay for the first year of the contract and the City Council of Beirut for the two following years.
- The CDR would provide the company with the equipment needed to carry out the works, such as trucks and compactors, etc.
- Sukleen would employ the municipal waste management employees of the scope it was covering.
- The government bears the responsibility of providing the landfills.

The Beirut city council prepared and presented a report that showed that Beirut city would be able to manage its own waste for USD1.5 million a year, which would amount to around half the value paid to the private company. However, the report was ignored by the CDR and the waste management sector was contracted to the private company Sukleen. (Leenders, 2012)

In 1998, the contract was extended to include Sukomi, Sukleen's sister organization; both companies belonging to the larger organization: Averda Group. The companies' responsibilities were as follows: Sukleen was responsible for street cleaning, waste collection, and compacting while Sukomi handled the sorting, recycling and treatment, and landfilling of the residual waste. In parallel, the government bore the responsibility of providing the landfills.

Since then, the contract has been renewed thrice by the Council of Ministers without an open tender, but with increasing collection and processing fees. This has repeatedly prompted inquiries on the level of corruption and conflicts of interest the sector had been riddled with. "In 2015, the Lebanese government paid Sukleen USD45 per ton for dumping alone; the global average for dumping services at that time was USD11 per ton" (Abu-Rish, 2015). These numbers put Sukleen's revenues as one of the most elevated rates worldwide. It is alleged that sizeable fractions of those revenues were distributed to officials in efforts to keep the company's monopoly over the waste management sector in

its corresponding areas. According to former Interior Minister Michel El-Murr, “up to 70% of the company’s costs, which is millions of dollars, went as commission to top leaders in the government”(Leenders, 2012). “The Council of Development and Reconstruction has paid Averda Group an estimated 2 billion USD for the [...] contracts, these payments were financed by the Independent Municipal Fund” (Tarhini, 2015), diverting the major bulk of the IMF funds to the monopolizing private company rather than to individual municipalities or municipal unions. These procedural aberrancies further disempowered municipalities and deprived them from developing.⁵

As it is important for this study to clarify the context in which the waste management sector in greater Beirut has failed, it is vital to show that albeit proving to be inefficient and unsustainable, landfilling was the opted for waste disposal method by the Lebanese government. However, due to a lack of law reinforcement, other illegal practices such as dumping at sea and open incineration were not halted. In a country with little vacant land, landfilling does not sound like a sound method; still, the strategy was perpetuated for decades leading to various intermittent cataclysms along the years. From the start of the civil war in 1975 till today, the greater Beirut area has landfilled its waste in four main locations: Normandy, Qarantina, Naameh, and Costa Brava. Three of those locations are located by the sea front and have been causing an environmental catastrophe by greatly contributing to the pollution of the coast and the Mediterranean Sea.

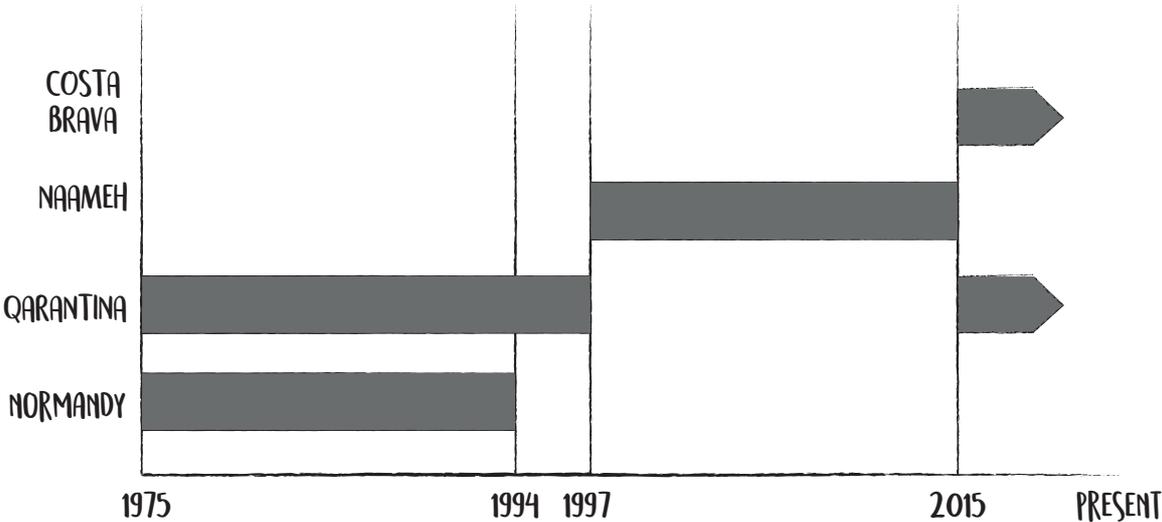


Figure 2: Timeline showing the opening and closing dates of the four main landfills in greater Beirut (Lea Ksayer)

During Lebanon’s civil war (1975 – 1990), the waste generated in Beirut –consisting of household waste initially- was dumped in the Normandy Bay, the forefront of the northern coast of Beirut along the Mediterranean. The location of the Normandy area placed it along the green line (demarcation line) - set by the civil war- at the center of a strategic historic, commercial, touristic and cultural hub of the city of Beirut. The Council for Development and Reconstruction (CDR) commissioned plans to rebuild the city starting 1977; however, these plans were halted in 1978 as the strife escalated. Later in 1983,

⁵Spoils of Truce p.55-57

OGER Liban -owned by future Solidere founder and billionaire businessman Rafiq Hariri- disregarded the earlier plans, and drafted new plans for the reconstruction of the Beirut Central District that corresponded more to its own vision of post-war Beirut.⁶

Under the pretense of 'cleaning up' the debris from the war, these new plans caused the demolition of many salvageable buildings that year. Another round of demolition followed in 1986 after Oger Liban drafted yet another plan for Beirut's downtown area. "It is estimated that eighty percent of the buildings and structures that survived the civil war were unofficially demolished by Solidere"; more buildings than were destroyed during the fifteen years of civil war.



Figure 3: Aerial View of Beirut showing Normandy Landfill in 1991 (<http://www.habeeb.com/>)

In 1991, the Lebanese government passed Law 117 allowing the Council for Development and Reconstruction to contract a private company to carry out the reconstruction of the Beirut Central District. For the purpose of managing the city center's development, Solidere was formed, and the Lebanese government became a 25 percent shareholder while the remaining 75 percent belonged to private owners. "According to laws governing private-public real estate developments, private companies were allowed to expropriate land and develop it according to their own plans, including any necessary infrastructure" (Ryan, 2014).

In the context of New Urban Governance, in Beirut, the state-controlled monopoly over urban planning was partly transferred to a private real-estate company headed by Hariri and a small number of initiators and investors.

(Makarem, 2013)

⁶ The vision for Solidere is a combination of how the West expects a "global city" to look and the West's image of Lebanon—a pastiche of nostalgia for the resort city of the 1960s, ancient historical cities, and Orientalist flourishes. The plan [...] was not a plan for use by former and current residents of the city, but one conceived to cater to Western tastes and foreign capital" (Ryan, 2014).

Under those circumstances, Solidere enjoyed “special powers of compulsory purchase and regulatory authority, giving it the mandate to manage the city center like a mini-fiefdom”(Wainwright, 2015). The company was granted numerous exceptions within the reconstruction efforts on Beirut’s Central district, albeit the area being part of the scope of work of the Municipality of Beirut. As Solidere was also granted full rights to expropriate property from the city center’s landowners and tenants, it became evident that the company was immune to public accountability. As a result, the Beirut Central District area that was traditionally “the center for a large number of small businesses, artisans, and low to moderate-income housing, was to be potentially transformed into a high-cost, high-end business district, luxury tourist resorts, and housing complexes”.

During the final years of the war until 1994, the waste in the Normandy uncontrolled dump continued receiving waste that –in addition to household waste-, included construction rubble and destruction debris of the BCD buildings that were set to be demolished by Solidere. As a result, the historic Beirut Central District was left a wasteland of decimated buildings and debris caused by both war and reconstruction plans, and all the rubble from this destruction was dumped in the Normandy Landfill. The volume of the landfill had reached about 5 million m³. Half of this volume was below sea level, reaching water depths of 20m. Above the water line the fill reached heights of 35 m in some locations and the landfill had covered an area of 250,000m² and extended about half a kilometer beyond the shoreline. (Sadek & El-Fadel, 2000)

Being the forefront and the spatial extension of the newly established Solidere area, addressing the environmentally hazardous Normandy landfill was urgent. The arrangement between the private company and the Lebanese government stated that:

- Solidere would acquire one third of the reclaimed land while the government would own the remaining two thirds of the reclaimed land area.
- Solidere was to be reimbursed for a portion of the cost of the BCD reconstruction by the government.
- However, after 15 years of conflict, the government lacked the proper funds, and the Normandy landfill -the only government owned land left in the area- was essentially offered to Solidere at “a renewable, 50-year lease at the steeply discounted price of 2,500 L.L. or USD1.67 per square meter” (Zbeeb, 2012).

In 1994, Solidere hired a group of contractors to clear the landfill and initiate reclamation works on the area, creating new land on the Beirut coast in efforts “to market and reposition Beirut as an international investor destination” (Caldwell, 2011).

Although Solidere claims to have carried out the reclamation works in a sustainable and environmentally friendly way, it has been reported by various local news channels that thousands of tons of toxic waste were removed from the Normandy landfill and disposed of in unidentified surrounding areas. However,

recent updates have proven that a study reveals that there remains a high level of toxic waste in the reclaimed area itself. One theory is that Solidere purposefully circulated the rumor in order to keep the public away from the public park so as to keep the area exclusive and maintain the soaring real-estate rates.



Figure 4: Picture of Normandy Dump Clearing by Samer Mohdad_1991 (<http://www.rencontres-arles.com>)



Figure 5: Normandy Landfill Reclamation Works (<http://www.hydomar-sal.com>)



1991 Draft Master Plan
 — BCD Legal Boundary
 ■ Retained Public and Religious Buildings
 ■ Other Retained Buildings



1992 Approved Master Plan Decree No 2786



1994 Approved Master Plan Decree No 4830



1994 - Amendments Decree No 5609



2000 Master Plan 3rd Amendment Decree No 3808
 2001 Master Plan 4th Amendment Decree No 5714



2004 Master Plan proposal

Figure 6: Solidere Scope including Waterfront District Master Plans from 1991-2004 (<http://spatiallyjustenvironmentsbeirut.blogspot.de>)



Figure 7: Rendering of the Waterfront District Plan (<http://visionnaire.eu/beirut-new-waterfront-district>)

Several master plans were designed for the area, and were later modified through amendment decrees. (Figure 6) Today the area has been dubbed "Waterfront District" -and covers an area of 730,000m² of reclaimed land- that according to Solidere, plans to transform Beirut downtown's waterfront area into "the destination and climax of Beirut's citywide corniche system, emphasizing mixed-use and leisure, with landmark buildings framing spectacular views towards the sea and mountains" (Solidere, n.d.).

In its original plans, Solidere had a wide walkway that uninterruptedly connects Beirut Port all the way to Ramlet el Bayda; however, the company built a wall around the waterfront property and the only way to access the area is through a formal main entrance with private security guards.(Zbeeb, 2012) Although Solidere claims that its intention is to reconstruct the Beirut Central District as an arena that reconnects people from different parts of the city and create spaces of peace, integration and reconciliation, it has been widely criticized to have transformed the city center into a 'privatist', elitist enclave that does not illustrate the local culture and that incites exclusion of the involved protagonists. Various authors have criticized Solidere's Normandy area such as Amanda Ryan's article on the subject describing the project

"as a prominent symbolic location at the center of Beirut, Solidere forces the appearance of unity and consensus, though it only serves to exclude dissenting communities from the post-war landscape and erode the country's reformed democratic government"

(Ryan, 2014).

According to Benjamin Leclair-Paquet, the Normandy project is "illustrative of a process of privatization of the urban realm and the dominance of global economic trends instead of local social needs" (Leclair-Paquet, 2013). Likewise, in her article 'Beirut Reconstruction: A Missed Opportunity for Conflict Resolution', Lourdes Martinez-Garrido correlated the spatial outcome of Solidere's plan to

"an island in the middle of the metropolitan area, an evocation of Dubai's model of exclusive housing compounds, private marinas and luxurious shopping centers. In no sense has it recaptured the inclusiveness that the pre-war district offered to the Lebanese citizens, regardless of their social condition."

(Martinez-Garrido, 2008)



Figure 8: Aerial View Showing Normandy Area in 2004 (<http://www.habeeb.com/>)

The second main landfill in Lebanon is the Qarantina landfill operating from 1975 till 1997. As an immediate suburb of the Beirut, Bourj Hammoud is located in the eastern suburb of the capital, it is separated from the capital by the Beirut River, and extends towards the Mediterranean coast. It also serves as a main access to the north along the coast or to the east through Mount Lebanon, and is divided by Charles Helou highway into two distinct areas.

First, the inland area that is located south of Charles Helou highway which is referred to as Bourj Hammoud. Historically, the area was known to be agricultural with few residential buildings; it later became inhabited by Armenians who survived the Ottoman persecution in 1922. (Harmadayan, 2014) In 1948, following the Nakba, Palestinian families fled their homes and settled in Bourj Hammoud; until the beginning of the civil war in 1975, Lebanese migrants from the South as well as Syrians also moved to the area in search of better opportunities close the industrial area in the conurbation of Beirut. The area slowly developed to become a densely populated area that houses around 90,000 people consisting of the previously settled migrants listed above in addition to other migrant workers and refugees. Today, Bourj Hammoud is a dense mixed use residential and commercial hub and “an active commercial pole and an industrial and handicraft activities hub, characterized by the concentration of small and micro enterprises” (Harmadayan, 2014).



Figure 9: Aerial View showing Bourj Hammoud as an Agricultural Area to the left and the urban fabric of Beirut separated by Beirut River by Antoine Poidebard_1936 _ Courtesy of Bourj Hammoud Municipality



Figure 10: Fisherman Port in Qarantina c. 2000 _ Courtesy of Bourj Hammoud Municipality



Figure 11: Bourj Hammoud landfill c.2000 _ Courtesy of Bourj Hammoud Municipality

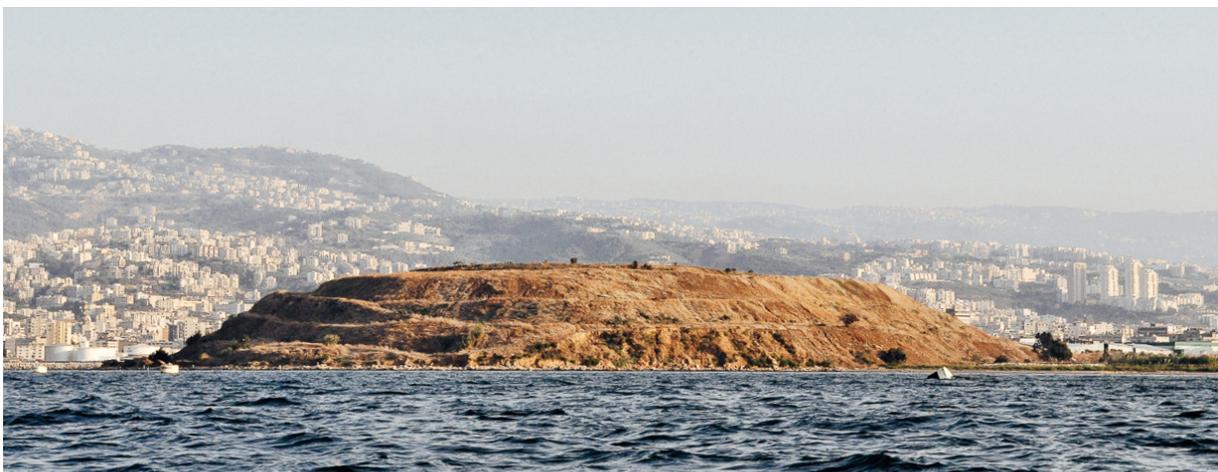


Figure 12: Bourj Hammoud Landfill _ 2009 _ Photo by Ghadi Smat

Secondly, the coastal area referred to as Qarantina -coming from the word 'Quarantine'- is part of the Bourj Hammoud area and municipal scope and is located east of the Beirut Port, and north of Charles Helou highway. The historically rich area is a predominantly low-income, mixed-use residential, commercial, and semi-industrial neighborhood in northeastern Beirut; the area also accommodates a small-scale traditional local fishing port.

With the start of the civil war in 1975, various governmental agencies had started dumping waste on a coastal plot of land in Qarantina. The dumping of waste continued after the war, and the uncontrolled dumpsite -following a governmental decision- became an official landfill receiving around 3,000 tons of waste daily, in addition to thousands of tons of rubble from post-war reconstruction works from the area itself in addition to other suburbs of Beirut. In 1993, the site was equipped with an incinerator that was functional and which was used to incinerate "hazardous hospital waste, hazardous plastic waste, household toxic waste, and industrial toxic waste, releasing carcinogenic atmospheric emissions, including dioxins and furans." (Masri, 1999) In 1997, the dump had reached its maximum capacity and had become an environmental threat and public health hazard. (Abu-Rish, 2015) After several protests, strikes and pressure from various organizations, the Qarantina landfill was closed in 1997 without any proposals for rehabilitation or treatment and without drafting a sustainable plan for the future waste management practices.

In July 1997, with no alternative to the Qarantina landfill, Sukleen stopped collecting garbage and the Lebanese people watched the streets in their neighborhoods turn into a collection of small landfills "The waste began to burn, causing the spread of methane gas and an outbreak of fires threatening the health of residents in the area." (Boutros, 2015) As a response to the problem and in an effort to provide a solution, the government created yet another landfill in Naameh.

Today, the Bourj Hammoud landfill stands at a height of about 55m above sea level and occupies a surface area of 16,300m². "The dumpsite releases an estimated 120,000 tons of leachate annually" (EJOLT, 2016). Despite the hazardous environment and the foul smell the landfill spreads over Bourj Hammoud and the areas surrounding it, Qarantina is increasingly becoming home to various establishments such as event spaces, wedding venues, night clubs and art galleries.

Part 2:

Co-producing waste management under conditions of enduring political crisis: Two Beirut case studies.

Introduction to the current waste management paralysis in Beirut

Political gridlock: self-extended parliament and empty presidential seat

Lebanon has been witnessing political turmoil and institutional paralysis since the end of the civil war; however, the situation aggravated starting 2014. With the same group of people feuding over power shares, the government has become dysfunctional and its institutions crippled. In addition to the parliament illegitimately self-extending its term twice, the presidential seat had been vacant since 2014 until Michel Aoun was elected president on the 31st of October 2016.

"Amidst this complex political context, the government's delivery of public services has been poor and marred by corruption. [...] It still suffers from poor infrastructure, the absence of a public transportation system, and vast shortages of electricity with some rural areas getting as little as three hours a day (despite the billions of dollars spent on this sector)".

(Tadamun, 2016)

Howbeit, the fundamental flaw in the Lebanese system goes back to the sectarian system of the government that shares its power according to the various sectarian groups which has led to a general stagnation in development, the absolute lack of meritocracy, and the utter disappearance of real accountability and transparency which have slowly decimated the legitimacy and efficacy of the central government.

The waste management dynamics in the Greater Beirut area transcribed the political situation onto the delivery of public services. Although various solid waste management plans were drafted since the early 90s, and although municipalities have received great technical and financial support by numerous international development organizations, there failed to be one holistic approach to solid waste management in Lebanon which drove its now turned blasé governmental structures and inhabitants to a catastrophe.

Cataclysm: Naameh Landfill closure and Sukleen contract end

The Naameh landfill was established in 1997 as an emergency and temporary alternative landfill to the Bourj Hammoud landfill. The government took the decision to transfer the waste to a land near St. Georges Monastery in Naameh and committed to control both the routes taken by the trucks to reach the landfill, and the amount of garbage that enters the site daily. There was a general fear that the Naameh site will be a repetition of the Bourj Hammoud case, and those fears were justified: The lack of proper supervision led to the violation of both previously mentioned commitments and "nearly

four times the amount of trash initially quoted was unloaded in Naameh, and the trucks drove through residential areas” causing the spread of the foul smell of organic waste (Abu-Rish, 2015). Consequently, the Naameh landfill proved to be a permanent solution than temporary and it did not take long for the residents of the area to start protesting for the closure of the landfill.

In 2014, the road leading to the dump was blocked by protesters, activists and residents of the area. Subsequently the government issued a statement asking the protesters to unblock the roads and allow for a one-year grace period for the government to find a proper alternative to Naameh. Having “issued a decision to close Naameh landfill in January 2015, six months before it was shut down” (Boutros, 2015), the government clearly had sufficient time to draft a sustainable plan for Lebanon’s waste management sector. However, the issue was neglected and procrastinated, resulting in the closure of Naameh landfill without the provision of an alternative site as a final destination for the collected waste. “By the end of that reprieve in July 2015, however, there was neither an alternative plan for dumping nor any evidence that the government had tried to devise one” (Abu-Rish, 2015). Protesters took to the streets again and blocked access to the landfill again pressuring the government to immediately halt the use of the Naameh landfill on July 17th, 2015 after having operated for seventeen years.

In parallel to those events, the contract with Sukleen had reached its end date; the government took the situation as an opportunity to change its bidding terms and decided that the new tender winner would be responsible for securing a new landfilling site as an alternative to Naameh. Clearly, with the complexity of the Lebanese social, political and geographical fabric, in addition to the scarcity of vacant land, the decision discouraged bidders. As a result, the government announced that the competitive bids were insufficient for the selection of a winner, leaving the waste management sector in the area of Beirut and Greater Beirut unmanaged. With no contract and no landfill to dispose the garbage in, Sukleen halted its operations in the capital and Mount Lebanon. It has been vastly speculated that this was an intentional *'laissez aller'* plan by the political elite in order to silence public dissent on the closure of Naameh landfill. However, as the trash accumulated, the opposite happened, and the tension increased (Abu-Rish, 2015).

Waste management malpractices

Although waste related malpractices have always existed in Lebanon, they increased sizably after the start of the waste crisis in July 2015. With no one to collect the trash and no place to dispose of it, individuals, businesses and even municipalities took it upon themselves to deal with the mounting trash on their own. With the lack of accountability and monitoring, the manner through which the garbage was taken care of was by means of illegal dumping, incinerating or temporarily stacking the trash on sides of streets and bridges. Makeshift dumps started appearing all over the city in abandoned industrial sites, vacant private or public land, under and over bridges, on the sea sides, and even dumped in the Mediterranean Sea.

Not only did the stench of tons of uncollected trash permeate the streets of Beirut and peoples' homes, but it was also exacerbated by the burning of household trash in the metal bins located on street curbs. These practices hindered peoples' mundane activities and movements in their city such as walking on a sidewalk, paying a parking fee, or crossing a pedestrian bridge. People's lives were not only disturbed when they walked out of their homes but also when they were inside. It became impossible to use one's home spaces as one pleases because of the wafting smells; one could not use one's balcony or open one's windows anymore. With no electricity to use air conditioning or fans for cooling during the hot months of summer, one was left with the only option of opening the windows, which depending on the wind direction often proved to be an impossibility.

Albeit having invested heavily in infrastructure to fathom the expected heavy rains, when winter came and rain washed through the accumulated mounds of garbage, many streets of the capital turned into flowing rivers of trash. The flooding of the streets brought on considerable damage to many citizens' properties and cars; it had also resulted in the blocking of some streets and the entrapment of people in their homes, not being able to go to work, or school or proceed with their usual activities on a rainy day. The rains and consequent flooding not only crippled people's lives in the city they reside and work in, but also affected the environment and therefore also people's physical health. According to an interview with Dr. Abdul Rahman Bizri, a specialist in infectious diseases, the flooding resulted in spreading bacteria and in raising the risk of contamination of food or water supply (Owens, 2015).

Lebanon's politicians went back and forth into discussions about the waste crisis, each trying to push for the solution that benefits the political party he is affiliated to. However, in March 2016, another temporary plan that would last three years was approved by the council of ministers; the plan consisted of opening a call for a bid on sweeping and collecting services in the areas that have been operated by Sukleen, and the preparation of two coastal areas in Bourj Hammoud and Costa Brava to serve as the country's new temporary landfills. In order to avoid further demonstrations and opposition movements, both municipalities where the new landfills were to be constructed received substantial sums of money that would be used for the development of those areas. The government's ostensible new strategy is only a repetition of its old. Projecting to the future, in the years to come, the plan will undeniably result in the same cataclysm that broke out first in 1997 and then again in 2015. On a financial level, the new plan cost the government even more than what it originally cost with the contract with the private company Sukleen. Environmentally, the coastal landfills heavily impact the already environmentally suffering coastline and marine life. The newly devised strategy only further highlighted the discernable corruption of the ruling class, and the lack of addressing the citizens' interests and concerns (Chaaban, 2016).

Due to the lack of a consistent and efficient strategy for the waste management dossier, everyone once in a while, mountains of garbage keep forming in the streets and the Greater Beirut area finds itself struggling with the waste problem again and again. Moreover, the newly assigned landfills

themselves are also problematic. The Bourj Hammoud landfill had already been shut down because of reaching maximum capacity and jeopardizing the environment and the life of residents in the area (See Chapter 4.3 Post-war privatization and waste management practices).

The Costa Brava landfill is the second landfill designated to serve as an interim solution for the crisis. The landfill is located on a coastal land in the southern suburb of Beirut, adjacent to the country's only international airport. Activists rallied against the landfilling by the coast; they argued that the impact on marine life was great especially on sea turtles who are commonly found close to the Costa Brava dump. In addition to that, activists disputed the ways in which the preparation of the landfills was occurring and its impacts on the communities surrounding the area. It was also noted that historical mosaics and artefacts were discovered on the site of the landfill which could indicate the presence of an unearthed archaeological site. Lastly, it was argued that the discharge of methane fumes would cause a hazard to the airplanes overflying the area to and from the airport (Mazloun, 2016); this argument proved to be factual. The proximity of the Costa Brava landfill to the airport and improper landfilling practices lead to the waste piling up to nine meters and attracted flocks of birds that posed a danger to the flights taking off and landing at Lebanon's only international airport. Instead of dealing with the problem by addressing the landfill and its negative effects on the environment, the government's solution to the problem was to deviate the routes of the birds with the use of laser torches, electroacoustic equipment and even by shooting down the birds (Fares, 2017).

Evidently, the waste management related malpractices did not only extend to minor groups of people or small scale municipalities, but also to the state itself. In a similar situation, what is worse? The central government's failure to set a commendable example to its people, or civil society's acquiescence to this flagrant negligence? Obvious lack of control, accountability, liability, and integrity have been amassing for decades and have resulted in a chaotic anarchy within the elites which has allowed them to lead the people to this cataclysm. The people however, especially the minorities who do not have access to any special relations with the elites, remain compelled to abide by the law and follow ad-hoc sporadically devised rules.



Figure 13: A truck drives on a highway near piled garbage in Beirut, Jan. 19, 2016. (photo by REUTERS/Aziz Taher)



Figure 14: Pedestrian walk past a towering pile of trash on Oct. 17. JOSEPH EID / AFP - Getty Images (<http://www.nbcnews.com/>)



Figure 15: A pedestrian bridge blocked with garbage in Beirut, Friday, July 24, 2015. (The Daily Star/Mohammad Azakir)



Figure 16: A parking meter is seen between a pile of garbage on a Beirut Street. July 21, 2015 (AP/Hassan Ammar)

Civil Society Mobilization

Description of civil society mobilization

After the closure of the Naameh landfill, the Lebanese found themselves soon thereafter waking up to increasingly accumulating piles of trash lining the streets of the capital and its outskirts. For a people that had been suffering from the inadequate provision of state services for decades, the foul smells and mounds of trash along the streets was considered as 'the straw that broke the camel's back'. The citizens of Beirut and its outskirts were enraged and offended by the overall disrespect that the corrupt state has been demonstrating towards them, and felt that they had reached rock bottom.

These sentiments incited a group of young civil society activists to create a grassroots movement named *طلعت ريحتكم* (You Stink) as a response to the government's inability to find sustainable solutions for the trash crisis. The movement organized itself and called for protests about the government's corruption and inefficiency and demanded solutions to those problems. You Stink was the first movement to contest the garbage crisis and transcribe its demands in a popular protest. The movement's initial demands were to propose environmentally friendly solutions to waste management, restoring the municipalities' role in waste management, in addition to holding accountable those who led the country to the waste crisis (Tadamun, 2016). Through the use of social media and online platforms, the invite for demonstrations on the streets of Riad El Solh square in downtown Beirut spread quickly, and within a few weeks, the number of demonstrators grew from a few hundred people (at the initial protest on August 8th, 2015) to more than fifty thousand (on August 22nd, 2015), who protested against the government's failure to provide basic public services to the tax-paying Lebanese people (Tadamun, 2016). What attracted people to these protests was a shared sentiment of "disillusionment with the country's entire political class amid the longstanding failure of the state to provide basic services while leaders bicker over profits and patronage"(Barnard, 2015). As a result, what began as protests about trash collection grew into a nationwide campaign against the blatant inefficiency and corruption of the Lebanese government.

The past popular mobilizations that Lebanon had witnessed –despite raising national slogans- were sectarian in nature. Mostly Sunnis participated in 'March 14' camp demonstrations while mostly Shiites dominated the 'March 8' camp protests. The Christian parties had since been divided between the two aforementioned groups; however, albeit disagreeing among each other, have been calling for the union of the Christians and working on protecting the Christians' rights.

Conversely in 2015, the civil movement was unprecedented as it was the first time in decades that people were gathered in the streets irrespective of their political and religious affiliations.

However now, most people were

"seeking instead to dismantle the system of sectarian patronage that has grown up around it, and calling for accountability and transparency from the government. While there were many middle-class families and white-collar professionals, there were also people from working-class

neighborhoods across Lebanon's religious spectrum".

(Barnard, 2015)

Protests in Lebanon had "rarely touched on the citizens' economic and social concerns, such as the need for clean roads, reliable electricity and job opportunities, among other demands" (Nader, 2015). These protests however, attracted thousands of people from all walks of life who took the streets with their parents, and children. Most importantly, the protests brought out the marginalized sections of the Lebanese society, those who are extremely deprived of public services and are excluded from government policies. Some of the banners included references to popular movies, songs and television shows; people were dancing and playing music in the streets, which reflected the peaceful nature of the protests.

The proliferation of demands and movements snowballed as other groups came together such as نحاسب بدينا 'We Want Accountability'. The group is a splinter group from the 'You Stink' movement. "It was created by independent activists who did not feel You Stink adequately represented them" (Abdallah, 2015).

The demands of 'We Want Accountability' were more structured than their predecessors. Some of their demands overlapped those of 'You Stink', but in addition they had other demands such as: the right to protest and of freedom of expression (in addition to dropping the charges against protesters); a secular electoral law for the country; and the resignation of the country's illegal and self-extended cabinet.

The group إلى الشارع 'To The Streets' presented itself as being against Lebanon's corrupt political establishment as a whole. They used the slogan كلن يعني كلن 'all means all' –showing that the people's anger at the politicians does not exclude anyone, even politicians representing their own confessional groups- in order to prevent attempts of politicizing the movement or affiliating them to any of the prominent parties in Lebanon. The group used a provocative banner depicting Hezbollah leader Hassan Nasrallah as one of the corrupt politicians. Needless to say, the nature of the banner caused a commotion. The group had similar demands as their compatriots in addition to "holding the Ministry of Energy accountable for corruption and waste of public money and the deterioration of basic electricity services".

Other smaller splinter-groups were also mobilizing such as: شباب ضد النظام 'Youth Against the System'; الشعب يريد 'The People Want'; ثورة 22 آب '22 August Revolution'; and others whose members all took part in the protests in August and September 2015.

Protesters chanted "No to Sectarianism", "Revolution", or even "The people want the fall of the regime", a slogan that was widely used in the series of protests in the Middle East known as the Arab Spring. The range of the demonstrators' demands amplified with each protest; consequently, they were faced with unproportioned retaliation where the police used water cannon, tear gas, rubber bullets, and finally resorted to the use of live ammunition against the unarmed protesters to disperse them. Clashes with

the riot police resulted in inevitable damage in Beirut's Solidere area; and to discredit the movement, the violent protesters were accused of being sent by political parties and infiltrating the demonstrations. Human Rights Watch released a statement demanding the authorities to "open an impartial investigation, ensure accountability for any excessive use of force, and refrain from repeated violence against demonstrators who are protesting the government's failure to resolve a trash removal problem", (Human Rights Watch, 2015).

While politicians and business elites were busy making and unmaking emergency waste management strategies that suit their political agendas and economic profits, Lebanon's civil society was not only contesting those dynamics, but also bypassing the government and taking matters into its own hands. The waste sector paralysis catalyzed the formation of new grassroots initiatives and highlighted the importance of the work of the existing ones. The new and existing initiatives' shared goal was to propagate an environmentally sound waste disposal system under the general umbrella of Reduce, Reuse and Recycle. Various awareness raising campaigns were launched that targeted all social classes, political affiliations, and confessions. Universities, NGOs, and even independent enthusiasts were launching initiatives that not only addressed the physical aspect of the waste, but also worked on raising awareness and rallying for people to take an active, informative and preventive role.

In a desperate need for public participation, lists of existing organizations dealing with collecting or processing recyclables were distributed on various social media platforms, on the news, and on leaflets through municipalities (Annex 4-5). As this information circulated across the city, it became obvious that the necessary infrastructure and facilities for recycling all types of waste are already existing in the country, but very little was known about them to the public. Mostly small-scale family-owned businesses, these facilities did not receive any help or incentives from the government. Therefore, these recycling factories depended on informal scavengers and pickers who would go through waste disposal barrels looking for recyclables before they get collected by Sukleen, and sometimes even –as unrealistic as it may sound– imported recyclables from neighboring countries.

The predominant existing initiatives dealing with the raising awareness in addition to the collection and the delivery of recyclables to their respective facilities were: TERRE Liban, arcenciel, Uber Recycle, Al Nizam Min Al-Iman, among others.

TERRE Liban is an environmental non-governmental organization founded by Paul Abi Rached in 2002. The independent NGO's goal is the creation and implementation of environmental education in Lebanon. TERRE Liban's mission is to sensitize the Lebanese youth to the principles of public health and sustainable development, promotes the importance of the preservation of natural resources through lectures and participatory activities. In addition to its educational program, TERRE Liban's project 'Papivore Malin' introduced the cardboard containers with educational environmental messages printed on them about the importance of saving and recycling paper. These containers were used to collect

paper waste from schools at first; however, when proved successful the initiative spread to above 500 institutions including universities and local businesses. TERRE Liban collects above 600 tons of paper a year that it later sells to local paper recycling plants.

arcenciel is a non-profit, apolitical and non-confessional NGO established in 1985 to support underprivileged and marginalized communities. It's mission is to "promote diversity, integration and development through 5 core programs: Agriculture & Environment, Mobility & Health, Responsible Tourism, Youth Empowerment, and Social Support" ("arcenciel," 2016). Funded by Agence Francaise de Developpement (AFD), arcenciel responded to Lebanon's waste sector collapse by establishing two secondary sorting centers in Baabda & Taanayel. In 2015, these facilities sorted 852 tons of solid waste; the waste was later sent to local recycling plants. During that time arcenciel also consulted various municipalities on waste management issues and subsequently published a 'Municipal Waste Management Guide' for sorting and recycling of municipal waste.

Beirut's transportation network company Uber_Lebanon teamed up with Arc-En-Ciel, Advanced Car Rental and Live Love Beirut for a recycling initiative, UberRecycle, that lasted only from July 29th till August 4th. Citizens were asked to sort their waste: plastics in blue bags, paper and cardboard in black bags and metals in any other color bag. Then, using the Uber app, one could choose the UberRecycle option and their recyclables would be collected for free. By the end of the week, UberRecycle had collected around 2.2 tons of paper, 500kg of plastic and some metal. The initiative was designed to raise awareness and incentivize people to sort and recycle their trash for a limited period after which people could contact Arc-En-Ciel on their own to continue recycling their waste. UberRecycle was highly praised on social media platforms and local news outlets urged greater Beirut residents to contribute to independent initiatives until the government find a solution for the trash problem.

Due to the initiative's success, Uber Lebanon brought back the UberRecycle option in an effort to spread awareness for Earth Day on April 22nd, 2016. This time UberRecycle teamed up with Beeatoona, an NGO who aims to "spread environmental awareness concerning the dangers of improper disposal of batteries, electrical waste and electronic waste" ("Beeatoona," 2012), who would handle the recycling process after the electronic waste has been collected from individual homes and businesses (Masi, 2016).

In the southern suburb of Beirut, an awareness campaign called النظام من الإيمان which translates to "Order comes from Faith", dominated the streets in 2009. The campaign was a joint initiative between MP Ali Ammar, the municipal union of Beirut's southern suburb, in addition to the responsible for coordination and engagement in Hezbollah; all of which coordinated with Lebanon's Interior Ministry to bring awareness to the residents of the area on the importance of following rules in general. The aim was to reinforce the presence of the interior ministry's security and service apparatus that is somewhat overlooked or even sometimes ridiculed in an area dominated by Hezbollah. The press considered the campaign as compensating for what the government lacked: a neighborhood level reach-out. The campaign addressed issues related to public hygiene, infringements on electricity and water supplies,

in addition to awareness on the dangers of drugs and addiction. It also encouraged the communication between residents and the respective municipalities they belong to. As the southern suburb is resided by mostly Shiite Muslims, the campaign addressed the residents of the area from a religious point of view using slogans such as:

النظام من الإيمان وانعكاسه على الشارع: Order comes from Faith and is reflected on the streets

الله الله في نظم امركم: Allah, Allah has commanded you to follow the system

الإخلال بالنظام العام حرام: Disturbing public order is Haram

Another major stakeholder in the light of the cataclysm was Cedar Environmental's Ziad Abi Chaker who has been dubbed the 'the garbage king of Beirut'. Cedar Environmental is an organization whose goal is to decentralize the currently centrally governed and privatized waste management structure in Lebanon and consequently establish recycling plants that would treat municipal solid waste on a communal level. The organization aims "to cluster as many municipalities/communities as possible and build local recycling plants for them" while not exceeding a capacity of 50 tons/day or a community surpassing 100,000 residents (beirutgreenproject, 2013). Ziad Abi Chaker argues that dealing with municipalities directly, and not the central government, is easier for communication and bureaucracy to start with, and also because the load of waste is broken down and distributed to several facilities rather than concentrating all the waste in one landfill. Cedar Environmental's waste management system consists of setting up material recovery facilities that would receive municipal household waste, sort it, compact it, and dispatch the recyclables to the country's various recycling facilities while the organic waste is composted.

To this day, Cedar Environmental has erected eight material recovery facilities⁷, all of which operate with a zero-waste doctrine: this means that all the waste is recycled without any remaining materials for incineration or landfilling. The only requirement for municipalities they work with is to transport the waste to their facilities un-compacted. As they receive the waste from the municipalities unsorted, the first step is to sort the organic and non-organic waste. The organic waste is turned into high grade organic compost that is later sold as a fertilizer in 10kg bags for LBP2,500 (approx. USD1.65). The non-organic waste, however, is cleaned and processed in preparation to be sent to recycling facilities across the country. Paper, cardboard, tree branches and weeds are recycled into either Eco-Logs –a substitute for natural firewood- that can be used for fireplaces, wood burning heaters and combustion stoves; or false ceiling panel boards. Glass is sorted between clear and colored where the latter goes to the only remaining group of artisanal glassblowers in Lebanon. Plastics are sent to a factory that transforms waste plastic such as bottles and other containers and packaging into polyester fiber which is later sold to other manufacturers as a raw material. Cedar Environmental developed a technology called EcoBoard panels made from plastic items that are usually landfilled or incinerated such as plastic bags, cutlery, compact disks, and toothpaste tubes. These 2x1m rigid panel boards are waterproof, inflammable and

⁷ <http://www.cedarenv.com/mrf.php>

could be used for light construction, and the construction of vertical green walls costing USD90/m² versus the standard commercial cost of USD500/m² approximately.⁸

One of the facilities affiliated to Cedar Environmental is in a town called Beit Mery which was formerly within the collection of scope of Sukleen and is one of the areas that were heavily impacted by the halt of waste collection in July 2015. In an effort to break out of the scope of the private company and take matters into its own hands, the municipality of Beit Mery cooperated with Cedar Environmental, and Women Uprising (a group of Lebanese women activists) to conceive an emergency waste management strategy. This strategy aims at independently processing the area's municipal solid waste (except for medical and industrial by-products) and reducing the landfilled waste to zero by incurring an additional cost of USD4 per household for the newly established services (beirutgreenproject, 2013).

Only three months after its inauguration in September 2016, the facility has processed above 1000 tons of municipal solid waste, and the compost it has produced has proven to be up to European standards for organic agriculture. In a press release, the municipality declared that "the new program was roughly 50 percent cheaper on a monthly basis than the town's previous contract with Sukleen" (Dubin, 2016). What started as an emergency strategy is proving to be efficient, cost-effective and environmentally friendly; and hence has become a long-term alternative for the municipality of Beit Mery.

In parallel to the inauguration of the sorting facilities, an awareness campaign for a sorting at source initiative called صار لازم راسك يفرز 'Sar Lezem Rasak Yefroz' (a play on words in Arabic literally meaning: it is time for your brain to sort, but meant as: it is time for your brain to fathom) was released in January 2015.

⁸ 'A Zero Waste Lebanon' Documentary - <https://www.youtube.com/watch?v=VC-k7aj2Ip0>



Figure 17: Children carrying placards during a protest against the ongoing garbage crisis. (<http://www.independent.co.uk/>)



Figure 18: Satirical picture showing Lebanon's politicians wearing Sukleen worker uniforms (<http://www.beirutreport.com/tag/recycling>)



Figure 19: Lebanese protesters are sprayed with water during a demonstration on August 23, 2015. (Reuters_Mohamed Azakir)

Government reaction to mobilization

As a response to the ascending events of the protests, the military was deployed into Beirut City Center, erected gates at the entry points of the area turning it into a 'closed military zone'. The movement continued its mobilization despite the threat of violence, and consequently the authorities erected a concrete wall around the seat of the government known as the Grand Serail. Immediately after the wall was erected, "it was covered in antigovernment graffiti and ridiculed on social networks as an attempt to stifle dissent" (Mackey, 2015). The brouhaha the wall caused resulted in its tearing down only a day after it was erected, which served to set off more derisive laughter from the protesting Lebanese on social media and news outlet interviews.

From that point on, 'You Stink' movement started demanding that the entire government resign. On the 1st of September 2015, a sit-in was organized at the Ministry of Environment calling for the minister Mohammad Mashnouq to resign. The sit-in resulted in violently clearing the demonstrators from the ministry building. Instead of resigning, the minister responsible for the waste management matter handed his responsibility over to the Minister of Agriculture: Akram Chehayeb.

Politicians orchestrated a campaign to discredit the several protesting movements, accusing them of being funded by foreign sources for the sake of destabilizing the country's situation. Many protesters and organizers were arrested, detained and threatened with legal prosecution by the internal security services. Although the ascending violence exhibited by the state only contributed to the growing public support of the various movements mobilizing on the streets; fragmentation among organizers, the rise of splinter movements with varying demands, and "the inherent difficulties in sustaining mass mobilization demobilized the protests" (Tadamun, 2016) by the end of summer 2015.

Successes and limitations of civil society movements

The protesting groups all considered the political system as being the generator of all crises and had similar demands which consisted mainly of the reform of electoral law to allow for proportional representation and the termination of the current parliament and holding parliamentary elections.

These movements, having lost their mobilizing momentum, failed to change the regime; however, they did manage to provoke a new political dynamic and exert pressure on politicians and their political parties that "found themselves rearranging their priorities in line with the public demands" (Nader, 2015). The mobilization was the start of the demand for more democratic, people-centered, government structures in the context of neo-liberalization, austerity, basic rights, and increasing threats to people's livelihood.

Despite the eventual demobilization of 'You Stink' and that of the other civil society movements, they managed to bring forth the debate on the importance of decentralization for the provision of basic public services; in addition, these movements also highlighted the mismanagement and uneven distribution of municipal funds. Furthermore, the events of summer 2015 clarified -to those who remained in doubt- the weakness of the state's capacity to provide a basic service, and the dire need for accountability and transparency. The mobilization and "the government's reaction to it demonstrates the political elite's commitment to maintaining its unquestioned reign over the politics and economics of the country, at any cost" (Tadamun, 2016).

Most importantly, as highlighted by Misselwitz (2016) in his talk 'Conflicting partnerships: Governance and urban challenges', civil society movements and resulting grassroots initiatives led to the co-production of urban knowledge. People from all walks of life rallied for the same demands and consequently contributed their skills, knowledge, and time in attempts to form an 'integrated solution' to the matter at hand. Regardless of the levels of success of the outcomes of the initiatives themselves, the mobilization of citizenry was able to "transcend traditional hierarchizations and sectoralizations of knowledge and recognize that they are always power and value permeated" (Misselwitz, 2016). This demonstrates that the initial steps towards new forms of urban governance are being taken.

From the viewpoint of the mobilization through on-grounds technical solutions, some grassroots initiatives were opportunistic and perpetuating the scenario of a business-oriented government, while others rooted from altruistic initiatives whose main aim was to initiate change. As the number of initiatives soared, the residents of Greater Beirut were witnessing various successful movements: initiatives rallying against the system and requesting transparency, inclusion, participation, and more effective services; however, many of those mobilizing groups remained chaotic and short-sighted and exhibited considerable limitations. For instance, various awareness raising initiatives sprouted in the same municipal regions asking the same group of residents to sort or dispose of their waste in different ways. Some of the new waste management strategies also took a dividing aspect in some communities where people followed different strategies. In addition, some approaches were lacking foresight which resulted in them being initiated rapidly and halted within shortly thereafter.

Other waste management technical solutions such as the material recovery facilities constructed and operated by Cedar Environmental's strategy –contrary to Sukleen's- proved to be successful as an immediate solution to the catastrophe Lebanon was going through. However, in many ways the non-participatory system structure is very similar to that of Sukleen. In terms of citizen participation, the residents of the areas within Cedar Environmental's scope do not engage in any kind of participation, do not make any public effort. Most importantly, the real source of the waste cataclysm, consumer behavior and the reduction of waste, are not tackled. This renders the company's material sorting facility strategy a weak approach to solving a long-term crisis. To endorse the aforementioned claims, in an interview in Al-Akhbar newspaper with the company's founder, a paragraph entitled 'Recycling for the Lazy' states that "the technology and processes applied by Cedar Environmental's processing plants were designed so as to require minimal behavior changes from the public concerning recycling" . In another article about the Beit Mery waste facility, "some local residents said they were unaware of the changes" (Dubin, 2016), which further verifies the lack of inclusion of the inhabitants of the area who under the co-production theme are vital resources for the project in terms of both planning and delivery.



Figure 20: Electric fence set up by the ISF to prevent entry into the BCD area where the parliament building is located. (<http://www.beirutsyndrome.com/lebanon-revolts/youstink-the-morning-after/>)

Case Study 1: Antoura Municipality

The Antoura zero waste municipality: conceptualization and implementation phases

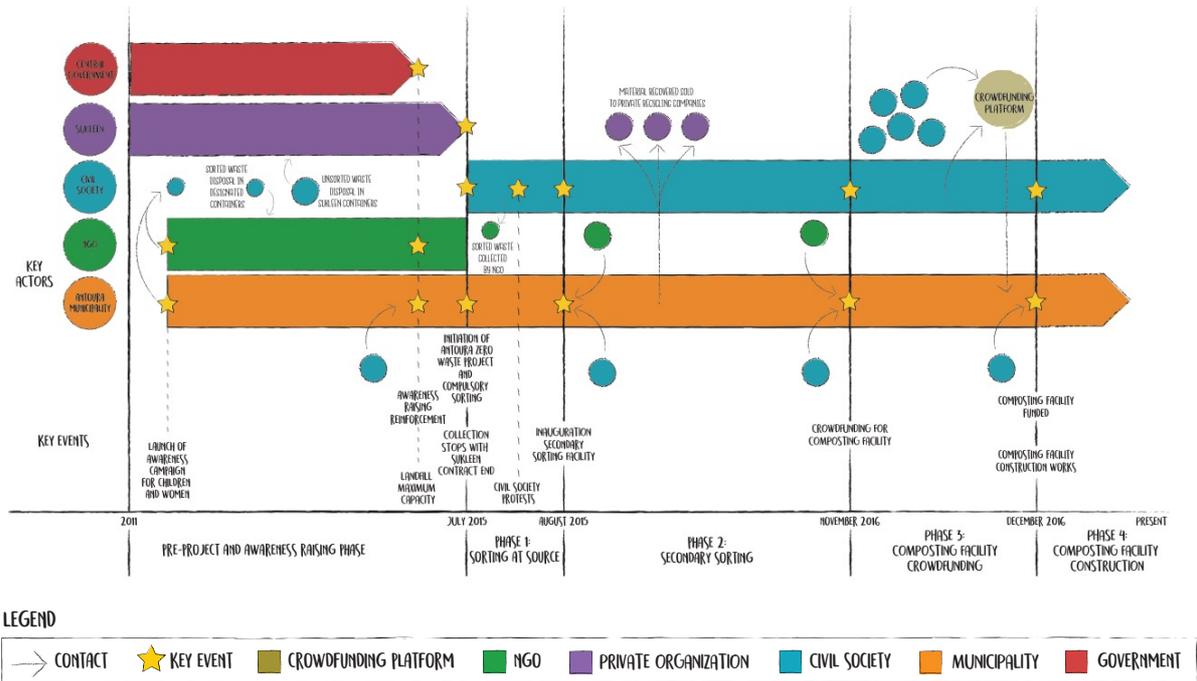


Figure 21: Antoura waste management project stakeholders (Lea Ksayer) **Larger scale found in Annex 1

The call for collective action related to waste management started in the area of Antoura since 2011, long before the cataclysm. According to the mayor of the area, Labib Akiki, it was vital to start spreading awareness on the 3Rs (reducing, reusing and recycling) before the crisis. The awareness campaign which was drafted in collaboration with a national non-governmental organization called arcenciel, started with school visits in addition to addressing women in the town’s municipal assembly hall, to learn about waste management and the benefits of recycling. In an interview, Akiki stated that the goal was to target the two most influential members of a household: women and children in order to trigger a change in a household. While children would apply the knowledge acquired at school, women who take the role of ‘lady of the house’ and who are now aware of the importance of sorting, could monitor the proper disposal and awareness sorting of waste in their respective households.

In schools, students were taught about the environment as part of their civic education. In an effort to materialize what they had learnt, various bins were placed on school campuses to separate organic, paper, cans and plastic waste. The recyclables would later be collected by arcenciel and sent to Lebanon’s various recycling factories. In households, residents were only responsible to sort organic waste from other dry waste. The municipality placed large containers for recyclables in various locations across the town for the residents to dispose their dry waste in; the containers would also be collected by arcenciel. The responsiveness was high in schools and the program witnessed positive results; however, the collaboration of the household residents of Antoura was insignificant and did not meet the goal set by the mayor.

In 2015, as the crisis started, Antoura Municipality broke out of its contract with the private waste management company Sukleen, and decided to deal with its own waste. Consequently, Sukleen's bins were removed from the town's streets and the municipality set to find an alternative solution.

Antoine Abou Moussa, environmental engineer and Antoura School alumnus, collaborated with the municipality to draft a waste management strategy that would be divided into three phases. "The goal was to develop an affordable municipal solid waste sorting and composting facility" (Akiki, 2016). Abou Moussa also founded a grassroots initiative in the fall of 2015 in response to the cataclysm pertaining to waste management in greater Beirut. The initiative addressed the composting of organic waste later became a registered company in spring 2016 (Abou Moussa, 2016).

In its first phase, the municipality distributed leaflets to households explaining that in the light of the crisis it would be implementing a door-to-door strategy and that it was now mandatory to sort organic from inorganic waste. The organic waste would be collected daily while the dry inorganic waste would be collected on specific days of each week. The municipality also stated that any unsorted waste would not be collected. The worry that one's waste could potentially remain on one's doorstep for days led to a consistent collaboration in the co-performing of services which resulted in a 90% compliance to sorting by the area's approximate four thousand citizens.

In the second phase, the municipality –again with the help of Antoine Abou Moussa- aimed to build its own secondary sorting and material recovery facility. The construction of the low budget center was funded by the municipality itself -with no additional costs on the residents of the area- and various non-governmental organizations wanting to contribute to the project. By April 2016, the center was erected and operational. The already sorted at source waste would be sorted again on the conveyor belts of the facility where each material would be separated, compacted, baled, and transported to the country's many private recycling factories.

The organic waste, in addition to non-recyclable materials were however still landfilled. This called for the initiation of the project's third and final phase, the construction of a composting center that would convert the organic waste into fertilizer. The fertilizer would later be sold to the area's agricultural lands with hopes that the project would eventually generate revenue to the municipality to recover the costs incurred by the emergency waste management plan.

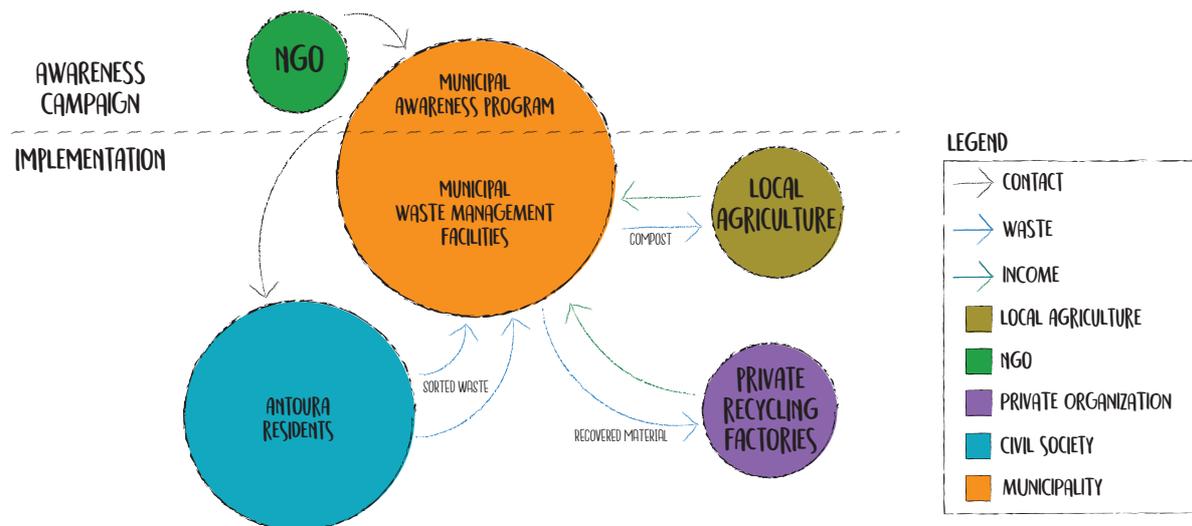


Figure 22: Illustration of the waste management plan in Antoura (Lea Ksayer)

With not enough funding left for the construction of the USD90,000 composting facility, the municipality, with the help of a group of youth taking part of a community based organization, resorted to co-financing through a crowdfunding campaign to raise the remaining of the costs amounting to USD22,000 divided as follows:

"USD3,000 for the greenhouse structure; USD5,000 for equipment such as: a sorting table, bins, water tank, and compost screen; USD4,000 for concrete flooring; USD10,000 for machinery such as a conveyor belt or shredder, in addition to relevant electrical works".

(Abou Moussa, 2016)

All in all, the center would serve the short and medium-term waste management requirements and would reduce the need for diverting waste to landfills by 80%⁹.

The crowdfunding campaign was featured on zoomaal.com, a crowdfunding platform that supports innovative projects in the Arab world. A project backer, in other words a person contributing financially to the project, could select the most suitable and convenient package for them. The packages have limited availability and each of them are associated with a corresponding reward that the backer would only receive if the project was fully funded. Also, only if the project is fully funded, the money contributed by individual donors would be withdrawn from their respective accounts; until then, the contributions remain conditional.

In the case of the Zero Waste Antoura project, the aim was to collect USD22,000 and the packages for contributions and rewards were as follows¹⁰:

⁹ Project Crowdfunding Page: <http://www.zoomaal.com/projects/0wastetown?ref=98108769>
¹⁰ (ibid.)

- *The Gratitude Package: 490 Available _ Contribution USD1*
Reward: Customized Thank you email + Composting Flyer
- *The Recognition Package: 270 Available _ Contribution USD25*
Reward: Printable Certificate + Composting Flyer
- *The Eco-Tourism Package: 46 Available _ Contribution USD50*
Reward: Customized home composting advice + Hiking trip with the team from Antoura to Harissa on "Dareb al Qamar" hiking trail
- *The Seed Package: 14 Available _ Contribution USD100*
Reward: Social Media Shout-out + Official invitation to the inauguration + Customized Home composting advice
- *The Green Package: 2 Available _ Contribution USD500*
Reward: Composting Bin (Sponsored by Compost Baladi) + Social Media Shout-out + Official invitation to the inauguration + Home Composting Customized Advice
- *The Cedars Package: 4 Available _ Contribution USD1,000*
Reward: Printed Name on Site + Social Media Shout-out + Official invitation to the inauguration + Home Composting Customized Advice

(ZeroWasteAntoura, 2016)

Albeit initially looking for a funding of USD22,000, the crowdfunding page indicated that the project had been successfully funded with USD14,798. According to Mr. Akiki, USD8,000 were raised offline from various donors, so the crowdfunding website allowed the decrease to the initially advertised goal. Hence, the backers' financing of the project is no longer conditional and each contributor has become a co-financer of the composting center in Antoura.

Stakeholders and level of participation in service provision and governance

The various phases of the newly established management strategy for the town of Antoura involve participation at different levels by the various stakeholders such as the town's women group, school students, the municipality itself, crowd-funders, local farmers, and the various recycling factories across the country.

Pre-Planning Phase

In 2011, pre-cataclysm, the private company Sukleen was still contracted by the central government for waste management services. As stated before, the waste management sector was not under the municipality's umbrella and hence, the municipal body had no responsibilities or budget for that matter. However, the Antoura municipality called for a collaboration with a non-governmental organization (NGO) called arcenciel to raise awareness on issues pertaining to reducing, reusing and recycling to the town's residents. The target groups were selected groups from civil society, students and women, who participated in sorting the household waste at source. Despite the awareness raising, compliance was

insignificant, which shows that the level of participation by civil society was low.

Planning Phase

When the waste management sector was paralyzed and the collection of waste halted in the greater Beirut area, the central government and the private company disappeared as key stakeholders. As the municipality had no choice but to take charge of the situation, it became the key stakeholder in the matter. The municipality collaborated with environmental engineer and Antoura School alumnus Antoine Abou Moussa with the aim to draft a long-term waste management plan for the town.

Awareness Raising Phase

The awareness raising campaign was implemented in the summer of 2015 as a response to the events in the greater Beirut area. Albeit not taking part in the planning phase of the project, civil society became key stakeholders in the implementation of the awareness raising phase as they began to take action and sort their household waste at source. With a compliance of 90% of the residents of the town, it is safe to say that the role of the town's citizenry was highly significant.

Secondary Sorting and Material Recovery Phase

During the secondary sorting and material recovery phase, the municipality worked alongside Antoine Abou Moussa and a CBO consisting of a group of youth to fund and construct a material recovery facility. The facility erection did not incur any extra costs on civil society who was still complying with the sorting required by the municipality and thus maintaining its level of participation equal to that in the previous phase.

Planning for Composting Phase

The CBO, Antoine Abou Moussa, and the municipality worked together on planning and phasing the composting facility project. With not enough funds, the main stakeholders resorted to the help of crowd-funders who take part of civil society, but are not necessarily residents of the area. The residents of the area, also maintained their role as stakeholders with their continuous sorting at source activities.

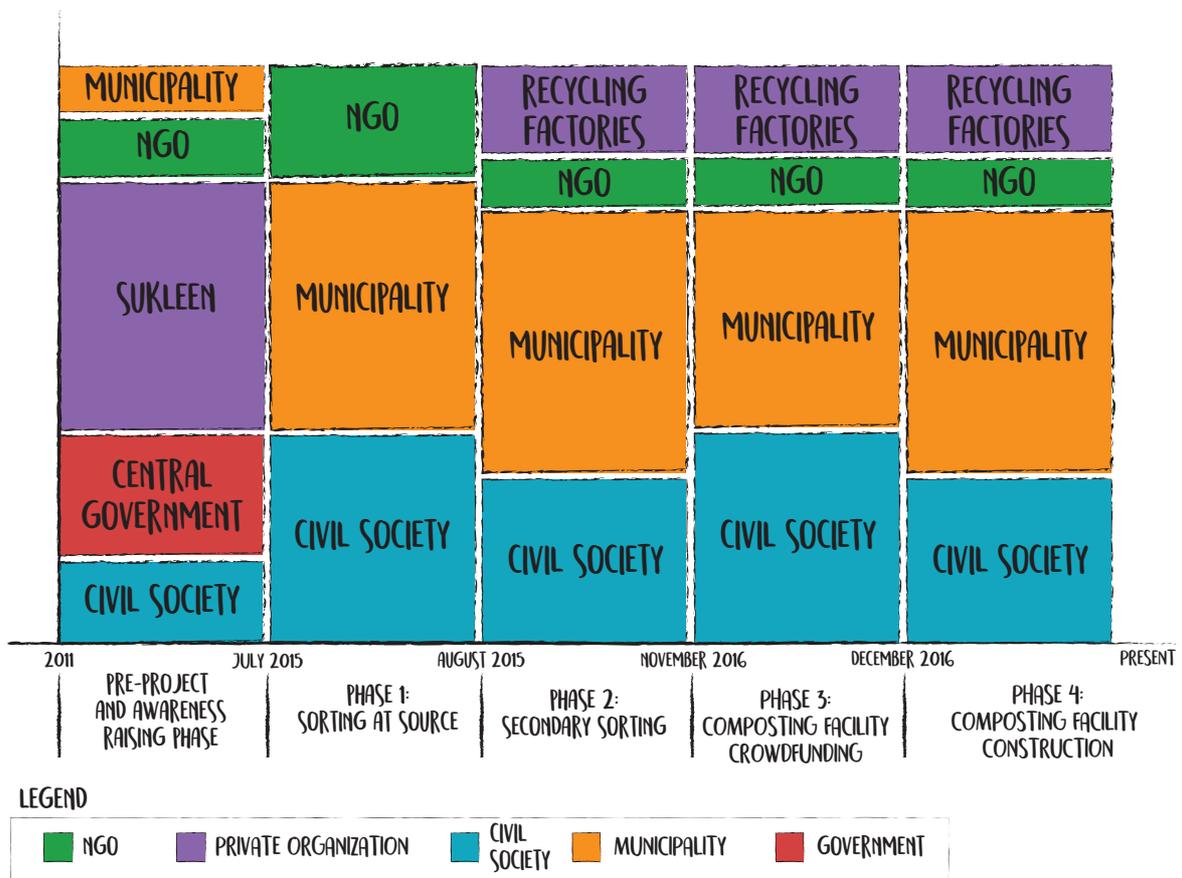


Figure 23: Stakeholder level of participation in Antoura project. (Lea Ksayer)

What are the elements of co-production in the project?

The new waste management plan for Antoura was set to be a state-initiated co-production project. Lacking the skills, know-how, and resources to plan for and provide a public service, the municipality called for the involvement of civil society in the project by contributing with their knowledge, skills, time, and even financially.

During the pre-project phase the involvement of Abou Moussa -a citizen and environmental engineer-, a NGO, alongside the municipality for the co-designing of a permanent waste management strategy demonstrates efforts in co-production. Abou Moussa's involvement in the project from its initiation and constant contribution throughout the project demonstrated various activities included within co-production such as co-planning, co-designing, and co-assessing.

Albeit restrained to activities within the household, the voluntary contribution of civil society to the trash sorting at source is considered as collective co-production, which is when citizen participation happens on an individual level but the benefits of the group action are collected by the entire community.

The project was also co-financed between the municipality and civil society. The municipality provided a lump sum of money while the remainder needed for the financing of the project was raised by the contribution of various individuals through a crowdfunding platform. It is interesting to note that individuals contributing to the financing of the project not only comprised of people residing in the area and eventually receiving the waste management service but also individuals or groups of individuals outside the community.

Case Study 2: Beirut Madinati

The emergence of the Beirut Madinati electoral campaign and the bottom-up waste management pilot project: conceptualization and implementation phases.

Despite the emergence of various grassroots initiatives related to waste management, there still lacked an element that addressed a holistic approach for the governance of the waste sector through secular and issue-based politics. In November 2015, a group of activists harnessed the momentum of the garbage-related protests, and as a response to the situation and the austerity demonstrated by the state, organized a campaign in view of the then upcoming municipal elections in May 2016.

The members of the new political movement consisted of a coalition of technocrats and civil society activists that are not involved with or related to any of the existing political parties in Lebanon. These activists called themselves بيروت مدينتي (Beirut Madinati) -which in English translates to "Beirut, My City"-, and subsequently organized themselves with the aim of running for the municipal elections.

The group put forward twenty candidates, evenly divided between Christians and Muslims, male and female and consisted of architects, urban planners, artists, and activists residing in the city.

At first, word spread about the movement through word of mouth; by February 2016,

"the group had about one hundred members working on developing its bylaws and code of ethics as well as a municipal program, elaborating its media and communication strategy, coming up with a fundraising strategy, recruiting volunteers, and identifying candidates".

(Harb, 2016)

The group's constituency increased exponentially after presenting its program, its code of ethics and its horizontal and participatory modes of action. Beirut Madinati reached out to the residents and voters in Beirut through neighborhood outreach, social media, and fundraising events. The group also started an online crowdfunding campaign which -albeit uncommon to traditional municipal election funding sources- picked up broadly among voters. Beirut Madinati presented itself as an alternative to the incompetent existing traditional political leadership as its candidates proposed their vision of governance, presented a clear structure of their group dynamics and authority vision, declared their finances transparently, and with the help of the expertise of various specialists and professionals, they put together a people-centered agenda which prioritizes the welfare of the residents of Beirut¹¹.

The agenda the group put forward and pledged to implement addressed issues related to urban mobility, public spaces, waste management, city affordability and municipal governance ("About Beirut Madinati," n.d.). For the first time in since the civil war, the residents of Beirut saw an electoral program, which explained clearly what the candidates' objectives would be. Aiming to attract voters frustrated by

¹¹ Ref. Annex 2: Diagram of Beirut Madinati's inclusive dynamics in local governance

inadequate services and infrastructure, the program –which mainly was about anti-corruption and reclaiming the city from sectarian leaderships- included ten main concerns related to these themes: Mobility; Greenery & Public Space; Housing; Waste Management; Natural Heritage; Community Spaces & Services; Socio-Economic Development; Environmental Sustainability; Health & Safety; and Governance. In efforts to promote their program, Beirut Madinati campaigners visited various areas of the city to meet and discuss the residents' complaints and suggestions. "Their modern campaign, financed through crowd-funding and individual donations, also attracted thousands of disenchanted millennials, both as volunteers and as first-time voters" ("Beirut shocks its old guard," 2016). However, as a response to the group's rising popularity, the البيارة 'Beirutis List' that was led by Hariri's men – who has managed Beirut's municipality for years and was planning on getting re-elected- warned "voters that voting for candidates outside the mainstream threatened the sectarian balance of the city" and consequently called for all the candidates of sectarian parties to group and work together. With the odds stacked against them, and a meek 20% voter turnout, Beirut Madinati candidates lost the elections with 40% of the votes to the Beirutis List who received 60% of the votes. However, by presenting a clear and citizen-oriented electoral agenda, financial transparency, non-sectarian identity, and neighborhood outreach initiatives, Beirut Madinati had already highlighted to the Beirutis the impediments of our system and what can be done to change it.

"That's a remarkable feat considering it was up against an alliance of almost every major political party, a powerful force headed by Lebanon's former Prime Minister Saad Hariri" (Hall, 2016). Although Beirut Madinati had the strongest propaganda, there was another group of independent candidates –The Citizens Within the State list- who ran for the municipal elections of May 2016. While the successes of these groups are of great importance to the practice of democracy in one's city, it is still immature to speculate whether they can make a concrete difference on both services and governance level remains to be seen.

In its electoral program, Beirut Madinati pledged to effectuate an integrated solid waste management strategy for municipal Beirut. Their main discourse for that strategy revolved around the 3-R principle: reducing by sorting at source, reusing and recycling. In the immediate timeframe, they vowed to "establish an Office of Solid Waste Management inside the Municipality of Beirut to revive and strengthen institutional and administrative bodies responsible for solid waste management" ("Beirut Madinati," 2016). The solid waste management office would also bear the responsibility of defining current practices in waste management and stakeholders' responsibilities and establishing relevant policies. In addition, the office would devise a hands-on participatory action plan based on the 3-R principle, that includes not only direct stakeholders but also community members and informal secondary stakeholders such as informal scavengers and waste pickers (ibid.).

Beirut Madinati's medium and long term measures involved more complicated strategies than the ones perpetually suggested by the state. The measures consisted of providing the area with a comprehensive, sustainable and feasible solid waste management plan. In the discourse of involving

citizens in the process, Beirut Madinati emphasized on the change of consumption patterns and “raising public awareness as a vehicle for reestablishing and rebuilding the relationship of trust between the Municipality and the citizens” (ibid.). Regrettably, the group lost the elections and did not get any representational seats in the municipality and hence the promises of a holistic and integrated waste management system did not materialize. However, in an interview with Beirut Madinati’s election candidate and head of the waste management dossier Ms.Nahida Khalil, it was established that a pilot project had been initiated within the group but had come to an abrupt halt during the period of Beirut’s municipal election commotion.

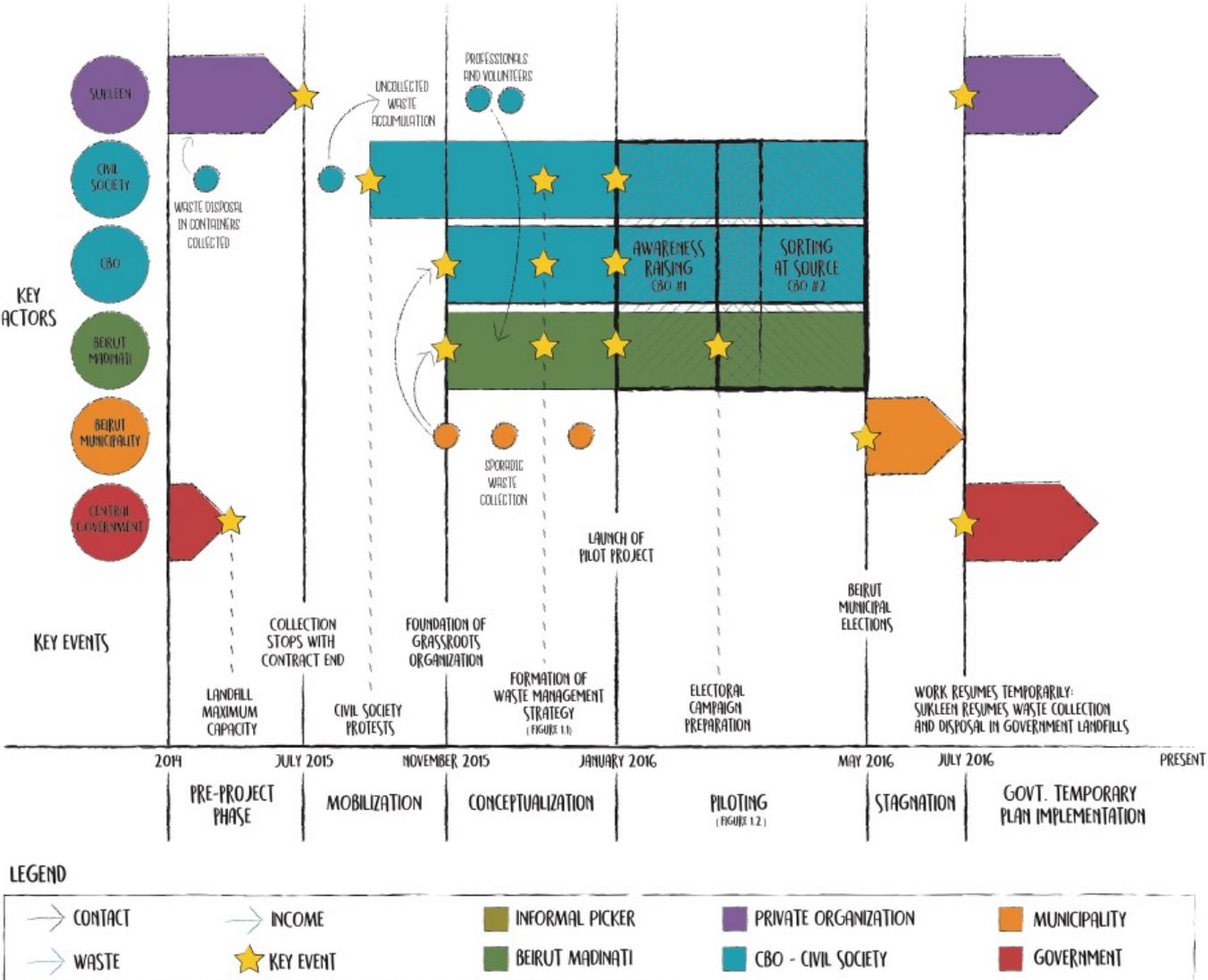


Figure 24: Beirut Madinati Pilot Project Stakeholders (Lea Ksayer)

**Larger scale found in Annex 3

The plan consisted of the development of a general bottom-up strategy for waste management and setting up smart goals as milestones to reaching the previously drafted main goal, a zero waste Beirut. According to an interview with Khalil,

"as the infrastructure for waste management already exists, it is important to build on existing practices and facilities than to wipe

everything out and start anew. The most important part of Beirut Madinati's framework for the pilot project were sustainability and awareness".

(Khalil, 2016)

The plan consisted of re-structuring the solid waste management chain in Beirut, while still including all the existing stakeholders from the level of the individual to the level of the private organization in charge of waste management. With this goal in mind, Beirut Madinati networked with people who already were established in this domain.

In a city where each street acts as its own state, Beirut Madinati's pilot project for waste management was initiated as a community-based initiative and was characterized with being a hands-on, an on the grounds, and a bottom-up initiative. The plan consisted of various phases that were developed by Beirut Madinati in collaboration with CBOs and NGOs and various members of civil society who had the knowledge, skills, time and experience to offer. At first, Beirut Madinati mapped the volunteers working with them and residing in the Beirut area. The volunteers were contacted for a collaboration for a waste management pilot project. Those who agreed remained on the map and were grouped by sub-areas with other volunteers to work together as teams.

To start, the plan consisted of raising awareness door to door, building to building, street to street, etc. Volunteers would start by raising awareness in each household within a given building on an assigned street by means of explaining to the household members the importance of waste sorting. The awareness campaign phase was created in collaboration with EcoAct, an informal CBO whose members are community members and students from Beirut's schools. The aim of EcoAct is to raise awareness and monitor waste management practices in the city. Within this meeting, the household members would be asked to separate the wet waste from the dry waste, meaning that the recyclables (dry waste) would be separated from the organic waste (wet waste). After awareness has been raised, the role of the volunteers in the building is over and they proceed with extending the knowledge to adjacent buildings.

The now informed households would place bags containing separated wet and dry waste at their front doors to be collected by the building concierge, who in turn transports the bags from the apartment doors to the building's main trash containers. To incentivize compliance to the project the building doormen would be remunerated for monitoring the weight of both wet and dry waste bags (a wet waste bag should be much heavier than a dry waste bag which only contains recyclables). In case of nonconformity, the doorman would register the noncompliant apartments and cease to pick up their trash bags until compliance is in effect. This strategy pressures all households to sort their trash to avoid the bags from accumulating at their front door. If need be, the volunteers assigned for awareness raising would visit the non-compliant apartments again and re-explain the benefits of recycling and complying to the waste management strategy. To ensure the project continuity and effectiveness, a

representative for each building would be assigned who would be responsible to report to a selected representative for each street or group of buildings; and on a larger scale, a representative for the neighborhood would be assigned, to whom the street representatives report. The neighborhood representative would also carry the role of reporting to the municipality's newly created 'Office of Solid Waste Management'.

Once the trash has reached its collection point at the building containers, a CBO operating in the area would collect the recyclables and transport them to its respective secondary sorting facility. The waste would then be processed, compacted and sent to the various recycling facilities in the country.

The recyclables would be put in open containers that are reachable by informal pickers. Those minorities' only source of income is the recovery of different materials from Beirut's waste containers and therefore it is vital to include them in Beirut Madinati's waste management plan. The material recovered by the informal scavengers is then sold to private recycling companies. The wet waste is then collected by the remaining of the municipality –or the private company contracted to carry out waste related works-, for further processing such as composting or landfilling.

In general, the plan aimed at reducing landfilled waste by both raising awareness and recovering material for recycling. However, the conceptualization phase of the project differed from reality because of various reasons; among those reasons were: the cessation of waste collection by the private company, the lack of resources by the municipality, in addition to the electoral campaign that was becoming increasingly hostile among parties. The difference between the strategy (Fig.20) and the actuality (Fig.21) of the pilot project is perceptible in the diagrams illustrating Beirut Madinati's waste management pilot plan that was drafted and initiated in reaction to the cataclysm and in times of austerity and uncertainty. The pilot project was put on hold with the hectic atmosphere of the May 8th 2016 Beirut Municipality elections. Despite losing the elections, Beirut Madinati is hoping to relaunch the project at a neighborhood level in the capital aiming essentially to alleviate landfilled waste.

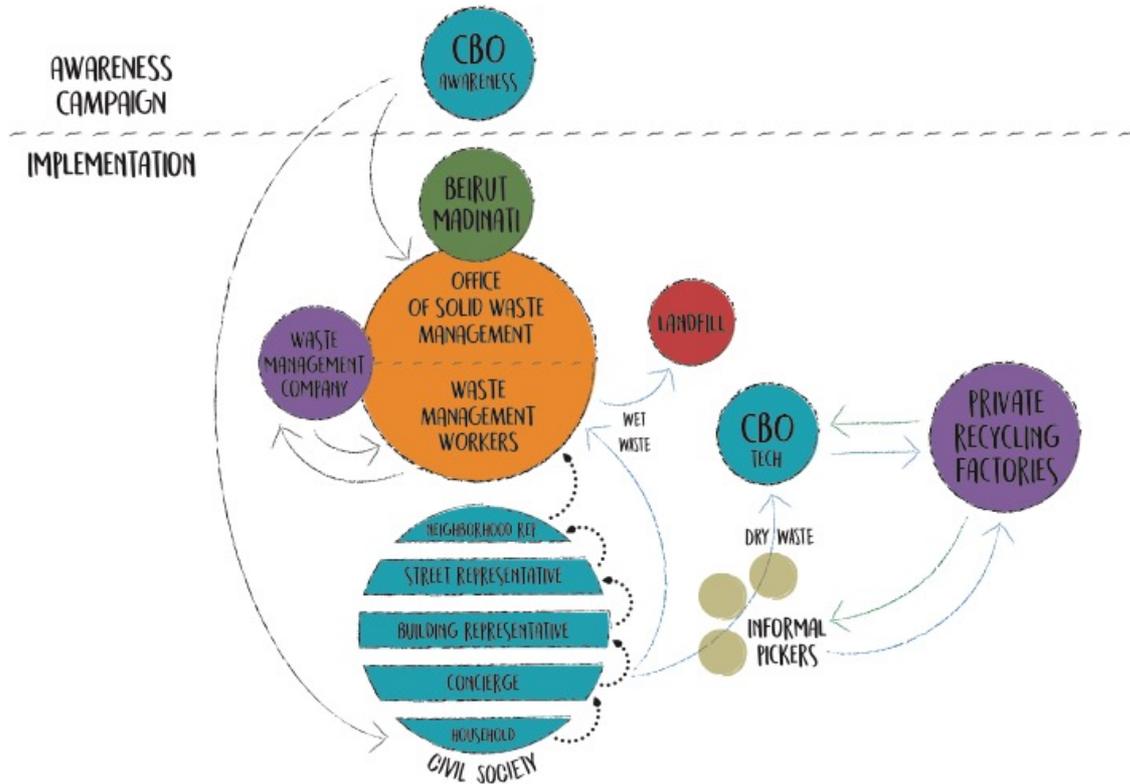


Figure [1.1]: Beirut Madinati waste management pilot project strategy (Lea Ksayer)

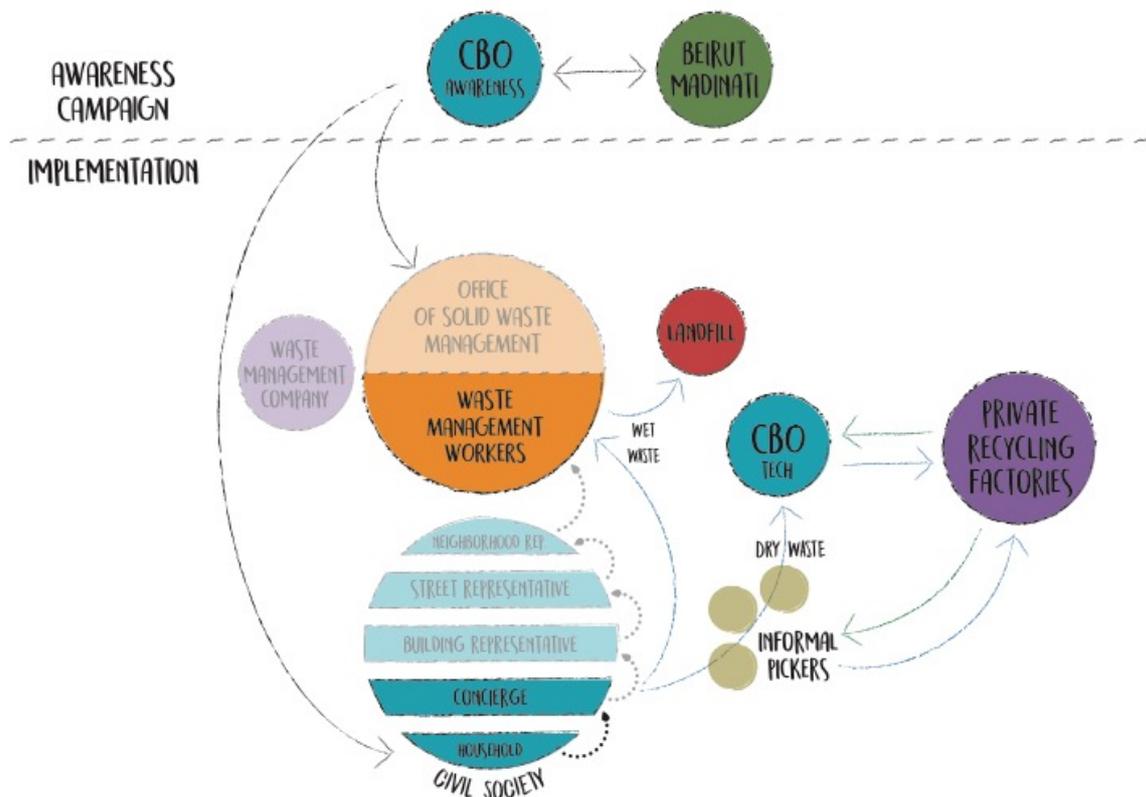


Figure [1.2]: Beirut Madinati waste management pilot project reality (Lea Ksayer)

Stakeholders and level of participation in service provision and governance

Beirut Madinati's pilot project consisted of various stakeholders ranging from a communal level to a municipal level. As the formation of the various grassroots organizations occurred during a time of uncertainty, chaos and instability, the stakeholders relevant to the waste management pilot project drafted by Beirut Madinati were appearing and disappearing in short time spans. The political paralysis and irrational decisions taken by the dysfunctional government led to various actors being highlighted and others being masked at different phases of the project.

Pre-Project Phase

The pre-project phase prior to 2015, the main actors in waste management in Beirut were the central government and the private company Sukleen. The residents of the area were also stakeholders; however, their role was not participatory in the sense of the term defined in this study; their role was participatory by means of performing their basic civic duty by disposing of their bagged waste in the containers assigned by the private company. After detracting the waste management responsibilities from the municipalities and privatizing the waste sector, the central government contracted Sukleen to take over the works under its umbrella.

Mobilization

As the waste management sector cataclysm started to manifest itself physically on the streets of the greater Beirut area in July 2015, and with no pre-planned solution to the problem, the private company and the central government both became incapacitated and paralyzed. Citizens were still disposing their waste in the designated containers, but with no one to collect the waste, the bags accumulated in the streets. As a result, the roles of both Sukleen and the government as key stakeholders faded to the background while Beirut's civil society manifested itself, emerging to the foreground and taking over the scene by protesting and rallying against the failing system. The mobilization did not only take the form of street protests and manifestations; by October 2015 various grassroots initiatives such as the technical and previously mentioned awareness raising CBOs were founded. The aim of most of the grassroots initiatives in Beirut at that time was related specifically to the country's ongoing waste management and environmental catastrophe. In addition to that, as the protests intensified, contact lists of existing environmental and waste management organizations were made available to the residents of the areas affected by the waste crisis. Albeit remaining insufficient, these existing organizations strengthened their presence on grounds, aiming to alleviate the problem.

During this phase, with the central government completely dissolved within the waste management matter, the municipality played minor roles through occasionally and irregularly collecting waste to be disposed in undisclosed locations or even approving the formation of the various organizations.

Conceptualization Phase

With the foundation of various grassroots organizations in the fall 2015, Beirut Madinati and EcoAct

were founded. Both organizations consisted mainly of Beirut's residents, residents, professionals, scholars, and technocrats. As the CBO EcoAct had already been in the process of setting up an awareness campaign for Beirut with the help of students and community members from the area, they were invited by Beirut Madinati who also invited members of citizenry who volunteered their time, knowledge, and skills with the aim to draft a holistic emergency waste management strategy in response to the ongoing events. In a horizontal egalitarian decision making structure, the three main actors completed an awareness campaign that was later launched as part of a bigger pilot project in January 2016. At the time the municipality was still sporadically and irregularly collecting waste from the streets; hence, it plays a minor role in the waste management matter.

Piloting Phase

In January 2016, the pilot project was launched. The implementation of the project consisted of two main parts, each introducing additional stakeholders on the neighborhood level.

Part 1 of the project consisted of raising awareness door to door which led to the involvement of members of the pilot area's households. The inhabitants of the area received knowledge from the EcoAct and Beirut Madinati's joint awareness raising campaign. This knowledge was transcribed into action by sorting the wet and dry waste at source. The building's concierge, also played a key role through monitoring each household's waste sorting, penalizing the uncompliant apartments by not picking up their waste, and reporting directly to the EcoAct and Beirut Madinati's volunteers in the area.¹²

Part 2 of the project consisted of the waste itself being sorted in households and transported by the concierge to the building's wet and dry waste containers.

The municipality's responsibility was to collect wet waste from the containers and transport it to be landfilled or processed.¹³ A CBO dealing with technical solutions for waste and providing secondary sorting services was assigned by Beirut Madinati to collect the dry waste. Dry waste was also collected by informal scavengers. Private recycling companies purchased the recyclable waste from whichever stakeholder was collecting it.

In addition to conducting the community based waste management pilot project, Beirut Madinati ran for Beirut's upcoming municipal elections.

Stagnation Phase

With the hectic environment of the Beirut municipal elections, little attention was given to the pilot project. In May 2016, the municipal elections took place and Beirut Madinati were defeated, which led to the formation of a new municipal body and the halt of the pilot project and Beirut Madinati's on the grounds activities. The municipality of Beirut took over the waste collection and disposal, again irregularly and weakly.

¹² According to the project conceptualization, the concierge would report to a building representative, who would then report to a street representative, who would then report to a neighborhood representative, who would finally report to the municipality, which would incorporate Beirut Madinati's members, and who would be working in parallel with the various CBOs dealing directly with communities.

¹³ In reality, the municipality was not constantly collecting the trash from the designated containers. With the lack of control by the central government, the waste was disposed of anarchically in open dumps, under bridges and in vacant lands.

Government Temporary Plan Implementation

In July 2016, the central government took a decision to revert the responsibilities to Sukleen and reopen the previously shut-down landfills temporarily until a new bid for waste management services is released. To this day, the private company and the central government still carry the waste related responsibilities.

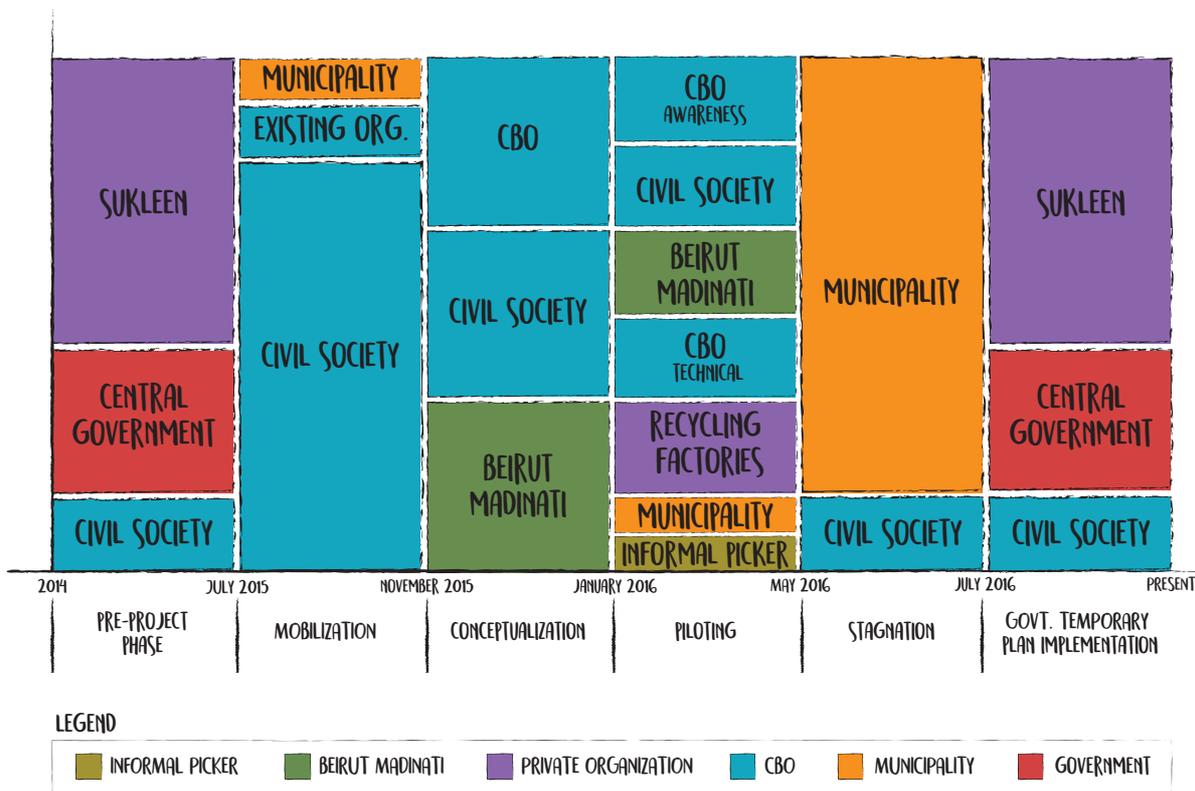


Figure 25: Beirut Madinati stakeholders' level of participation (Lea Ksayer)

What are the elements of co-production in the project?

Having started as a grassroots initiative, Beirut Madinati soon transcribed its co-produced knowledge from mobilization to initiate a movement that aimed for re-form in Beirut's municipality. Beirut Madinati's social movement initiated co-production plan for waste management changed drastically between conceptualization and actual piloting because the plan was drafted considering Beirut Madinati as the municipal force. Therefore, the elements of co-production of the project will be highlighted for both the actuality of the project and the way in which the project was supposed to be realized.

Elements of co-production in the project plan were more dominant than they were in reality when the project was materialized in the pilot phase. This happened because Beirut Madinati accounted for a stronger municipal presence in the project as it was planning on taking charge of the Beirut municipality and its responsibilities through the elections of May 2016. The municipality at this point in time was

sporadically and irregularly collecting waste from the streets; still, it did play a minor role in the co-production processes through bureaucracies.

The plan was drafted as a bottom-up community-based project that involved various stakeholders such as citizens, community based organizations, and Beirut Madinati. These stakeholders would work together to plan and implement a holistic waste-management strategy for the city.

The conceptualization phase was essentially a response to the ongoing events at the time, it consisted of the co-designing of a holistic emergency waste management strategy for Beirut through the involvement of community based organizations and Beirut Madinati with the help of students and community members who volunteered their time, knowledge, and skills in a horizontal and egalitarian decision making structure. During this phase, not only was the chain of waste disposal studied and altered, but an awareness raising campaign was also drafted. The aim of the campaign was to educate and alter the third sector's waste disposal behavior, leading to the voluntary contribution of civil society to sort waste at source in a collective co-production effort.

The piloting phase was a true collective co-production action where people sorted waste individually in their households but the benefits would be reaped by the community as a whole. The chain of monitoring of waste disposal behavior from household scale to municipality is characterized as the co-performing of services. The highlight of the plan was that it also involved marginalized minorities that co-production theory sometimes is criticized for lacking.

The pilot project is an idyllic co-production scheme for the production of a public service for Beirut. However, in the context of state collapse, and the fact that Beirut Madinati was an election candidate but did not hold any municipal power, the project lacked the true existence of a 'state' as a main stakeholder for service provision.

As the project reached its stagnation phase, all elements of co-production dissolved as Beirut Madinati vanished from the scene due to the aftermath of hectic municipal elections. During that phase, the municipality regained control over the waste management services in the area.

Conclusion and Outlook

Comparison of Case Studies

What are the successes of the projects in relation to co-production?

Both projects were a reaction to the waste management sector collapse in July 2015; they both immediately contributed towards alleviating the crisis and bettering the living conditions of the citizens of greater Beirut. They both resulted from state-induced nonchalance and they both demonstrated the power of collective action. Albeit in different potencies, both projects reformed the archetypal state-citizen relationships that the Lebanese government is typically imposing. Most importantly, both projects involved citizenry in the achievement of at least one phase of the project at hand.

In the case of Antoura municipality, the project successfully achieved its goal to create a decentralized waste management service and facilities. By reducing the scale of the project to the scope of the town, the municipality reconfigured the means by which services are delivered in the area into a more local, small-scale, and community-based service.

The project succeeded in engaging civil society in a municipal project by (1) co-producing knowledge by raising awareness pertaining to the 3Rs and waste management in general; (2) including them in the waste management chain through sorting at source; and (3) engaging them in the co-financing of the project through the crowd-funding platform.

The immediate compliance of civil society to the project's guidelines demonstrates the trust that was established between citizenry and local government; this also demonstrated the will of the residents of the area to contributing to the easing of the crisis and the impact of the waste accumulation on the streets. In addition to that, Abou Moussa's involvement alongside the municipal body and the NGO involved at times, is highly significant in the project and demonstrating a true co-production relationship. Financially, the municipality declared in details all expenses related to the waste management facility; it was also available to respond promptly to any questions with regards to the waste management strategy by the residents of the area. The crowdfunding campaign was also deemed successful, its scheme incentivized residents inside and outside the community to contribute to the co-financing of the project.

Beirut Madinati's pilot project, albeit short-lived, was a bottom-up project that involved all individuals residing or working in the pilot area as co-producers. The project devolved responsibility, leadership and authority to the recipients of the service, it encouraged them to self-organize in committees and self-assign representatives. The organization of the project involved recipients of the project in the planning and the delivery phases, reconfiguring the way in which Beirut's neighborhoods had experienced the provision of public services in the past. It not only involved residents of the area and community based organizations, but it also addressed the needs of the informal scavengers, a marginalized minority that is seldom taking into consideration in any project structure normally. Beirut Madinati utilized peer support networks as a way of transferring knowledge and capacity rather

than hiring consultants and professionals only, allowing for more communication between stakeholders and more input from individuals.

The plan provided a strategy for a long-term project that brought added value to its customers, whether in the form of knowledge and awareness for the citizen sorting in the household, or in the form of monetary value in the case of private recycling companies and informal scavengers.

Most importantly, the Beirut Madinati pilot project is easily transferable and scalable to other contexts because its governance structure is horizontal, egalitarian and community-based; it also relies on the existing infrastructure across Lebanon which facilitates its replication to other areas of the country.

What are the shortcomings of the projects in relation to co-production?

Although both waste management projects had great potential in relation to co-production, they both demonstrated obvious shortcomings as well.

The shortcomings of the Antoura project were that it remained mostly governed by the municipality. The waste management plan was drafted through a shy co-production process that remained at the participatory level of a NGO and one individual who contributed with knowledge, skills, and time. The participation of civil society was limited to financing through crowdfunding and sorting at source, while it could have been extended to their involvement in planning, decision making and also budgeting. The project succeeded mainly thanks to the participation of a skillful individual who voluntarily got involved in the project and shared his knowledge and skills with the municipality and offered his services. In a bigger town, the citizen reach-out would most likely be more difficult, and the expenses of the waste processing facilities would be higher as they would have to treat more waste. The Antoura project is also limited in a sense that it is not easily transferrable or up-scalable to other towns in Lebanon. The reason for that is that many municipalities in Lebanon are understaffed and weak; some may not have the financial resources or skilled individuals to start such a project.

In the case of Beirut Madinati, albeit having drafted an all-inclusive, horizontally-governed waste management strategy, the shortcomings of the project were mainly caused by circumstances pertaining to the complete inexistence of a responsive governmental body willing to negotiate with a community-based initiative aiming to provide a public service. The project was only to become fully operational on the condition that Beirut Madinati wins the municipal elections and takes over municipal responsibilities; although, during the time of paralysis and cataclysm, the functions of the municipality were mainly substituted by Beirut Madinati in the scope of the pilot project. Prevalingly, the project's abrupt cessation with the nearing of the Beirut municipal elections shows that the project was not well grasped or controlled by the various stakeholders, and thus was not autonomous.

What democratic qualities do each of the projects perpetuate?

The Antoura project perpetuated various democratic qualities, some were existent within the municipal district before the new project, and some were not. For instance, the raising awareness was

part of the initial municipal agenda set by the mayor and did not begin with the waste cataclysm. Furthermore, when the new project responding to the waste sector collapse launched in the summer of 2015, the sorting strategy for waste remained the same. Citizens were not provided with new information, but the old was reinforced. The democratic qualities perpetuated by the project were relevant to:

Awareness_ The project's first and most important phase was awareness raising: not only on the benefits of sorting one's waste at source and recycling, but also on the benefits of participation.

Cohesion_ The project systematically followed one plan for the provision of the waste management services since its start and did not alternate as the political situations and the waste-related debated and bids oscillated across Lebanon.

Responsiveness_ The municipality, along with the NGO planned open meetings at the municipality for people to voice their opinions and ask their questions, a neighborhood reach-out was conducted along with a reach-out to schools to address the youth, communication platforms were set up on social media platforms such as Facebook and Twitter where citizens could publically comment on any information shared by the municipality.

As the Beirut Madinati grassroots organization was initiated in response to the cataclysm, and with a purpose to run for municipal elections, it addressed as many qualities of democracy in its electoral campaign as possible. Vowing to implement a people-centered program, Beirut Madinati listed its core values as being: the primacy of the public good, social justice, and transparency. The pilot project itself (Figure and 1.2), demonstrated some of those qualities such as:

Participation_ As seen in the stakeholder analysis of the project, all the inhabitants of the pilot project designated area were included in the project.

The project entrusted responsibility, leadership and authority to residents (service recipients), and stimulated self-organization rather than top-down direction.

Awareness_ The first phase of the project was to raise awareness on the dangers of the accumulated waste in the streets and spread knowledge on laws and policies that were being ignored by the central government.

The project also called for participation and highlighted the importance of partaking and contributing to such projects. It transferred knowledge and developed capacity of the local community through peer support networks and community based organizations.

Responsiveness_ The pilot project called for public participation through neighborhood committees and community meetings which initiated a hands-on process for the project. As the project was still in its pilot phase, the communication with stakeholders remained at a neighborhood reach-out level and was not highly publicized.

Transparency_ The organization's finances were repetitively shared with the public as a means to establish trust with citizens and voters. The project did not incur any additional costs on the residents of the area which further incentivized them to partake in the project.

Recommendations: How can Lebanon's grassroots initiatives for the co-production of waste management further act as vehicles for democracy?

Based on the case studies reviewed and the various other grassroots initiatives relating to waste management in Beirut, one can conclude that for those initiatives to act as vehicles for democracy, there should be a demand for a new organizational structure that tails co-production. This organizational structure is based on building reliable relationships between citizens and state, in addition to presenting citizens with incentives that would be deemed interesting to them. To achieve a structure as such, Lebanon's grassroots initiatives should, through collective action, demand and call claim for various matters that deepen democracy and assert the peoples' right to the city; such matters are related to:

Rule of law_ (1) Rally for alleviating inequalities and for the drafting of policies related to waste management and the protection of the environment in an open and transparent manner; (2) pressure the government to care for their vulnerable citizens rather than cater to private-sector interests; (3) aim to achieve the full exercise of the right to an adequate standard of living.

Accountability_ (1) Hold service providers and the central government accountable vis-à-vis malpractices pertaining to the waste sector; (2) call for vertical and horizontal accountability within governmental structures and the private organizations contracted by the government.

Participation_ (1) Persist with organizing, mobilizing, protesting efforts that contest neoliberalist agendas; (2) include urban poor and marginalized peoples in demands; (3) demand participation in planning and delivery of services provided to them.

Awareness_ (1) Share open-source knowledge; spread awareness on laws and policies that the government is not complying to; raise awareness on the importance and effects of participation and mobilization. (2) Raise awareness and share information on solutions related to waste-management and the important of the 3Rs, sorting at source and reducing consumption.

Cohesion_ The main drawback witnessed in many of the grassroots initiatives was the lack of agreement on one unified and cohesive strategy for attaining a holistic, long-term waste management solution. Therefore, the setting up of a integrated sustainable baseline for the waste management sector is mandatory.

Responsiveness_ Engage with citizens on a neighborhood level through reach-out initiatives or open meetings, and on social media platforms. For a wider reach-out, it is important to meet people in their neighborhoods where they feel comfortable discussing the problems faced in their daily lives.

Transparency_ The sharing of finances in both the cases of Antoura and Beirut Madinati demonstrated that transparency leads to more active participation and trust is more firmly established; especially within a context of austerity. Consequently, and relevant to accountability, it is crucial for the grassroots organizations themselves to be transparent, and to demand for more transparency and compliance from the governmental organizations being dealt with.

Can co-production partnerships lead to new forms of sustainable urban governance?

It has been established in this study that, albeit timid, co-production practices appearing in Beirut instigated a platform for civil grassroots initiatives to experience alternative relationships with governmental bodies. These relationships were not characterized by the customary top-down approach that the Lebanese populace had been witnessing for decades, but by a communicative and reciprocal relationship more inclusive to the third sector. However, these relationships remained limited to certain activities and phases of the projects described, and did not involve the citizenry in much planning and decision-making processes. Although various studies exhibited that co-production is deemed as a better option than privatization because the state-citizen relationship becomes more fluid, and is "based on trust, greater ethical standards and accountability" (Pestoff et al., 2012), the central government still holds absolute power over municipal budgets. As it is not in the governments best interest to decentralize public services and break down despotism, it is deduced that there is no political willingness to involve civil society in the design or the delivery of any public services. Hence, as long as the central government is held by the sectarianism-propagating groups, co-production partnerships in Lebanon will be limited to negligible extents and will not be able to push for new forms of sustainable urban governance.

New forms of sustainable urban governance should be characterized by democracy and inclusion. They are also responsive to the changing demands of civil society vis-à-vis the right to the city through the drafting of policies at various state levels; therefore they should account for the long-term but also be capable to rapidly adapt to changes. New forms of sustainable urban governance emerge from multi-stakeholder governance structures based on collaborations between state institutions, organizations and civil society. On a state level, solid national policies, effective decentralization processes, and uncorrupt, transparent, and accountable governmental institutions are crucial. The national policies relating to urban management serve as a foundation for a more cooperative and comprehensible structure between different levels of government and key stakeholders. "Urban policies promote a paradigm shift, combining bottom-up and top-down approaches, with the aim of building synergies and complementarities between different areas" (Rode & Saiz, 2016). First, on a city level, it is vital to have a strong local government that is capable of governing inclusively, sustainably and in an egalitarian manner. Second, the empowerment of local governments by means of finances and capacity building enables them to involve local stakeholders in decision making processes pertaining to urban development and the provision of services; furthermore, local governments can promote the co-production of services between citizens and state through innovative partnerships. Third, an empowered and capable citizenry, transparency, and accountability are also essential elements to the emergence of new forms of sustainable urban governance. Therefrom, co-production partnerships alone do not lead to new forms of sustainable urban governance; it is through the combination of various characteristics on the different levels of governance that emerge platforms for the materialization of new governing systems.

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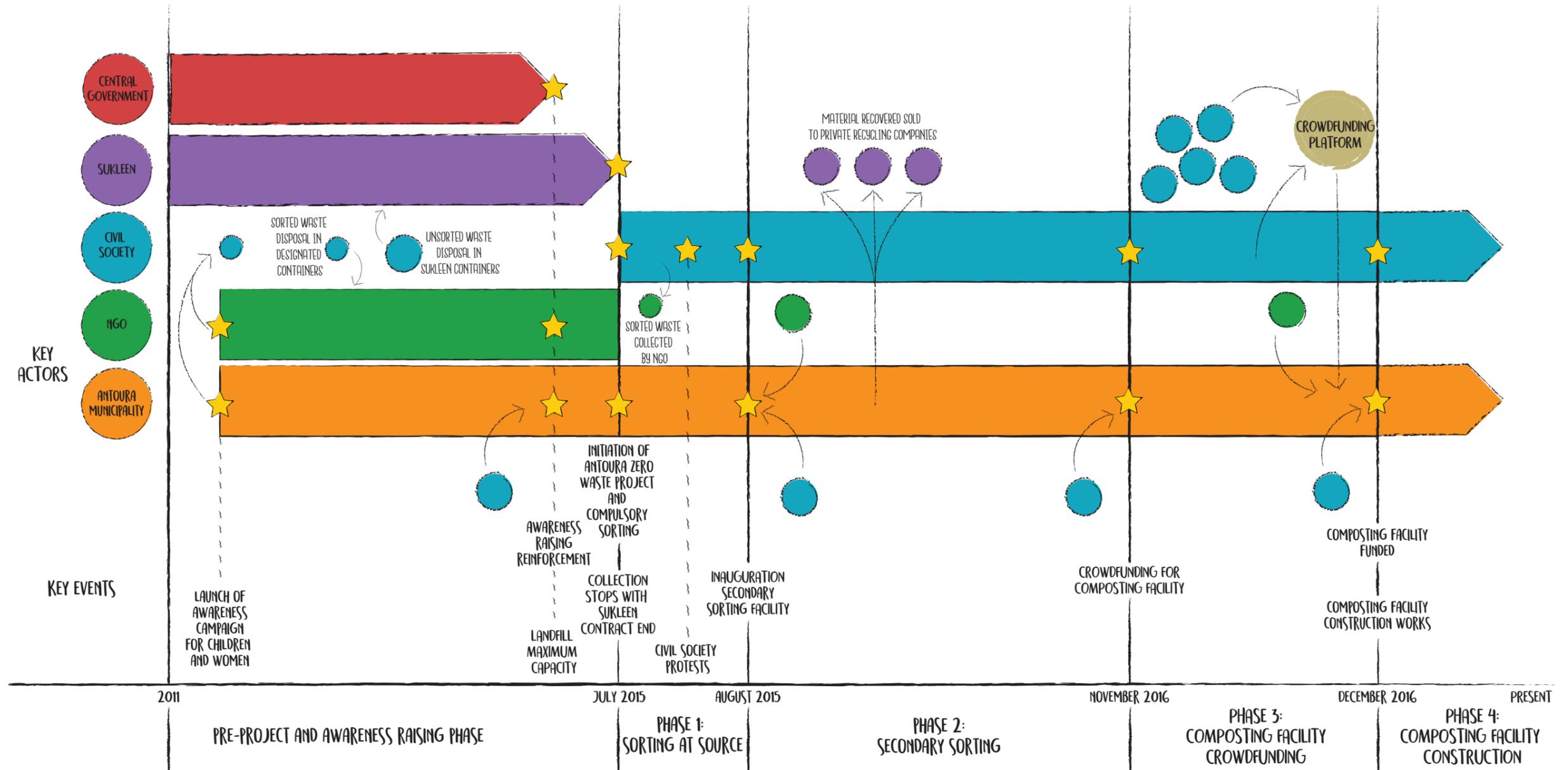
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Annexes

Annex1: Diagram of Antoura waste management project stakeholders (Lea Ksayer)

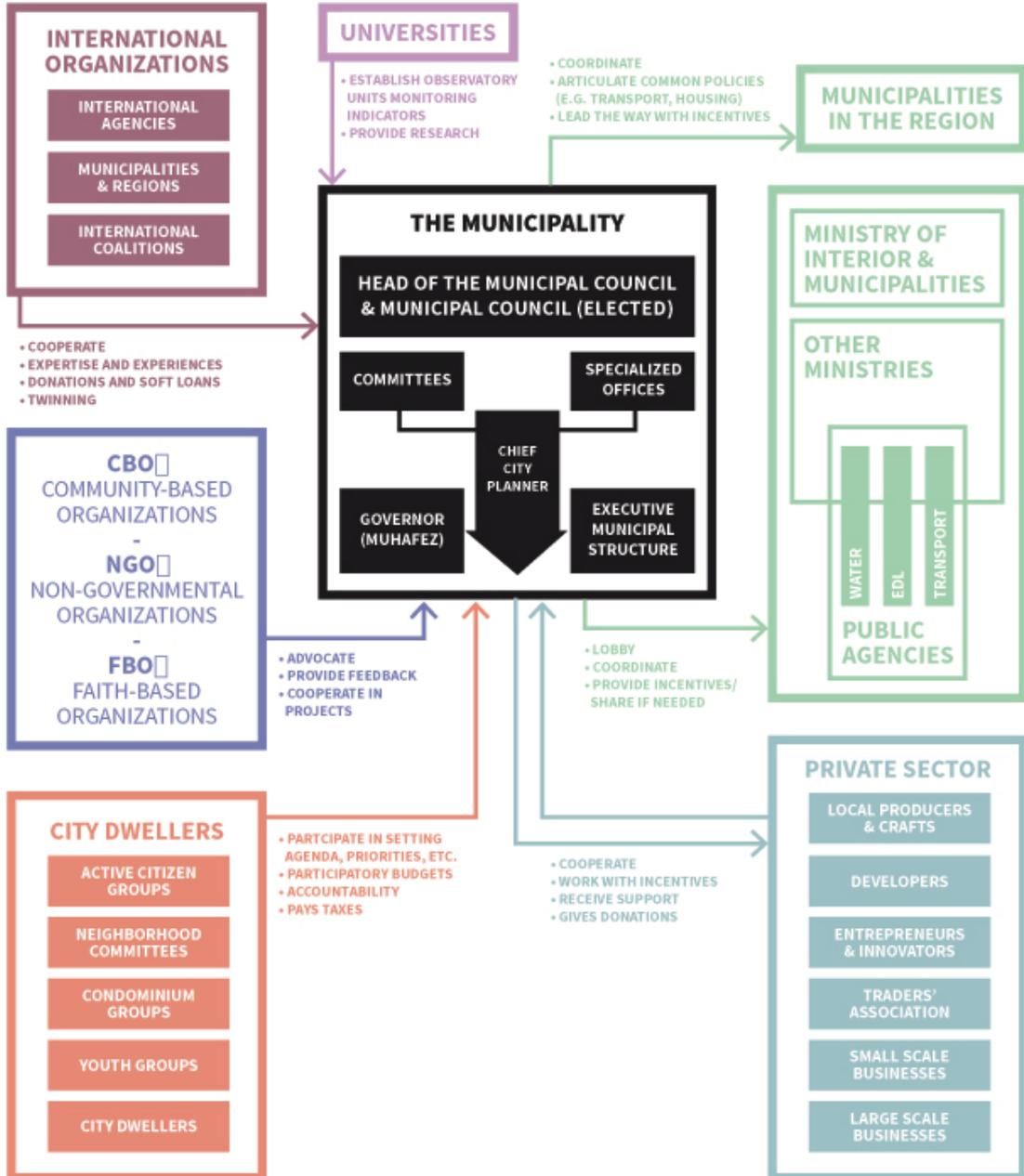


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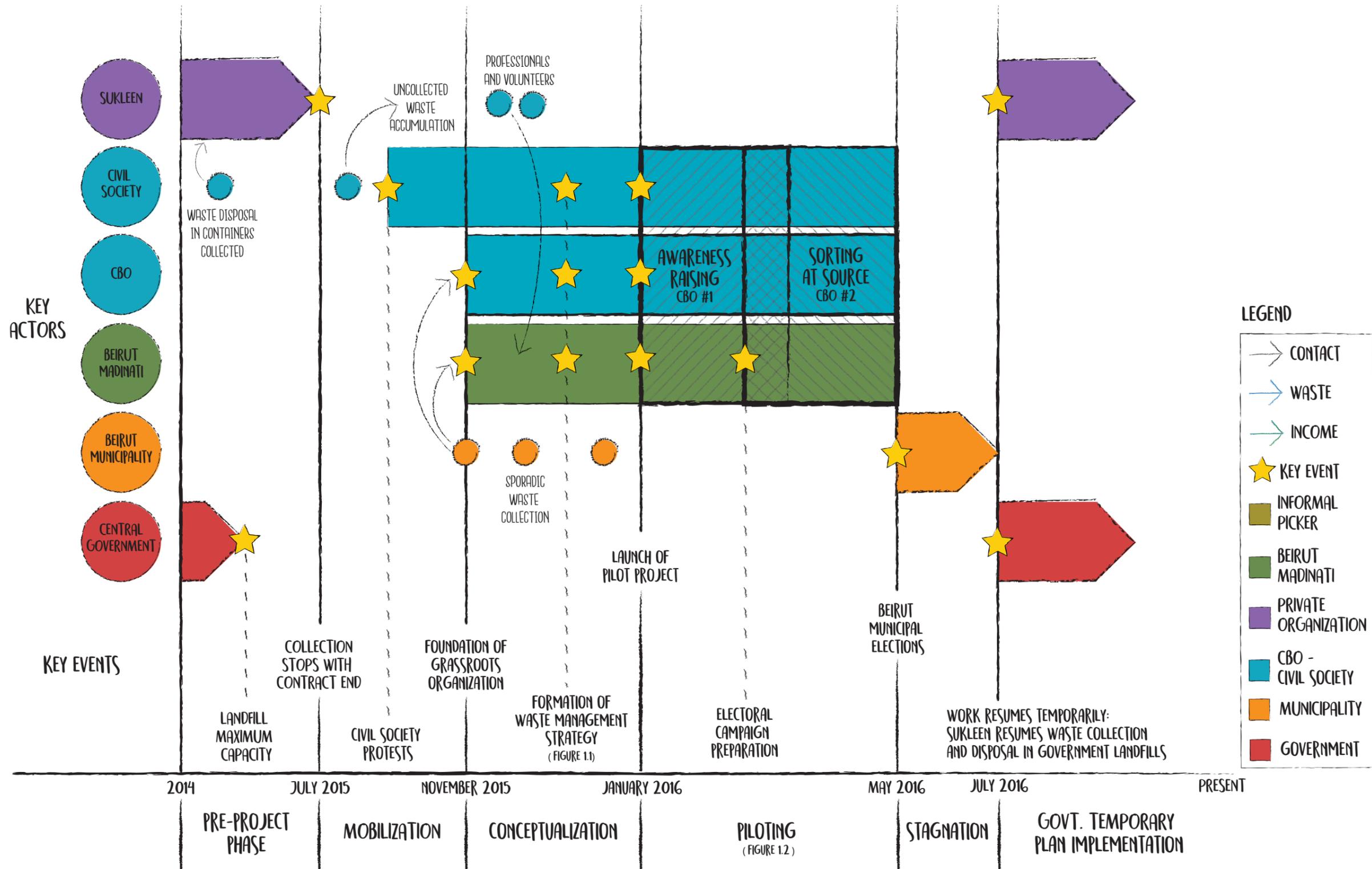


Annex 2: Diagram of Beirut Madinati's inclusive dynamics in local governance (BeirutMadinati.com)

BEIRUT MADINATI INCLUSIVE DYNAMICS IN LOCAL GOVERNANCE OF TOMORROW



Annex 3: Diagram of Beirut Madinati Pilot Project Stakeholders (Lea Ksayer)



Annex 4: Table Showing Recycling Factories in Lebanon (<https://hummusforthought.com/>)

Organization	Papers	Plastic	Raw Materials and Metals	Glass	Wheels	Electronic Waste and Batteries
Terre Liban	X	X		X		
Arc-En-Ciel	X	X				
L'Ecoute	X	X	X	X		X
Zero Waste Act	X	X				
ACT	X	X	X	X		X
Uber	X	X	X			
Unipack Tissue Mill	X				X	
Lebanese Cardboard Corporation	X					
Sicomo	X					
Sipco	X					
Mimosa	X					
Plast Wood		X				
Lebanese Recycling Works		X				
Kilzi		X				
Alpha Plast		X				
Lefico		X				
Mazar Plast		X				
Yaza Plast		X				
Asia Plast		X				
Yehya Hariri		X				
Plastic South		X				
Plastic Chim		X				
Publitex		X				
Runwaste						
Charmtal			X			
Mohammad Tawil			X			
Abou Ahmad El-Achhab & Hanine			X			
Ahmad Khalife			X			
Aluxal			X			
Al Araibi			X			
Lebanese Company for Raw Materials			X			
Soliver				X		
United Glass				X		
Al Zoujaj Al Yadawi				X		
MEPS					X	
Beatouna						X

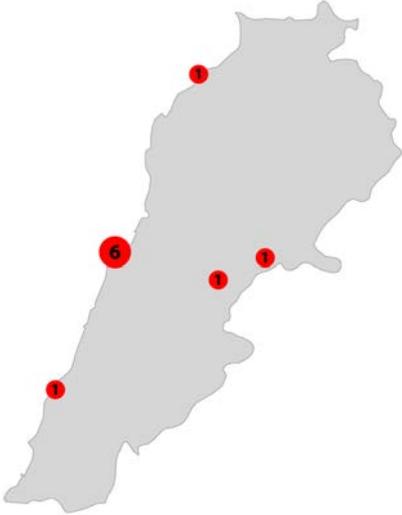
Annex 5: Maps Showing Locations of Recycling Factories in Lebanon (Lea Ksayer based on Annex 4)



Recycling Facilities for Electronics



Recycling Facilities for Glass



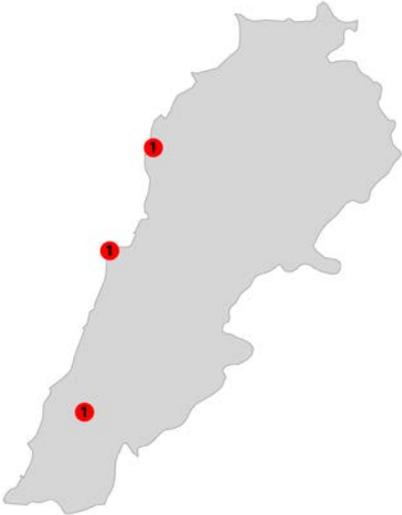
Recycling Facilities for Metals



Recycling Facilities for Paper



Recycling Facilities for Plastic



Recycling Facilities for Wheels