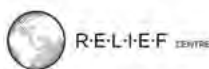




Participatory Spatial Intervention

How can participatory design
and a diversity lens help address
vulnerabilities in Bar Elias, Lebanon?



Participatory Spatial Intervention

How can participatory design
and a diversity lens help address
vulnerabilities in Bar Elias, Lebanon?

The book can be quoted:

Joana Dabaj, Andrea Rigon, and Hanna Baumann, 2020,
Participatory Spatial Intervention: How can participatory design
and a diversity lens help address vulnerabilities in Bar
Elias, Lebanon? Beirut: CatalyticAction & University College
London

ISBN: 9781068449116

Cover: Different people gather in the main seating area of
Bar Elias entrance road

Visuals credits: all photos are CatalyticAction credits unless
stated otherwise

Graphic design: Zeina Kammoun



A man rests as he waits for his turn in front of the polyclinic



Foreword

Large-scale displacement is one of the biggest challenges to global prosperity at the present moment, and it is here to stay. In today's world of massive income inequality, climate change, environmental degradation, food insecurity, and violent conflict, we have to approach displacement as part and parcel of modern geopolitics, and something that is very closely intertwined with other global problems that cause mass movement of people. This vision of displacement as the 'new normal' has enormous implications because it underpins the way in which we envisage solutions to displacement.

One of the aims of this project – generously funded by the British Academy – is to offer a new approach to understanding and addressing the challenges of displacement. The focus falls on the question of how to generate prosperity for communities impacted by displacement. Improving their quality of life is not something that can be put on hold while waiting for displacement issues to be resolved. It is a process that must adapt to the realities of displacement.

In cities impacted by large-scale displacement, in Lebanon and elsewhere, vulnerability is a complex condition, caused partly by being uprooted and adapting to new circumstances, but it is also by pressure on jobs, housing, social and political stability, energy, water and waste systems that impact both refugees and hosts. Large-scale displacement can exacerbate pre-existing challenges faced by host communities and drive both hosts and refugees into conditions of extreme resource and material constraint.

Infrastructures, on the other hand, are capability-expanding public goods. They improve material quality of life, but in doing so they also enable people to gain the means, and access the opportunities they need to achieve a more fulfilling life. Understanding infrastructure in the context of mass-displacement is particularly important because of the pressure and strain that a rapid influx of people can put on infrastructural provision. Energy, water, transport, waste and public space must all find ways to adapt and respond to the additional demand that displacement places on them. No matter what the engineering or technical solutions may be, it is absolutely crucial that they are inclusive, and that they are responsive to people's needs and experiences.

And this is where vulnerability intersects with infrastructure. Exclusion from infrastructural provision and public services does not only damage everyday quality of life, it also disables people's capacity to flourish. What is at stake here is not only the question of what infrastructures exist in a particular city or neighbourhood, but also who they are for, who has access to them, how inclusive they are and what happens to those who are not included. Just because there is infrastructure, does not mean that people will be able to access and benefit from it.

As academics and researchers, part of our job is to understand the vulnerabilities that are produced by infrastructural deficits, and to come up with solutions. The question of how

we understand local vulnerabilities and how we address them must be underpinned by rigorous research and data collection. Members of the public should be the ones who decide what matters and what needs to be done. Therefore, the team has operationalized this principle on the ground through a citizen science methodology and participatory spatial intervention. What we mean by Citizen Science is a research process in which local residents from the areas where we work are recruited and trained as members of the research team. They help to shape the research questions, to carry out the data collection and analysis, and take ownership of the findings and the outcomes of the research.

A Participatory Spatial Intervention is an urban design intervention driven by local residents. It is a spatial intervention which is informed by people's views about their needs, vulnerabilities, and aspirations, and designed through public consultations. This is why it was so vital to collaborate with an NGO like CatalyticAction, which had already built strong links and trust with the local community over previous years. The team in Bar Elias used precisely these methods to identify local vulnerabilities and urban issues, and to design and implement appropriate solutions. However, in the context of Bar Elias, where over half of the inhabitants are Syrian refugees, bringing people together in an inclusive fashion was absolutely crucial. This meant that the participatory process had to incorporate a diversity of voices, but it also meant that the interventions that the team co-designed had to benefit all of the town's inhabitants and work to bring people together rather than divide them.

I am proud to say that over the past year, building on citizen science and participatory methods, the team has managed to implement a number of co-designed urban transformations, both small and large. These designs not only improve the experience of life in the town, but also create opportunities for people to engage positively with the city, with one another, and with themselves as the co-designers and drivers of these initiatives. This publication presents a detailed overview of the process and methods used.

Prof Henrietta L. Moore,

Founder and Director of the UCL Institute for Global Prosperity,

Principal Investigator of the Project 'Public Services and Vulnerability in the Lebanese Context of Large-Scale Displacement'

Acknowledgements

The team would like to thank all the participants in the process: citizen scientists, who played a key role in all phases of the project, and residents, who participated in workshops, provided their time to be interviewed, gave feedback to different proposals, and are now looking after the interventions. A special thanks to the Bar Elias municipality for their support throughout. Thanks to The Chain Effect NGO for collaborating on the colourful mural. Thanks to the artists Noor Kawas and Amany Kawas who collaborated on the mosaic artworks. Thanks to Yassine Ceramic company for donating coloured discarded ceramic tiles. Thanks to Rawdat El Fayhaa Secondary School Eco club for helping us collect used plastics with their students. Thanks to Recycle Lebanon for spreading the word about our plastic hunt. Thanks to The Flying Seagull Project for the amazing opening celebration. Thanks to the children who participated in various activities and are now using the interventions. Thanks to all the shopkeepers, medical personnel, street vendors, and road users who gave their contributions. A special thanks to all the local contractors who worked alongside the residents to turn the design into a reality. We thank Prof Camillo Boano and all participants to the DPU Summer Lab 2018 in Bar Elias “Public Realm and Spaces of Refuge”. Thanks to Principal Investigator Henrietta Moore and other Co-Investigators for their trust and the autonomy they granted us. Thanks also to our funder, the British Academy, for their support and willingness to fund an unconventional research project.

Table of Contents

1. Introduction

Key Objectives

2. The Team

Core Team

Citizen Scientists

Participating Institutions

3. Context

Bar Elias Within The Lebanese Context

Vulnerabilities In Lebanon And Bar Elias

4. Methodology

Working With Diversity

Community Participation In Humanitarian And Development Work

Participatory Action Research

Participatory (Co)Design And Power Relations

Citizen Science

The Process

5. Public Space In Bar Elias

Identifying The Intervention Site

6. Participatory Design And Diversity

Understanding The Site And Resident’s Vulnerabilities

Developing Solutions

7. Translating Ideas Into Design

8. Community Engaged Implementation

9. Learning

10. Conclusion

11. Bibliography

7

9

11

12

14

16

19

20

24

27

28

28

29

29

30

30

33

38

43

44

56

69

79

91

99

102



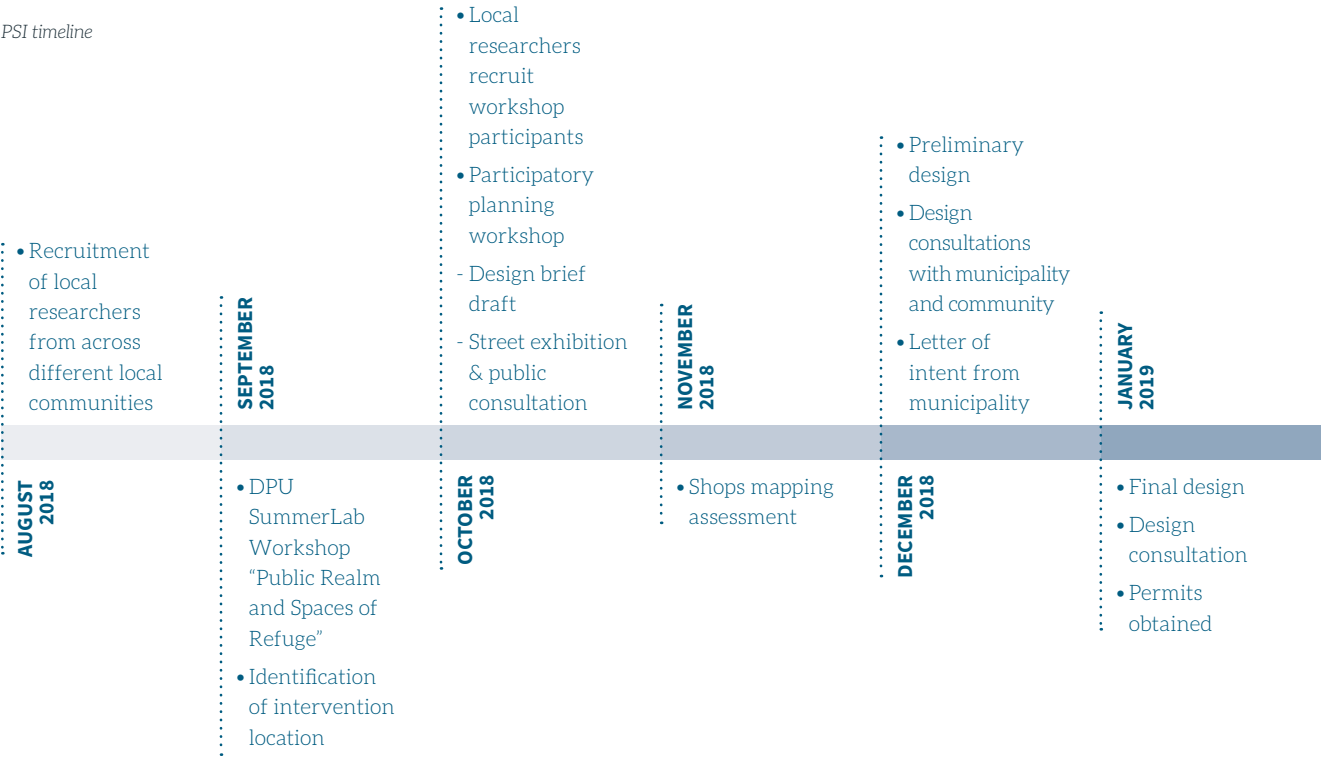
View of Bar Elias



Introduction

The Participatory Spatial Intervention (PSI) is a co-produced way to build capacity and generate knowledge through an experimental process aiming to have an impact on the sustainable prosperity of a locality. A physical spatial intervention is embedded in a participatory action-research process and becomes a catalyst for generating questions and activate local social processes. The PSI documented in this publication has been implemented as an activity of the project ‘Public Services and vulnerability in the Lebanese context of large-scale displacement’ funded by the British Academy’s Cities and Infrastructure programme. This work took place in Bar Elias, one of the most vulnerable localities in Lebanon (UNHCR, 2015), which hosts a large number of refugees and vulnerable populations, and faces a lack of access to basic services and livelihood opportunities. Throughout the process, we adopted a reflective approach by documenting our learning. This publication presents the process of implementing the PSI, its methodology, and our reflection as a way of sharing our experience of this collaborative research that took place between August 2018 and July 2019.

PSI timeline



I Key Objectives

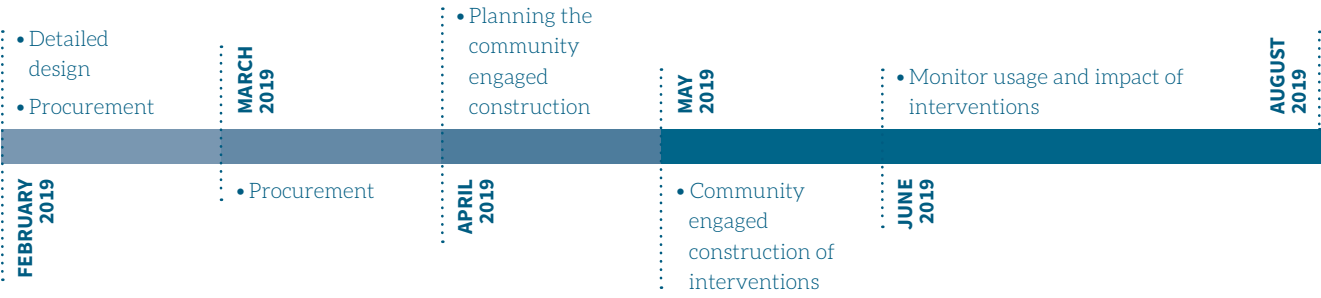
The PSI is a dynamic, transdisciplinary and collaborative venture, requiring anthropology, urban sociology, economics, architecture, engineering, education, social work and community development. The intervention’s ultimate aim is to reduce vulnerabilities and improve wellbeing of all residents. Throughout the process, residents (refugees and hosts) co-produced the city by helping us understand how wellbeing is constructed and negotiated, and how resilience is formed, imagined and practiced.

The PSI key objectives were:

- Researching forms of vulnerability and their links to infrastructure and distribution of services to different groups of residents of Bar Elias.
- Discovering and realising the ways in which different residents of Bar Elias can participate in the design and co-production of more inclusive and resilient infrastructure.
- Demonstrating how research can contribute to the development of innovative solutions to the challenges faced by local communities.

To achieve this, participatory design and participatory research methods were deployed with a focus on incorporating a diversity lens to explore intra-community inequalities across intersecting dimensions of people’s identities.

PSI timeline



Public providing feedback during street exhibition
(Photo by Hanna Baumann)



2

The Team

Core Team

The PSI was carried out as a partnership between the Bartlett Development Planning Unit (DPU) and the Institute for Global Prosperity (IGP) at University College London, CatalyticAction (CA) charity, and the American University of Beirut (AUB).

The team was led by Andrea Rigon (DPU) in partnership with CatalyticAction charity: Joana Dabaj, Riccardo Luca Conti, Giulia Galli and Ramona Abdallah; and involved Hanna Baumann (IGP); and Howayda Al-Harithy (AUB). The team worked together with seven citizen scientists, and involved many more residents in the activities.



Andrea Rigon
Associate Professor at UCL Bartlett
Development Planning Unit

andrea.rigon@ucl.ac.uk

His research work focuses on how power relations affect the participation of different people and social groups in decision making processes that have an impact on their lives. Concerned with processes of citizen participation at various scales from neighbourhood to global levels, he is particularly interested in how residents' participation is managed within urban development projects, particularly in informal settlements, and what its effects are on in/equality and social exclusion. Andrea has worked in the negotiations of the Sustainable Development Goals providing evidence from the ground to global policy making, and he is now involved in the efforts to localise this agenda at national level. He is a founder of the Sierra Leone Urban Research Centre in Freetown.



Riccardo Luca Conti
Co-founder and Executive Director
at CatalyticAction

Riccardo.luca.conti@catalyticaction.org

Riccardo is an architect and urban designer with experience in research, design and planning in different countries such as Lebanon, Kenya, Cambodia, Italy and UK. He holds an MSc from University College London (UCL) in Building and Urban Design in Development. He co-founded the project Mathare River in Nairobi where he also worked as researcher and field project manager. Throughout his career he explored and developed extensive experience in various people-centred design approaches.



Giulia Galli
Architect at CatalyticAction

giulia.galli@catalyticaction.org

Giulia holds an MSc in Architecture from Politecnico di Milano. Through her work, she aims to improve the living conditions of vulnerable communities focusing on sustainable development and human-centred design. In her recent experiences across different countries such as Italy, Chile and India, she developed several projects with a strong social impact, in collaboration with no-profit organisations and design firms.



Joana Dabaj
Co-founder and Principal
Coordinator at CatalyticAction

Joana.dabaj@catalyticaction.org

Joana is an architect, urban designer and researcher. She holds a Bachelor's degree in Architecture from the American University of Beirut and an MSc from University College London (UCL) in Building and Urban Design in Development. She has valuable experience in architecture in development, sustainable design, cultural heritage, migration and human rights in the Middle East. Her recent work revolves around working closely with displaced and host communities in Lebanon to develop inclusive educational spaces; this includes participatory planning, design and implementation of child friendly spaces, playgrounds, public spaces and schools.



Hanna Baumann
Leverhulme Early Career Fellow at
UCL Institute for Global Prosperity

h.baumann@ucl.ac.uk

Hanna completed her PhD on the infrastructures of im/mobility in East Jerusalem at the Cambridge Department of Architecture in 2017. Her academic background is in History of the Middle East and Refugee Studies and she has worked on urban and human rights issues in the Middle East and South Asia. Her current work examines the role of infrastructures in processes of urban exclusion / inclusion of non-citizens: How do public services influence urban politics on embodied, affective, and symbolic registers? How are collective claims made around the common goods distributed by urban networks?



Howayda Al-Harithy
Professor of Architecture and
Urban Design at the American
University of Beirut

hharithy@aub.edu.lb

Her current research conceptualizes urban recovery in relation to processes of historical editing, urban trauma, and protracted displacement. This research is advanced through her role as Director of the urban recovery platform at the Beirut Urban Lab and as a collaborator on the RELIEF project with the Institute for Global Prosperity at University College London. She is widely published with over 40 articles, book chapters, and reports in leading journals and refereed books. She is the editor of Lessons in Post-War Reconstruction: Case Studies from Lebanon in the Aftermath of the 2006 War (2010) and co-author of Post-war Recovery of Cultural Heritage Sites: Aleppo Taht Al Qalaa (2019).



Ramona Abdallah
Architect at CatalyticAction

ramona.abdl@catalyticaction.org

Ramona holds a Master's in Architecture from the Lebanese University, with a passion for merging architecture, activism and human-centred design. She is a founding member of Architects for Change. Her passion for gender equality and women's rights got her into representing MENA region at G(irls)20 Summit in Germany in 2017, where she voiced the stereotyping and discrimination against women in STEM fields and specifically in architecture; and to be chosen as a Women Deliver Young Leader in 2018.

I Citizen scientists



Amro Al-Mays (24 years old, Lebanese) has lived in Bar Elias since he was born. He is a lawyer with a Master's degree in Law from the Lebanese University. He wants his knowledge of the laws and regulations to benefit the people of Bar Elias.



Maysam Salah (31 years old, Syrian) has lived in Bar Elias for the past 3 years. She is a lawyer in Syria and works as a teacher in a school in Bar Elias. She wants to acquire new skills and engage in activities that would support Bar Elias and its host community as a whole.



Nour Hamadi (21 years old, Lebanese) has lived in Bar Elias since she was born. She is studying English Literature at the Lebanese University. She is interested in understanding more about the needs of young people in her town and come up with solutions.



Moayad Hamdallah (44 years old, Palestinian) has lived in Bar Elias since he was born. He has worked as accountant and trader. He wants to learn how to build a prosperous future that is inclusive to all local communities who are affected by mass displacement. He also wants to learn how to improve the town, focusing on services, education and economy.



Mehdi Al Homs (29 years old, Syrian) has lived in Bar Elias for the past 6 years. He has a Bachelor's degree in Social Sciences from the Lebanese University. He wants to use and improve his expertise and practice of social sciences. He also hopes to understand the different communities living in Bar Elias.



Asmaa Al-Hajj Khalil (19 years old, Palestinian) has lived in Bar Elias since she was born. She is studying Social Sciences at the Lebanese University. She wants to gain experience and be equipped to enter the work field after graduation.



Ali Al-Rhayel (26 years old, Palestinian) has lived in Bar Elias since he was one year old. He has a Bachelor's degree in anthropology and is currently enrolled in a Master's program in Social sciences at the Lebanese University. He wants to improve his skills and knowledge in order to contribute to Bar Elias development and infrastructures.

The team at the street exhibition



The team enjoys the structure they built



I Participating institutions



CatalyticAction is a charity and design studio that works to empower communities through strategic and innovative community-led interventions. Our story began in 2014, when we supported refugee children in Lebanon through the provision of safer and stimulating educational spaces. Today, we are still working with the most vulnerable communities around the MEA region and Europe to improve and together shape the quality of their built environment. We focus on our process rather than just the final product. To enhance community resilience, we adopt three interconnected phases throughout the development of each project. Our work aims at alleviating poverty and inequalities, catalysing positive change. CatalyticAction is shortlisted for the prestigious Aga Khan Award for Architecture 2017-2019 cycle, and bronze winner of the Regional LafargeHolcim Awards 2017 Middle East Africa.

www.catalyticaction.org



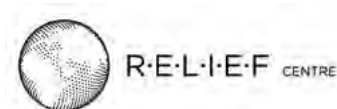
The vision of the **Institute for Global Prosperity (IGP)** is to help build a prosperous, sustainable global future, underpinned by the principles of fairness and justice, and allied to a realistic, long-term vision of humanity's place in the world. The IGP is an institute of the Bartlett faculty at University College London. The IGP undertakes pioneering research that seeks to dramatically improve the quality of life for this and future generations. Its strength lies in the way it allies intellectual creativity to effective collaboration and policy development.

www.ucl.ac.uk/bartlett/igp



The **Bartlett Development Planning Unit (DPU)** conducts world-leading research and postgraduate teaching that helps to build the capacity of national governments, local authorities, NGOs, aid agencies and businesses working towards socially just and sustainable development in the global south. We are part of The Bartlett faculty, ranked the world's top institution for built environment subjects in the renowned QS World Ranking. The DPU has over 65 years of experience in academic teaching, research, policy advice and capacity building in the field of international development. As part of its mission to build the capacity of professionals and institutions, the DPU undertakes a range of action-oriented work with partners in different parts of the world. Regular contact with policy and planning practice through capacity building and advisory work is viewed as an important part of challenging and developing the theoretical and methodological debates pursued in our teaching and research.

www.ucl.ac.uk/bartlett/development



The **RELIEF Centre** is a centre for research and learning focused on inclusive growth and prosperity of Lebanon in particular, but is also part of a larger agenda for developing sustainable ways to improve the quality of life of people throughout the world. The RELIEF Centre brings Lebanese and UK institutions and expertise together to address this challenge using cutting-edge research and innovation.

www.relief-centre.org



University College London is London's leading multidisciplinary university, with more than 13,000 staff and 42,000 students from 150 different countries. Founded in 1826 in the heart of London, UCL was founded to open up education to those who had previously been excluded from it. UCL's founding principles of academic excellence and research aimed at addressing real-world problems continue to inform our ethos to this day. UCL is consistently ranked amongst the top 10 universities in the world.

www.ucl.ac.uk



The British Academy is the UK's national body for the humanities and social sciences – the study of peoples, cultures and societies, past, present and future. The academy's Cities & Infrastructure Programme funds interdisciplinary research projects that address the challenge of creating and maintaining sustainable and resilient cities, with the aim of informing relevant policies and interventions in developing countries. The programme is run as part of the Global Challenges Research Fund.

www.thebritishacademy.ac.uk



American University of Beirut was founded in 1866 and bases its educational philosophy, standards, and practices on the American liberal arts model of higher education. A teaching-centred research university, AUB has around 800 instructional faculty members and a student body of around 8,000 students. The University encourages freedom of thought and expression and seeks to graduate men and women committed to creative and critical thinking, lifelong learning, personal integrity, civic responsibility, and leadership.

www.aub.edu.lb

Front yard of a house in Bar Elias (Photo by Sara Monaco)



Context

Bar Elias Within the Lebanese Context

The town of Bar Elias is located in the Zahle district, Beqaa governorate of Lebanon. It is known for its strategic location halfway between the Lebanese capital Beirut and Syria's capital Damascus, lying only 15 kilometres from the Syrian border. The Beirut-Damascus International highway passes through Bar Elias, creating a bustling commercial spine that made Bar Elias an important commercial hub. The municipality stretches over an area of 35 square kilometres, predominantly agricultural lands.

Bar Elias municipality has welcomed displaced Syrians since the start of the Syrian Civil War in 2011, given the town's close proximity to the Syrian border, existing social and familial networks, and the Sunni religious affiliation. This has put pressure on infrastructure and services. Bar Elias has witnessed rapid transformations and struggled to respond to the needs of the different communities living there.

Due to Lebanon's policy of non-encampment, refugees are not settled in formal camps. Only fifty percent of refugee households in the Beqaa area live in residential housing, while 38% live in informal tented settlements (ITS), and 12% in non-

residential shelters. The ITS have proliferated in Bar Elias's agriculture fields, which host 109 of them, varying in size and spatial configurations, where Syrians face substandard housing with limited space (UNHCR, 2016).

Overall, tensions between hosts and refugees appear to be comparatively low in Bar Elias, especially given the high proportion of Syrian residents. According to the current Mayor, Bar Elias has a long history of existing relationships with Syrians, which reduces conflicts (Bar Elias mayor Interview, 2018). For example, the municipality has not enforced any curfews on Syrians as done by other municipalities in the area. It merely restricts the use of motorbikes (primarily used by Syrians), and occasionally confiscates them to reduce noise pollution. A 2017 survey about Lebanese-Syrian relations in Bar Elias revealed a difference in the perception of encounters between neighbours and with strangers, and also noted variations according to the respondents' age. Several Syrians also reported racist attacks, including verbal abuse and beatings, in public spaces (Ullrich, 2018).

Lebanon regional map (Google Earth)



Satellite image of Bar Elias with municipal boundary (Google Earth)



Lebanon map showing Bar Elias, Beirut and Damascus



Bar Elias Population

Reliable demographic information is difficult to obtain in Lebanon. A recent publication (Ullrich, 2018) cites the following population for Bar Elias: 60,000 to 70,000 Lebanese, between 31,000 and 45,000 Syrian refugees and 7,000 Palestinian refugees. According to UNHCR, Bar Elias had only 31,505 registered Syrian refugees as of February 2018 (UNHCR, 2018)- but it should be noted that a large proportion of Syrian refugees are not registered. According to a publication by SaferWorld and LCPS (2018), Bar Elias hosted 60-70,000 Lebanese, 30-45,000 Syrian refugees and 5,000 Palestinian refugees in April 2018. Despite the differences between these numbers, they all indicate a massive and rapid influx of new Syrian refugee population in the town.

**60,000
to 70,000**
Lebanese

7,000
Palestinian
Refugees

**31,000
to 45,000**
Syrian
Refugees

31,505
Registered
Syrian
Refugees

Bar Elias old center



Agricultural fields, industries and scattered houses of Bar Elias



Informal tented settlement and agricultural fields in Bar Elias



Urban expansion of Bar Elias



Vulnerabilities in Lebanon and Bar Elias

Despite vulnerability being an increasingly common term in the humanitarian field in general (Sözer, 2019), and in the international response to the Syrian refugee crisis in Lebanon in particular (Janmyr & Mourad, 2018), various agencies define vulnerability differently depending on their mandate – or not at all. We use here the general definition of ‘an increased susceptibility to future harm’. Infrastructures and the services they facilitate can both enhance capacities and lower susceptibility to such harm, be it related to health or social factors, or heighten the threat of this harm. As they create an interdependence between various users of the network of public services, they also highlight the relational nature of vulnerability.

In Lebanon, humanitarian agencies track a range of vulnerabilities among Syrian refugees. Chief among them is refugees’ precarious legal status and (resulting) lack of income and threat of forced return. In terms of infrastructural vulnerabilities, adequate shelter (including security from the threat of evictions), access to drinking water and sanitation facilities, education and health care have been largely covered by the humanitarian response (UNICEF, UNHCR & WFP, 2018).

While agencies have a range of tools to assess different forms of vulnerability, it has been noted that those groups not included among the ‘generic’ vulnerability criteria – such as able-bodied, single men – often do not receive sufficient protection and are subject to additional vulnerabilities (IRC, 2016).

Both government statements and residents’ opinions reflect the sense that infrastructural services are overstretched because of the presence of refugees (Fakhoury, 2017; ARK, 2017). This is despite the fact that infrastructural services have been insufficient in Lebanon since the end of the Lebanese civil war (Verdeil, 2018) and that 1.5 million vulnerable Lebanese are also supported through the international humanitarian response. There is a sense that Syrians working in the informal sector undercut low-wage jobs (Christophersen et al, 2013, see also Al-Masri, 2017) as well as a sense of alienation at cultural transformation (Ullrich, 2018).

The Beqaa Valley has the highest number of vulnerable refugee households by a variety of different measures. Here, close to half of all refugee households reside in non-permanent shelters or informal tented settlements, and it hosts the

highest percentage of households living in inadequate shelter conditions (UNICEF, UNHCR & WFP, 2018).

Bar Elias is considered among the 251 most vulnerable localities in Lebanon; it is also considered to be under ‘high pressure’ due to the high ratio of refugees to hosts (UNHCR, 2015). In a survey with over 1,000 respondents, access to water emerged as a major vulnerability for both Lebanese and Syrians in Bar Elias. Lebanese residents also highlighted infrastructure, roads, asphalt, sewage overflows, and the pollution of the Litani river. According to these accounts, the Bar Elias landfill, which collects waste from other towns,

also adds to environmental toxicity (Ullrich, 2018). Waste, and especially pollution from the Litani river is a major issue affecting not only the food sector and increasing diseases according to residents’ accounts, but also affects evictions of ITS, which are considered a source of pollution by authorities (El Amine, 2019). While electricity supply is generally reliable in the Bar Elias area, not all of the over 100 ITS around Bar Elias have access 24 hours per day.

Vulnerable children collecting recyclables from rubbish in Bar Elias city center (Photo by Sara Monaco)

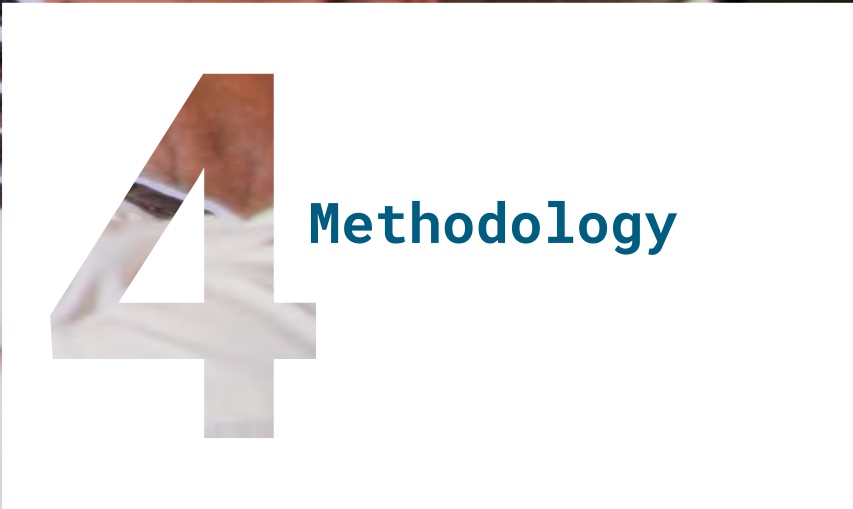


The living and sleeping space of a Syrian family in an unfinished building in Bar Elias



An informal tented settlement for Syrian families in Bar Elias city center

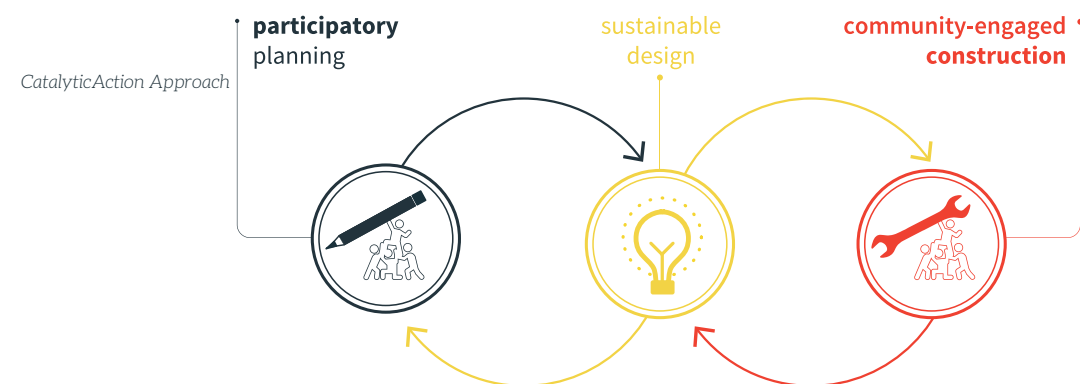




While methodology is a major focus of this entire publication, this section briefly reviews some of the participatory approaches that we have built upon. They share a number of elements, but we present them separately for analytical clarity although our work is based on a synthesis of these. Each one of them is often understood in slightly different ways within different disciplines and there are complex epistemological and methodological debates underpinning them. However, we focus only on the aspects of these methodologies that are relevant to our work. We start with an introduction on diversity and intersectionality which will introduce the concepts we need for a critical engagement with participatory approaches.

Working With Diversity

We all have multiple simultaneous identities: such as gender, class, race and ethnicity, citizenship status (legal status), age, ability, and sexuality. Some of these are individual and other collective, and they are fluid, and in constant change (Bauman, 2000; Jenkins, 2008). A fundamental way to understand how these identities shape different experiences, needs and aspirations is the concept of intersectionality – that is, how the combination of multiple dimensions of identity creates unique experiences of oppression/discrimination. Different aspects of individual and collective social identities play a crucial role in social processes, shaping life chances. The relationships between these different identities are intertwined with power. There are consolidated hierarchies and power relations amongst these identities, which makes them relational: such as between men and women, black and white people, etc. These unequal relations between identities contribute to inequalities and marginalisation processes. But these identities and the relationships between them change in different contexts and over time, which means they are socially constructed, and thus they can be socially deconstructed. Therefore, addressing these inequalities requires a relational, contextual and intersectional approach focused on transforming power relations that are at the core of social identities, making the recognition of diversity a political process.



Community Participation in Humanitarian and Development Work

In the 1980s, the failure of large-scale, state-driven, and top-down approaches – which ignored the priorities and needs of the poor – opened a debate on participatory development with the idea of putting the last first in the planning of development interventions. The key idea was to learn from the poor, who are the experts regarding their complex social realities, in order to design more appropriate programmes. Within humanitarian assistance, participatory approaches were also conceived to turn passive recipients of aid into active agents in charge of shaping their own futures.

A number of criticisms have been raised about how participatory methodologies have unwittingly built upon pre-existing power structures, often reinforcing them to the advantage of the ‘learning elites’. These learning elites are formed by local people who have learnt how to manage the discourse of participation, and are able to exploit these skills to gain (or maintain) privileged access to development resources.

Citizen scientists during their training in August 2018



An important problematic issue relating to participatory approaches is their often-idealised view of harmonious ‘natural’ communities, a view which suffers from a lack of understanding of power structures. Participation is the outcome of a political process influenced by participants’ inequalities in terms of access to resources and power. Under some conditions, participatory processes can also have an emancipatory potential which may ‘enable those excluded [...] to exercise agency through the institutions, spaces and strategies they make and shape for themselves’ (Cornwall, 2002). It is in this context that a diversity lens became a central concern of this team in the attempt to create participatory methodologies capable of dealing with local power imbalances.

Participatory Action Research

Participatory action research seeks to transform power relations by challenging conventional processes of knowledge production. It is a process used by people who try to collectively address issues within their communities and organisations. Cycles of research, action and reflections are deployed to engage with issues that are significant for those who participate in the process and become co-researchers. Such an approach breaks false positivism by acknowledging the importance of the perspectives of the co-researchers in understanding their reality and acting. The outcomes of such research are strongly shaped by the group of participants in the process.

Participatory Co-Design and Power Relations

Participatory design or co-design builds on key elements of participatory action research. Through the research process, participants iteratively construct the emerging design which constitutes the research results. At the same time, this process produces more findings through the participants’ co-interpretation and use of results and designs. The process uses participants’ tacit knowledge to explore invisible issues. In the urban context, participatory design builds on the assumption of the social production of space and thus mobilises social relations to rethink about space production. Another important aspect is participatory design ‘as community building’ (Frediani, French, & Ferrera, 2011), building new relationships, mutual understanding, and collective knowledge. In the process, participatory design builds the capacities of residents to work together to analyse their social reality, imagine a different scenario, and plan for it. However, a number of questions remains open, especially what capacity, whose capacity, and capacity for what purpose processes of participatory design can build. To avoid the process of participatory design reinforcing specific voices and further expanding the capacity of dominant local individuals and groups, we have adopted a diversity lens in the building of the process. This meant ensuring the involvement of diverse groups, but also to work with a group of residents on the issue of diversity.

Citizen Science

Citizen science is an approach to research closely linked to, and inspired by, the principles of participatory action research. It is based on the belief that collaborative research creates more meaningful outcomes, both for the academy and the communities involved. This approach abandons the distinction between “producers” and “consumers” of scientific knowledge, attempting to bring about an “inquiring society”, where participation in (and scrutiny of) scientific research is open to all. Citizen Social Science based approaches can help address un(der)-researched areas and gather data that may otherwise go unrecorded or ‘unnoticed’. This involves training a group of residents to become co-researchers. As in participatory action research, their involvement is not limited to data collection, but they help frame the questions and analyse the results.

While working in Bar Elias in Arabic, the term “local researchers” was used instead of “citizen scientists” to avoid confusion, since Lebanese citizenship was not required to participate. In fact, including the voices of displaced people and non-citizens was essential to our approach.

Citizen scientists engage in design thinking



The Process

The first phase of the PSI was the recruitment of citizen scientists, carried out by CatalyticAction, following an open call disseminated amongst key local stakeholders and organisations, including the municipality of Bar Elias and Nasser club. Thirty-five applications were reviewed, eighteen candidates were shortlisted for interviews and seven local researchers were selected. They are men and women from Lebanese, displaced and refugee communities: 3 Palestinians (1F, 2M), 2 Syrians (1F, 1M) and 2 Lebanese (1F, 1M).

Citizens scientists were trained throughout the different phases of the project through the activities and the specific training sessions. The box presents key areas of training.

Training for citizen scientists included:

- Social research: definition, process, role of a social researcher.
- Participatory research: definition, process, challenging power relations.
- Citizen Social Science: definition, process, role of the citizen scientist.
- Research methods: qualitative and quantitative, interview types, participatory mapping, street surveys, observation.
- Research ethics: informed consent, good practice, data management, assessing risk.
- Key definitions: public spaces, infrastructure and vulnerabilities.
- Design thinking and human centred approach: learning and practicing.
- Working with social diversity and power relations: Intersectionality understood through activities.
- Spatial thinking: site visits, worldwide examples, discussions.
- Public engagement: obtaining feedback from residents and stakeholders, public exhibition.

Throughout the process citizen scientists were asked to challenge existing power relations by ensuring that all voices are taken into consideration and constantly reflecting on these questions:

- Is there any group who is affected / has a stake into this process but is not part of the research process?
- Why are they not part of it?
- What strategies can we adopt to ensure they have a say in the process?
- How do we ensure all participants in this process have equal opportunity to express themselves and shape the process?

The work with citizen scientists took place in three interconnected phases: participatory planning, sustainable design and community engaged construction. These are part of an approach that CatalyticAction has deployed across different projects and focus on achieving the following six CatalyticAction core values:

1. Revealing and enhancing community knowledge, culture, needs, visions, aspirations and skills.
2. Transferring participatory tools for just decision-making processes.
3. Transferring context-appropriate technology, skills and innovative design solutions.
4. Generating livelihood opportunities.
5. Supporting local businesses by prioritising the use of local materials and labour.
6. Enabling equal engagement in decision-making processes among all community members.

This approach enables the local community to develop a sense of ownership towards what they have envisioned, designed and built collectively. This approach also ensures long-term maintenance of the intervention as the community has full knowledge of the project details (how it was built, where the materials were purchased, etc.), and hence is able to carry out maintenance without external input. Adding to this, community cohesion can be strengthened through a meaningful participatory approach.

Citizen scientists learn about mapping





Public Space in Bar Elias

The entrance road to Bar Elias identified as the site of intervention

During the initial training workshop with citizen scientists, the town's public garden was the only place citizen scientists considered to be a public space in Bar Elias. In the discussion, the following UNESCO definition was used: 'Public space refers to an area or place that is open and accessible to all people, regardless of gender, race, ethnicity, age or socio-economic level.' A range of different examples of public spaces from around the world were examined and prompted citizen scientists to think of other public spaces in Bar Elias.

The loss of public space was a key theme in the discussions with the citizen scientists who spoke of the loss of important public spaces following the transformations of Bar Elias over the years. The Litani river bank used to be a public space for everyone, as we learned: the water was clean, children and adults swam there, but unfortunately now the river is extremely polluted. When drinking water was abundantly available, water points used to bring people together, but now they are no longer functioning. With a more densely populated town, following the influx of Syrians, the use of the space has changed. A shop owner recalled how he used to sit in front of his shop on the sidewalk and put out extra chairs for people to join him, but now he has removed these chairs because the sidewalk is too busy and he no longer enjoys sitting outside because "everything and everyone has become unfamiliar".

The use of public spaces is shaped by specific aspects of identity as spaces are appropriated differently by different groups. Social class is a very important determinant of public

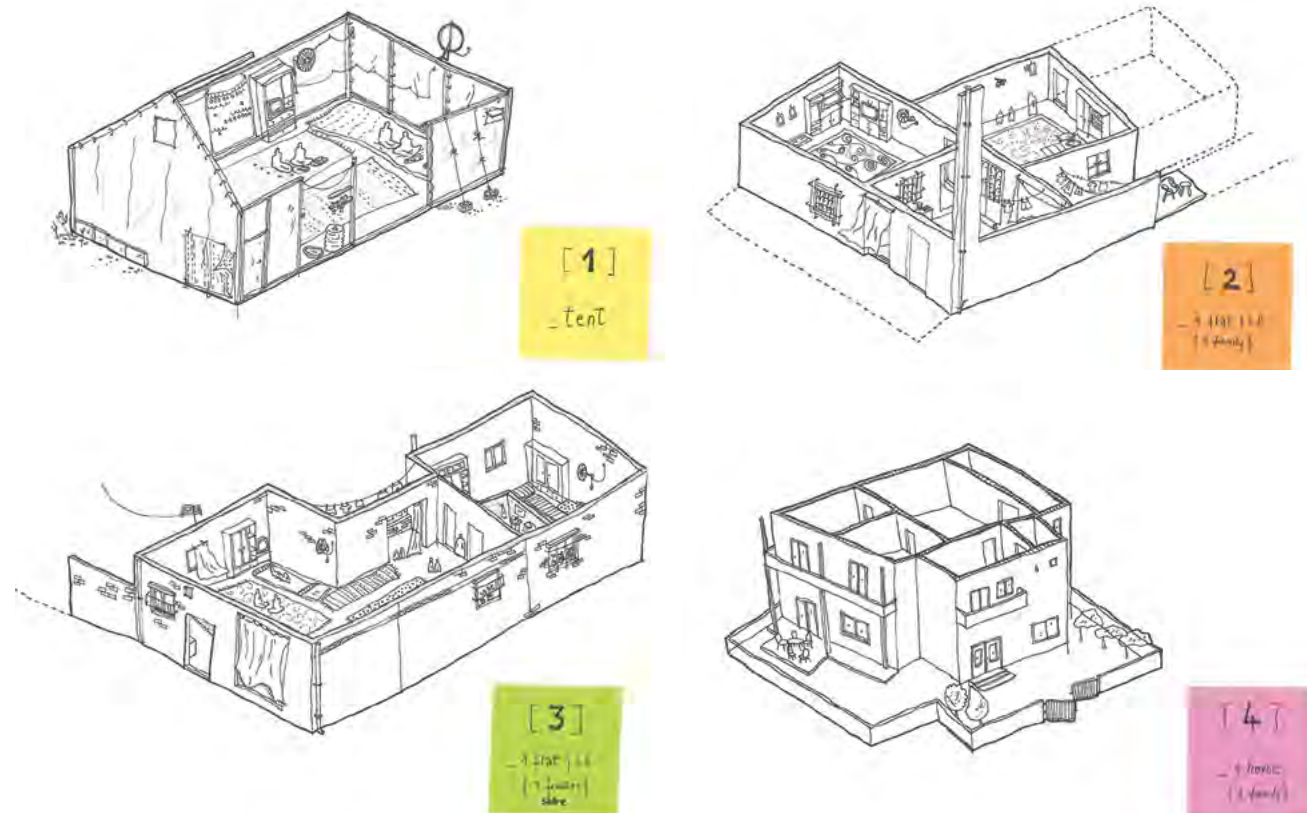
space use. The activities that happen in public spaces are also affected by the time of day and weather conditions. On a hot summer day, people may not use a space if it is not shaded, while it is used during the evening. People's individual living conditions also shape the use and need to use a public space. For example, a Syrian family living in cramped dwelling in an informal tented settlement or small rented apartment doesn't have any space to socialise even amongst family members; therefore, access to a public space is crucial. On the other hand, a Lebanese family who has a courtyard in their house tends to use this private space to engage in social activities rather than going out to a crowded public garden.

One week was dedicated to the exploration of public space in Bar Elias through a DPU field workshop called the DPU SummerLab Bar Elias "Public Realm and Spaces of Refuge", led by Joana Dabaj (CA) and professor Camillo Boano (DPU), with the participation of the citizen scientists as well as a number of other national and international participants.

DPU SummerLab national and international participants are:

Natasha Rassi, Malak Rahal, Ramona Abdallah, Stephanie Abi Chakra, Yuchu Luo, Matilda Leong, Laura Nicula, Sara Monaco, Raphael Chatelet and Nikolette Watson-Puskas.

People's living conditions shape their needs for public space (Drawings by Laura Nicula)



SummerLab participants during the visit to Bar Elias public garden



SummerLab participants presenting their research and proposals (Photo by Sara Monaco)



Bar Elias citizen scientists identified and researched public spaces, and organised a visit to share their findings with the DPU SummerLab workshop participants. Divided into groups, workshop participants investigated public spaces and the vulnerabilities of different communities related to each space. Four public spaces chosen to represent different types of spaces, scales and locations were analysed. The table below summarises these initial scoping activities.

PUBLIC SPACES PRELIMINARY ANALYSIS
Local Researchers

SPACE	USE	PRIMARY USERS
1. A section of the incomplete Pan-Arab highway	Adapted for recreational car and motorcycle racing activity every Sunday.	Young men of all nationalities
2. The empty public lands “bayader”	Illegal Parking. Football area.	Truck drivers and children
3. The old town’s square near the old cemetery	Historically an important celebrations square. Now a meeting space for different communities visiting the old cemetery	Residents and visitors
4. Bar Elias public garden	Used for recreation mainly by Syrians during the night.	Syrians families
5. The municipal football field	Football games and big celebration events.	Young men of all nationalities
6. Empty pockets inside and between informal refugee settlement	DIY play spaces, meeting points and celebrations.	Displaced Syrians
7. Streets and sidewalks	Market area, board games, meeting points, resting.	Different users of all nationalities
8. A playground by the Litani river	Scouts and structured play activities.	Children of all nationalities
9. An empty land in a residential neighbourhood	Zoned as public park but currently badly used as dumpsite.	Residents of the neighbourhood
10. The derelict public garden	Passage point and unsafe football area. Destroyed with the MSF hospital and Polyclinic construction.	Shop owners and residents nearby

PUBLIC SPACES INVESTIGATED
DPU Summerlab Workshop



The old town’s square near the old cemetery

- Christians and Muslims are living in the neighbourhood.
- There is a memory of the visual identity of Bar Elias that only the residents of this neighbourhood value.
- The accessibility to the city centre is not easy, the expansion of the city affected the way the city centre is used and accessed.
- The main people living in the city centre are the locals with few newcomers.
- Do we want to activate the space with its people? Or we want to bring other people to this space?
- What is the perception of the people outside the city centre of the city centre?



Bar Elias public garden

- This public garden is mainly used by the Syrian communities and at night. Lebanese and Palestinian people use it but rarely and do not use the same spaces used by the Syrians.
- There is a lack of facilities in the garden for instance there are no bathrooms, limited playground items, and no shade.
- The guardian of the space plays an important role as many people do not go there because he is a strange person, appointed by the municipality.
- The municipality organises events and activities but they are directed to certain groups, so it is important to activate the space in activities that would reach the different communities and not only one.
- The accessibility to this park is weak, it has only one entrance gate that is not easily visible. It is also not very well connected to the main hubs of the town.



Empty pockets inside and between informal refugee settlement | Streets and sidewalks

- People appropriate the spaces, they bring their own chairs, board games and coffee.
- The uses of public spaces depend on social class.
- The street typology affects the use of its space and activities. The sidewalks are very important.
- During the day, people need purpose to go out especially when it is hot during the summer. Shade is very important during summer. At night the streets are more active, people walk around after work and children play.
- In informal settlements, people appropriate the spaces between the tents.
- The only spaces of interaction between the two neighboring settlements are in shops or for the men when they play football.



An empty land in a residential neighbourhood

- It is important to understand the legal framework and for the people to know their rights, therefore to be able to advocate for their right to a clean environment, to rest and have access to recreational facilities.
- In order to take ownership of the space, organised governance is important to benefit from the space and manage it.
- One key issue was if this was turned into a public space, would it only be used by the residents or also the larger Bar Elias community?
- It is important to activate the space in a series of participatory events, where the different voices are heard in deciding the future of the space.

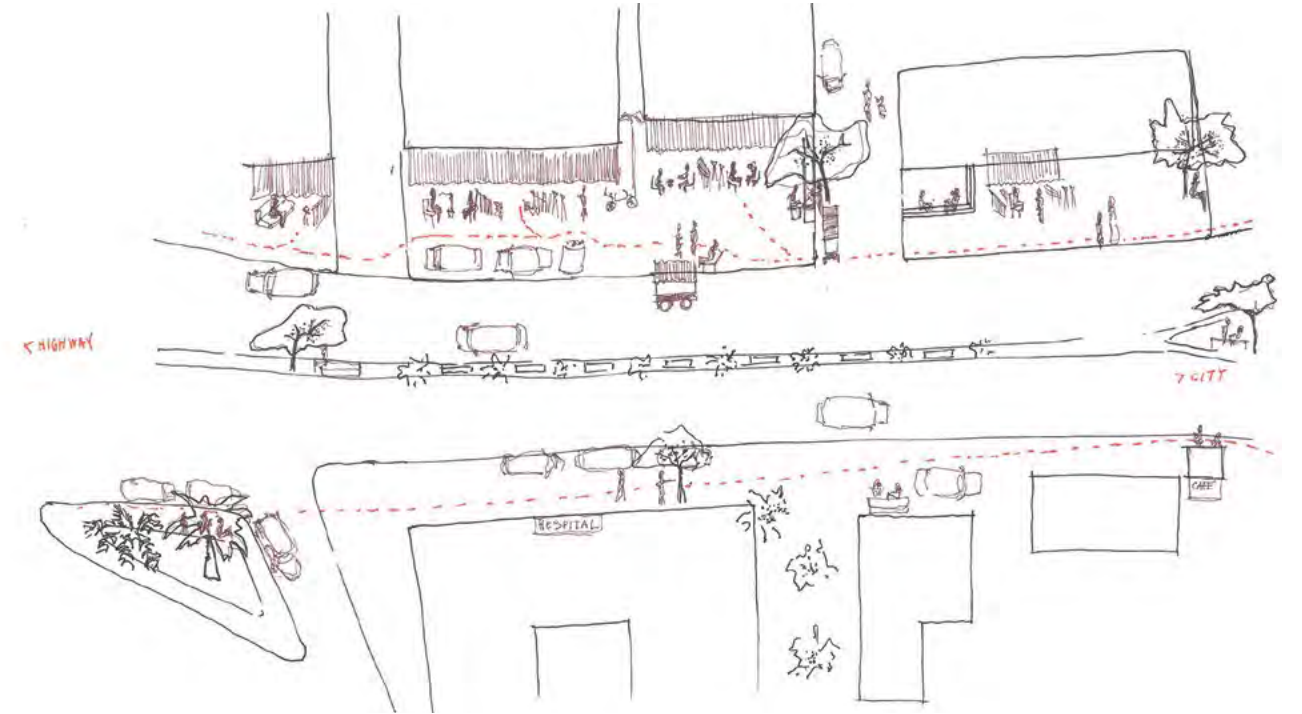
Identifying The Intervention Site

Reflecting on the outcome of the DPU SummerLab, the PSI team identified the entrance road to Bar Elias as one of the few public spaces used by most Lebanese, Palestinian and Syrian residents and visitors. Considered to be the main entrance road to Bar Elias, leading from the Beirut-Damascus highway to the city centre, this area therefore became the focus of the following project activities. The municipality building used to be located on this road, which is still an important social hub actively used at different times of the day. In 2018, a hospital managed by Médecins Sans Frontières (MSF) opened next to a rehabilitated polyclinic, both serving different communities living in Bar Elias and neighbouring towns. On both sides of the road, there are shops run by Lebanese, Syrians and Palestinians, selling different goods such as clothes, shoes and food items, making the road an important marketplace. There is also a pharmacy, an office of a mukhtar (a local elected official), and a car repair shop. Above of the shops, there is residential housing. The wide sidewalks are a key feature of this road, where most social interaction takes place.

Intervention site and its surrounding (Google Earth)



A sketch of Bar Elias entrance road (Sketch by Sara Monaco)



The entrance road to Bar Elias from the Beirut-Damascus highway



A sketch section of Bar Elias entrance road (Sketch by Sara Monaco)



Médecins Sans Frontières (MSF) hospital opened in Bar Elias in 2018 (Photo by Sara Monaco)



Clothes shop along the road



The wide sidewalk of the main entrance road to Bar Elias very busy at night (Photo by Sara Monaco)



Taxi driver sitting in the shade of a tree





Participatory Design and Diversity

The key activity to shape the intervention was a participatory design workshop, delivered as an intensive 6-day process facilitated by the PSI core team with the participation of the seven citizen scientists and 12 other participants, as well as the engagement of additional residents in specific activities. In discussion with the team, citizen scientists helped identify the 12 other members to ensure the creation of a group representing the diversity of Bar Elias residents across a number of dimensions, including nationality, gender, age and socio-economic status. These 12 participants ranged from 19 to 65 years of age, two were Palestinian (2F), four Syrian (2F, 2M), and six Lebanese (3F, 3M).

The workshop took place in a community centre located adjacent to the site of the intervention, with many sessions happening along the intervention site, as well as one site visit to another project.

Initial ideas...

- The need for a place to rest in the shade, with shelter from sun and rain;
- The lack of a pleasant and shaded waiting area outside the polyclinic; the lack of ramps for people with disabilities and baby strollers;
- The desire for plants, flowers, herbs that people can eat;
- The use of recycled items to create the public space, and raise environmental awareness.

Understanding the Site and Resident's Vulnerabilities

The participants were introduced to participatory design and spatial interventions through the discussion of a wide range of examples from around the world. Each example showed how the intervention was an answer to specific needs, how it allowed different activities to happen, created a specific impact in its context and time, and worked differently for different individuals and groups. Participants reflected on how the principles underpinning some of the examples might work in Bar Elias. In particular, the group considered the potential impact of any change on different individual and groups and on the relationships between them and brainstormed some initial ideas. Participants discussed how each intervention could adversely affect some people, while advantaging others.

The participants were divided into three groups, with each assigned a different research method – space use observation, participatory mapping and semi-structured interviews – to initiate the study of the site of intervention and residents' vulnerabilities at various scales.

Prior to field application of the research methods, each group tested their method. After a stint of data collection, each group met to reflect on how best to reach a diversity of research participants, particularly in terms of gender, age, nationality, and ability but also occupation and relationship with the road (e.g. passer-by, shop owner). They discussed ethical issues arising from the engagement, as well as providing feedback to each other, for example on appropriate interview techniques.

The first group carried out a space use observation to better understand the way the road was used, focusing on three key points along the road: the intersection with the Beirut-Damascus highway, the 'triangle' island where taxis wait, and the Clock Tower. Observations on who used a space (gender, age, ability), and for what purpose (shopping, health appointment, school attendance) were recorded over a half-hour period in the morning and one in the afternoon.

Temporary floor games facilitate creative patterns of use in Istanbul Turkey (2014) (Photo credits: Municipality of Esenler)



A playground fostering community cohesion through play spaces in Ghazze, Lebanon, 2017



Bus stop adding fun to a daily act in Baltimore, USA, 2014 (Photo credits: Studio mmm...)



Participatory mapping allowed the second group to better understand the key spaces of Bar Elias's entrance road and to initiate conversations with residents and passers-by about infrastructural vulnerabilities. By looking at a large satellite map of the road, the interviewees discussed their use of the space (frequency and reason), mapped any changes to the space, as well as expressing what they liked and what they did not. Moreover, those interviewed located themselves on a larger-scale satellite map of the entire town, which allowed the group to reflect on the relation between the place people lived and their use of the road.

The third group carried out semi-structured interviews with shopkeepers, residents, and passers-by to understand peoples' vulnerabilities in Bar Elias and the impact of infrastructures on their lives. The group interviewed people inside their shops as well as on the road moving from the clock tower until the Beirut-Damascus highway intersection.

Each group analysed their results and shared the findings with the wider group in an iterative process to understand the site in depth.

The entrance road to Bar Elias is...

- Accessible for everyone, free of charge, an important place for all, a connection point, a landmark, a gathering for taxi drivers and workers, shop owners and shoppers, a place that represents the transformation of Bar Elias, main entry to the city, where to get a taxi.

We use the road to...

- Buy clothes, pass through to access other places, visit the polyclinic, visit the Mukhtar, go to the bank.

(Analysis of views of residents approached through participatory mapping)

OBSERVATION

In the Morning:

- Very little interactions or activities happening on the road during the morning.
- More men in the morning, presumably because they were labourers en route to work, whereas women carried out childcare duties in the afternoon.
- Many children begging on the road.
- Vehicles go against the traffic.
- There is a policeman standing at the intersection with the Beirut Damascus highway, while there is no traffic.
- There is a small number of street vendors and they move with their trolleys following the shade.

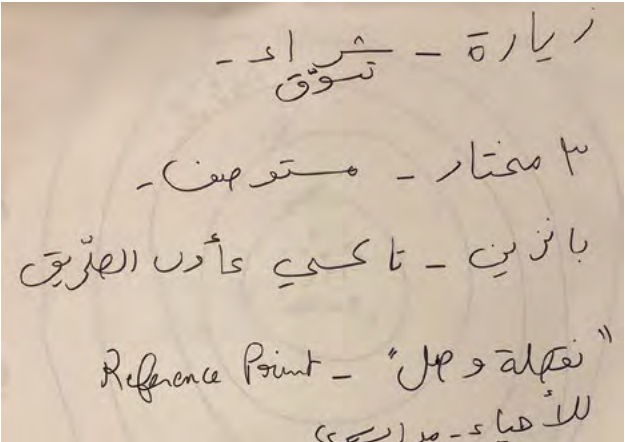
In the Afternoon:

- A lot of interactions are happening on the road.
- People use the sidewalk for leisure, for example to drink tea with friends.
- The road looks more chaotic: people cross the street randomly, the road is used in an unorganised manner: a horse on the street between the vehicles, cars drifting, etc.
- At least 2 beggars with physical disabilities using wheelchairs.
- Heavier road traffic in the afternoon with no policeman.
- A higher number of street vendors stop along the sidewalks to sell their goods: nuts, household goods, plants, etc.
- Some shop owners are annoyed with the drivers who play loud music from their cars and turn around in loops.

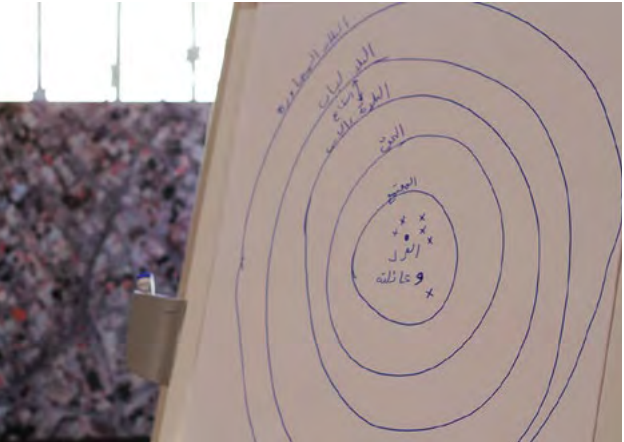
Space use observation (Photo by Hanna Baumann)



Brainstorming on the uses of Bar Elias entrance road



Different scales of research (Photo by Hanna Baumann)



Workshop participants presenting their findings



Cars parked on the sidewalk in front of the polyclinic



Pedestrians walking in the middle of the street



Pedestrians crossing the street and putting themselves at risk



Street vendor at night along the sidewalk (Photo by Sara Monaco)



Space use observation: Along the road from the intersection with the Beirut-Damascus highway until the clock tower, there is a large number of obstacles to pedestrian mobility and inadequate safety measures were observed and discussed, making mobility and pedestrian safety key elements to the understanding of the site. Pedestrians are crossing the streets at different points, vehicles drive against the traffic, children and people with disabilities are begging on the street, pedestrians walk on the road, and cars are parked on the sidewalks. Also, the time of the day and the year is a key factor that impacts the activities happening along the road because of the changing weather conditions. In summer, the sun is very strong during the day, while the evening is cooler with a pleasant breeze. In the winter, the weather is very cold with rain and snow.

Through the participatory mapping, we understood that most people visit the street daily: some choose to walk, others have to walk through the space. The road represents a connection place to leave or enter the town. The road is used as a shopping destination by everyone and it is busiest during holidays. A number of Lebanese and Palestinians interviewed presented a narrative of chaos and disorder as a result of urban changes and the rapid increase in population. They highlighted garbage dumped on the road, and badly parked vehicles and, while they acknowledged some improvements, they wished the road to be more organised and greener. Most interviewed people expressed the same needs for a place to sit, some shade, and organised shops. Syrians liked the road because it is safe and nice, while all Lebanese and some Palestinians who were born in Bar Elias felt a strong attachment with their town and this road.

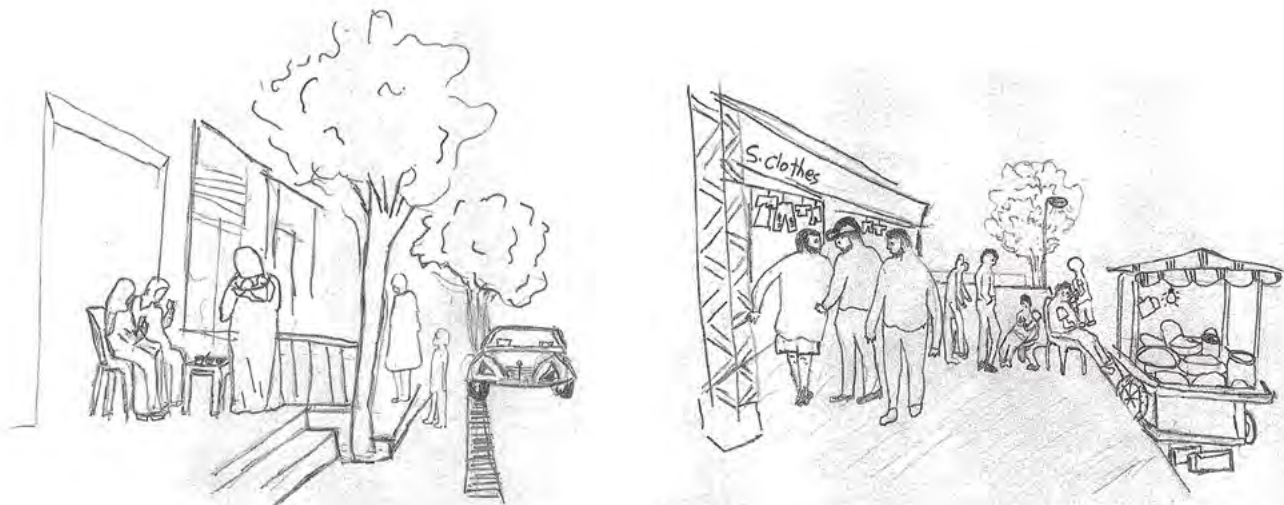
Main themes emerging from interviews on vulnerabilities in Bar Elias

- Three recurring areas emerged while discussing problems in Bar Elias: environmental, social, health and mental wellbeing.
- Bar Elias does not have the capacity to deal with the high number of people living there and solve all their problems.
- Syrians feel very safe and secure in Bar Elias compared to neighbouring towns that enforce curfews and whose locals are racist.
- The road network is in a poor state, badly maintained and managed, with potholes, a lot of traffic, noise pollution, and in winter there is flooding on most of the streets. Pedestrians do not feel safe crossing the streets, especially the main roads.
- There is no designated parking area for cars, taxis or buses.
- There is no public transport. People use private vans but they are not safe, especially for women.
- There is 24/7 electricity, but the cost is high.
- There is no good quality education and health services that are public and for all.
- It is hard to access the public healthcare system; some services are free for Syrians but not for Lebanese or Palestinians.

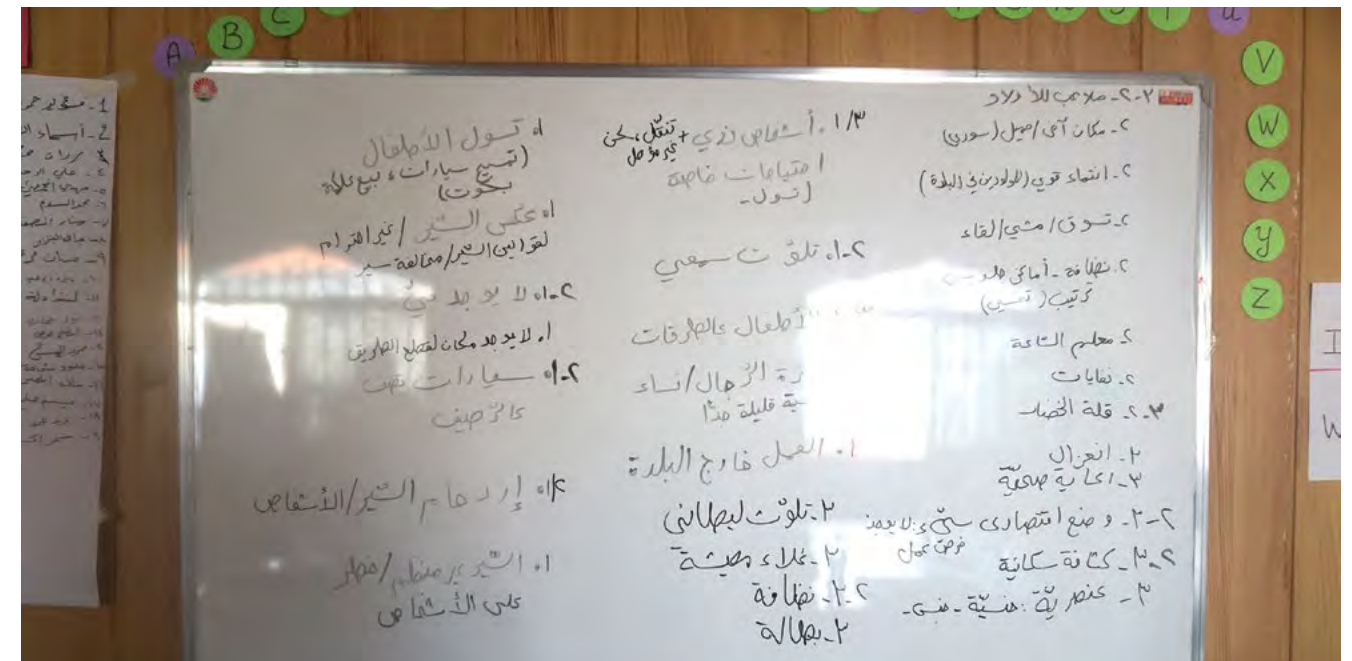
- There is a lack of recreational and leisure activities in Bar Elias. Young people do not meet each other anymore to engage in positive activities, children do not have access to safe and properly equipped playgrounds.
- Racism between the different nationalities affects access to job opportunities and personal wellbeing.
- Access to jobs in the public sector is influenced by corruption.
- The economic situation is bad, there are no job opportunities, especially now that the number of people living in Bar Elias has increased.
- Palestinians and Syrians are poorly treated by their Lebanese bosses: payment for services is delayed, pay is below the minimum wage, there are no work contract, and thus little job security.
- Some Palestinians and Syrians can't own their own businesses, they are dependent on Lebanese nationals who act as the owners on paper. They can't even buy a car to support their businesses.
- There has been an increase in the numbers of children and people with disabilities begging on the streets. Unfortunately, it has become part of the Bar Elias landscape because people are hopeless or uneducated.
- The house and shop rents are very high.

- People are feeling hopeless and will do anything to secure a living, especially in the case of a health emergency. Without money there is nothing a person can do but borrow money or even steal, rob, or engage in an economic activity they did not want to. In that way one problem leads to another.
- Pollution of the river, water and air is causing diseases. There is an increase in the number of people diagnosed with cancer in Bar Elias.
- The streets and water canals are littered because people are not aware of the consequences.
- Water cuts and shortages affect communities differently, those who live in some typologies of shelters, particularly Informal Tented Settlements, are more affected.
- Children are becoming sick because of the water they drink, especially those living in informal tented settlements.
- People are becoming more and more affected by the bad smells from the polluted Litany river, especially in the summer.
- There is a new hospital but it doesn't serve the residents. People were shocked after the opening of the MSF hospital, because they were expecting to have a hospital they could go to in case of emergency, but you can only attend this hospital if you have been referred for very specific surgeries.

Social interactions on the road (Sketch by Mehdi Al-Homsi)



Discussion of research findings



Litany river pollution is affecting everyone



Children working on the road



The road is used as a shopping destination by everyone



Water cuts and shortage affect mostly those living in informal tented settlements



Workshop participants considered how different methods shape the type of data collected and how each method was suited to understand a specific aspect of the issue. Reflections involved thinking about the complementarity and the possibility of triangulating data collected with different methods, and identifying the knowledge gaps that still existed.

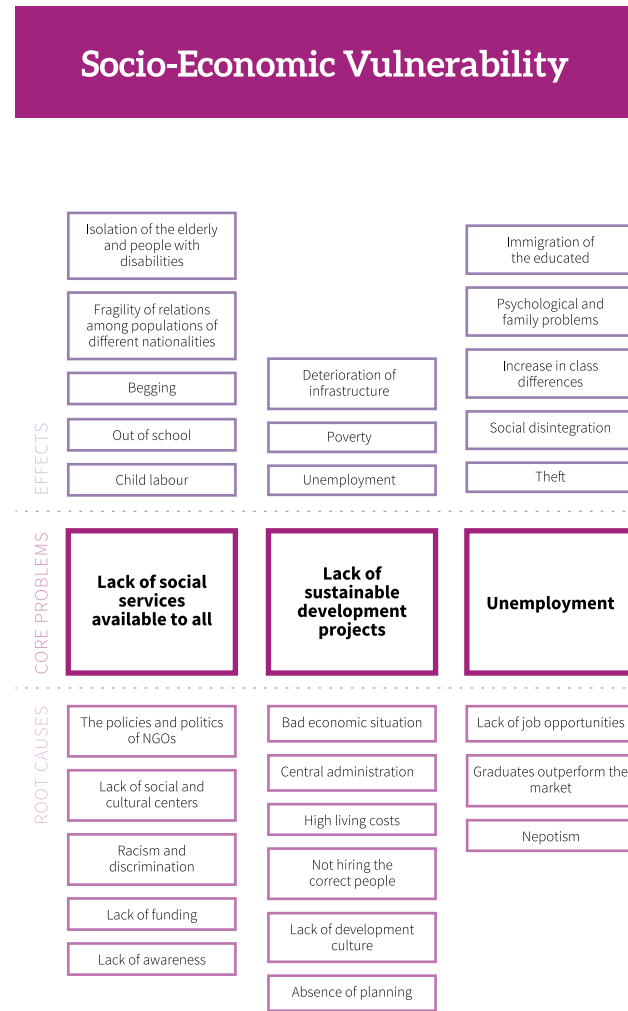
Through a joint analysis, the vulnerabilities were aggregated and organised around three core areas of vulnerability:

- socio-economic vulnerabilities
- lack of safe and public spaces for all
- pollution and health vulnerabilities

Each group was tasked with exploring one of these areas by developing a ‘Problem Tree’, which mapped the causes and the effects of these problems. These were discussed by all participants to identify interconnections and consider how people are differently affected by infrastructural deficits, based on their identities and existing vulnerabilities.

Participants were then asked to build a vision of the town by imagining their perfect day in Bar Elias with family and friends through the use of different media, including poetry and drawing. From individual visions, each group developed a shared vision, careful to respect individual differences. The visioning process based on dreaming their ideal situation is an important task when working with marginalised groups because their aspirations are often restricted by their situation, and therefore their preference for interventions are influenced by very low aspirations. This process called “adaptive preferences” can be countered by an individual and collective process of dreaming and visioning through the creation of a safe space for imagination stimulated by a number of media. For many participants, this was not an easy process and it took time, but they later commented on how good they felt as a result.

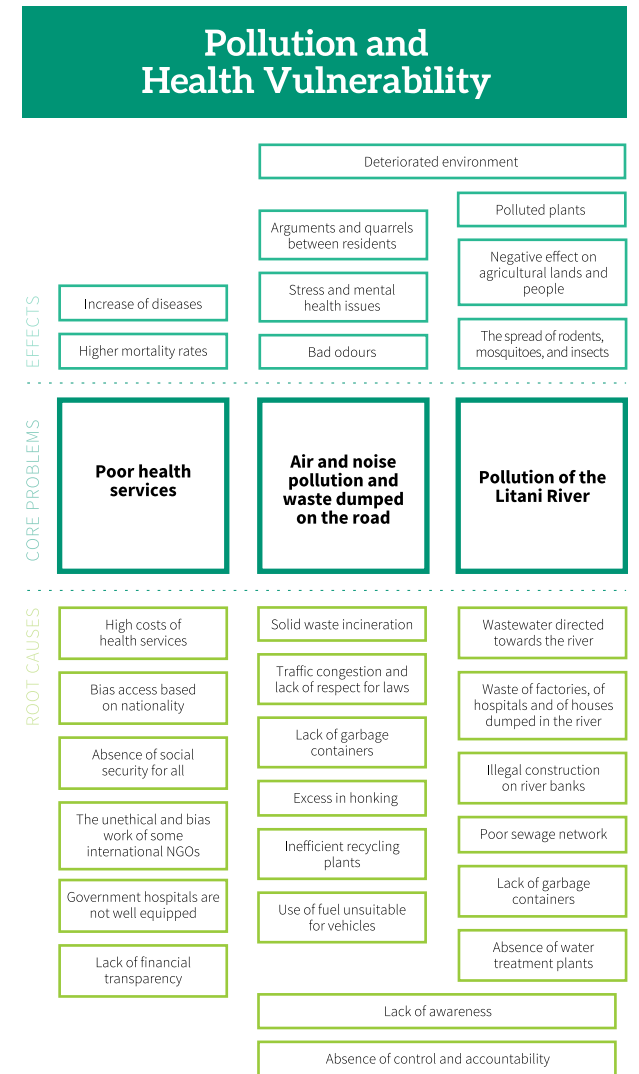
Participatory Planning workshop group 1 problem tree



Participatory Planning workshop group 2 problem tree



Participatory Planning workshop group 3 problem tree



A poem expressing participants' shared vision for Bar Elias

بر الياس في خيالي
جمال الطبيعة بروقتها أغلى أحبابي
أناسٌ كثيرةٌ موجودة كلٌ مع عائلته
أسلك طريقاً جميلاً نظيفاً مرتباً على جانبي الأزهار
أمشي أمشي دون تعب
لأن ناظري مرتاح
أطفالي في أمكنة مؤمنة بين الألعاب والأصدقاء محبين
هنا مسنة ومسّن يغارلها يوردة حمراء يُشبهها
طريقٌ لمقعدٍ ميسرة فكم من راحة يمشيها مرتاح
لا صعوبة ولا ضجيج إلا ما زرع الرحمن
من جانبي بنايات ملونة فقط للنوم
غداً خبز براحة البال مدهون
جمعةً لامثيل لها بين الجيران والغلان
بأنسانيتنا... لا أسماء تميزنا ولا عرق ولا دين
تحت شجرة على مقعد خشبي نتساور
وكم من فناء تشي مرفوعة الرأس لا خجل ولا خوفا
وكم أتهدى أن يطول اليوم ليصبح كل أيامي

Participants develop a problem tree to analyse one type of vulnerability (Photo by Hanna Baumann)



Discussing the problem tree



Developing Solutions

The next step was the formulation of solutions to address the causes of the vulnerabilities. The process started by developing ‘Solution Trees’ for each of the three areas of vulnerability. This meant identifying a solution for each of the causes of the problems previously identified and exploring the effects of these solutions. Participants were also encouraged to think about who would, and would not, benefit from the solutions proposed. The process was devised so that the solution would address the immediate problem but also contribute towards the achievement of their vision.

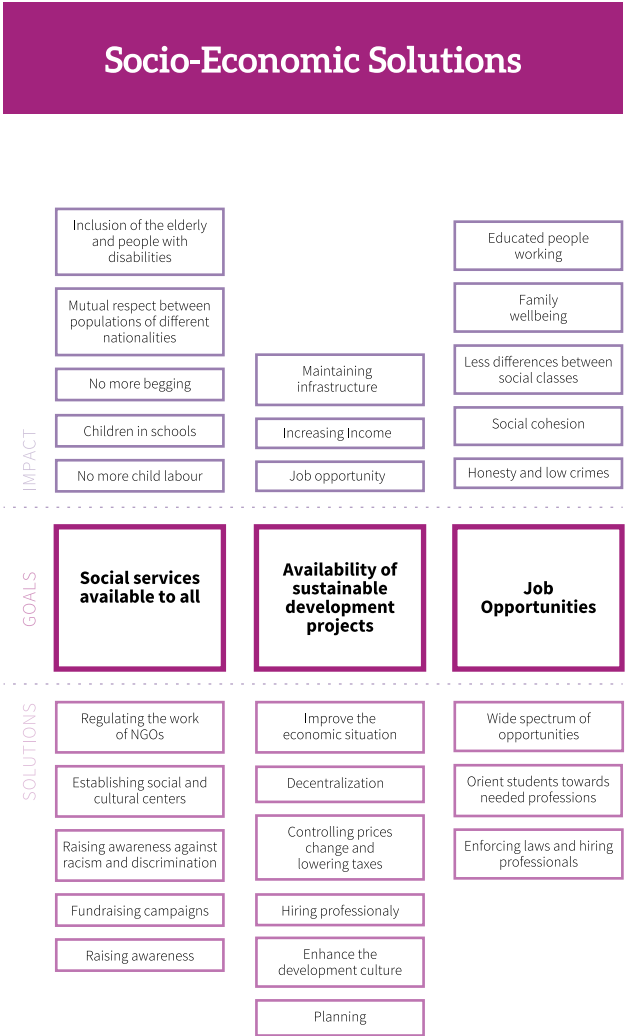
To see how solutions could be translated into practice in a specific space and reflect on the design process, workshop participants visited two sites: The Ibtasem playground created by CatalyticAction and the derelict public garden behind the MSF hospital. By visiting the Ibtasem playground, participants learned about a design process based on the participation of children, their parents, the local NGO, teachers, and volunteers. They understood how all the steps of the process contributed to the positive impact of the intervention: research, planning, design, architectural details, construction process, and activation of the space. The garden behind the hospital showcased an example of a public garden that once was an important place serving the communities of Bar Elias but became neglected and lost its function as a meeting point. It was no longer visible from the main road, appeared to be a backyard with rubbles everywhere, and unsafe. The participants discussed how to re-activate this space by engaging other residents. The visits were complemented by discussions on the role of participatory design and helped participants to think to the connections between the physical space and social processes.

In the following step, each group then worked to identify solutions to the vulnerabilities that could be translated

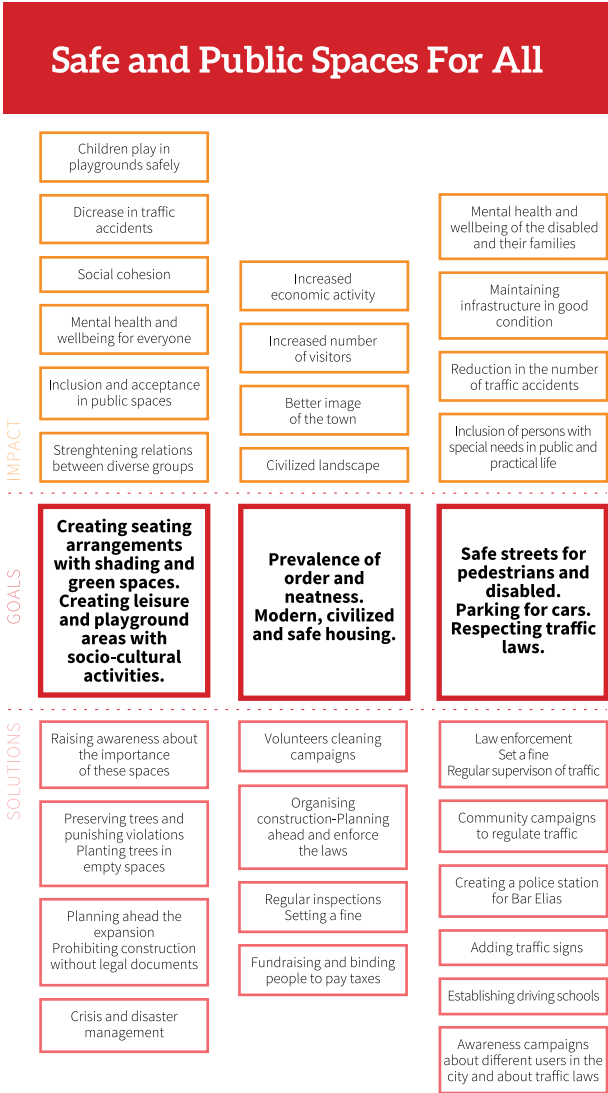
Visit to Ibtasem playground in Bar Elias



Participatory Planning workshop group 1 solution tree



Participatory Planning workshop group 2 solution tree



Visit to the derelict public garden behind MSF hospital



into interventions on the entrance road of Bar Elias. Each participant was given a satellite map and pictures of all the different parts of the intervention site, and invited to draw their proposed interventions first individually, and then in groups. Each group developed and presented a design brief – a detailed analysis and guidelines about the interventions required, which was structured as follows:

1. Context: Important information we learned about Bar Elias
2. Vision
3. Problem Tree
4. Solution Tree
5. Localised solutions on the road

Each group presented their design brief in an internal exhibition, where participants were asked to examine the other groups' work, ask questions, and write down their comments to discuss them together afterwards. The aim of the open discussion was to prepare a joint design brief with some proposed interventions which had to be explicit about which individuals and groups were likely to benefit from them, or not. The interventions had to address some of the root problems identified in the problem trees as well as contributing to reaching the shared vision.

Citizen scientist Asmaa develops a proposed intervention



Reflections from the learning visits

'We learned through the playground project how one small project can respond to multiple needs and create such a big impact.' One workshop participant is the mother of a child attending the school where the playground was built: 'My kids didn't want to go back to the tented settlement and wanted to stay at school all the time because there is the playground they built there.'

'The garden behind the hospital was used by all but after the building of the hospital, it is full of rubble and garbage from the construction and only some children use it at night.'

'20 years ago, it was an empty land, people sat here with coffee and seats. Today the park is ruined, full of debris. It is neglected, no seats, no shade.'

Participants discuss their proposals in groups (Photo by Hanna Baumann)



Participants develop their proposed interventions



Participants discuss their proposals (Photo by Hanna Baumann)



Citizen scientist Amro draws his proposed intervention



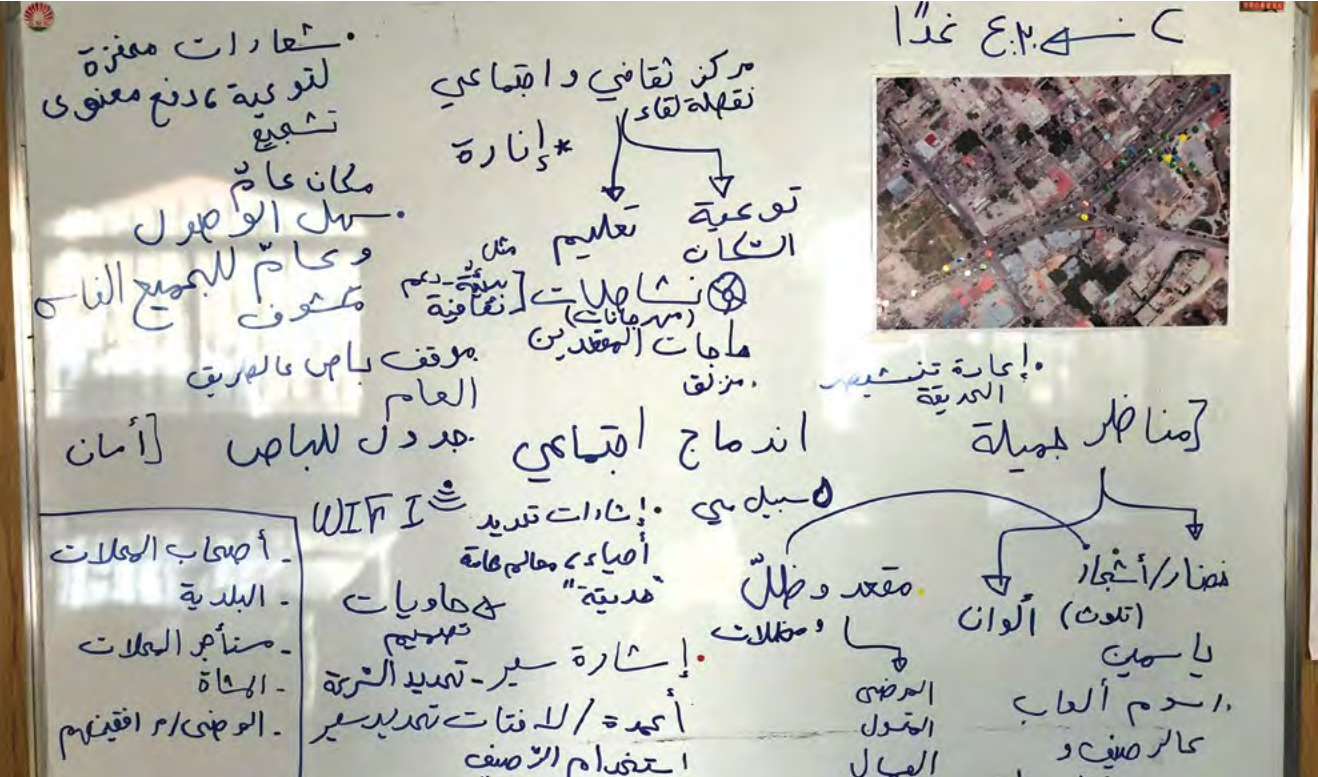
Group working on their presentation (Photo by Hanna Baumann)



Participants discussing (Photo by Hanna Baumann)



Discussion on the proposed interventions



Developing intervention proposals



Presenting their group's work in an internal exhibition



Presenting their group's work in an internal exhibition



The interventions included proposals for improved safety mechanisms such as traffic lights, pedestrian crossings and access ramps, as well as resting areas through the construction of street shading, benches, bus and taxi stop shelters, and drinking water points. There were also proposals for beautification, greening and signage that would build a sense of shared local identity and responsibility. Making the road more child-friendly with colours and games on the sidewalks was also proposed. Wider programmatic proposals included the activation of the derelict park with a playground, and structured activities for everyone that would serve as an inter-communal meeting space. Other proposed activities were awareness-raising campaigns and educational outreach to communities living in different contexts of Bar Elias, tackling issues that affected everyone, such as pollution.

An important reflection that emerged during the discussion was how, despite each group starting from a different type of vulnerability, many of the interventions suggested were similar, indicating that an intervention can tackle more than one type of vulnerability. Another important point was about the different impacts of an intervention on different individuals and groups.

The joint design brief was presented to the public in an interactive exhibition of the main road. This exhibition took place after Friday prayers, one of the busiest times, enabling a large number of passers-by and participants' friends and families to provide feedback. The written and oral comments from dozens of respondents, including the mayor, were collectively analysed by workshop participants and incorporated into a final design brief. This final brief provided all the key information and guidelines, enabling CatalyticAction to proceed with the technical design of a proposed interventions.

Citizen scientists were provided further training on the issue of intersectionality, complemented by a role play in which they adopted a fictional character with different axes of difference and then asked to make a step forward if a statement would apply to them. Some examples were: I can open a business, I am not scared of authorities, I feel safe walking home at night. The different positions of these characters facilitated a discussion on how the intersection of different identities shapes the life chances and agency of people in the context of Bar Elias. This allowed the citizen scientists to recognise and explain to others the complexities of diversity throughout the phases of the interventions and its monitoring.

The internal exhibition created an open discussion among the three groups (Photo by Hanna Baumann)



A senior participant reading the vision of another group (Photo by Hanna Baumann)



The mayor of Bar Elias and other municipal board members visiting our workshop space to learn about the planned street exhibition



Street exhibition



Passers-by and participants' friends and families providing feedback (Photo by Hanna Baumann)



The interactive street exhibition allowed the public to provide feedback



Intersectionality training with citizen scientists





7

Translating Ideas Into Design

The key locations of the suggested interventions were marked down on the satellite image of the road. Participants suggested to intervene at:

1. The clock tower, considered a landmark: drinking water, shading, seats, WIFI, and floor games.
2. The space in front of the medical dispensary: a waiting area, information/awareness point and floor games.
3. The dilapidated public garden and the passage between the dispensary and the hospital: rehabilitate the park, create seating, shade, and add some colours. To be used by all residents as well as people visiting the hospital and the dispensary.
4. The wide sidewalks in front of the shops: floor games and shade.
5. Taxi stop 1: Seating to wait for the taxi.
6. Taxi stop 2: Seating to wait for the taxi, and an educational mural on the wall.
7. The intersection with the Beirut-Damascus highway: improve the safety and make the entrance point more visible.

The following were proposed interventions along the entire stretch of road:

- Accessibility ramps
- Barriers preventing cars from parking on the sidewalks

Shops and wide sidewalks of the entrance road



- Safe crossing points
- Seats along the road
- Trees and plants
- Shade and shelter from rain
- Speed bumps
- Signs

Beautification, recycling, social activities and a durable intervention that could not be easily vandalised were also key dimensions of the spatial intervention that the locals valued.

The key locations for the suggested interventions (Google Earth)



Mapping Shops Along the Road

To understand the specific social and technical arrangements of each section of the sidewalk, citizen scientists conducted a mapping exercise of the 46 shops along the road, a survey of the sidewalk, and short semi-structured interviews. The aims of the exercise were to:

- Formulate a data sheet of the shops: kind, ownership, opening hours, history.
- Uses of the space/sidewalk in front of the shop.
- Aspirations for the future of the shop and the road.
- Ensure shopkeepers would be involved in the process and get to know the team.

This exercise found that the sidewalks are cleaned daily or weekly by shopkeepers. Some use them to display their goods while others bring their plastic chair to sit outside when the weather is good. In some locations, ramps had been added beyond the sidewalks to allow the shop owner's cars to park on the sidewalk. They had obtained municipal approval because it would help in unloading their goods close to the shop entrance. Because there are no sidewalks in front of the gas station and the car repair shop, the pedestrian flow is interrupted in these two locations.

Pedestrian flow interrupted by the gas station



'Mukhtar' office and clothes shop



Design Consultation with the Public and the Municipality

The design brief and this additional information were the basis of the preliminary design devised by CatalyticAction and was presented to participants and the public for another round of feedback in December 2018. It was also presented to the mayor of Bar Elias and the public works department at the municipality in order to get their comments and approval. During this design consultation, a video documentary showcasing the participatory process was screened to explain the activities and research that led to this design.

The proposed spatial interventions were represented on the drawn plan of the entrance road, with the different elements, their locations, pictures of the locations, 3D views and pictures of built examples. Printed hard copies were used for a clearer discussion with the various audiences.

At the design feedback session, the spatial interventions were grouped into three categories:

1. Road safety

The research and activities conducted identified that one of the major issues on the Bar Elias entrance road is safety. Sidewalks were not welcoming all users, especially elderly and people with mobility impairments. Strategic adjustments to the existing infrastructure were planned to make the road safer for all users.

2. Child friendly spaces

The project worked extensively to provide child-friendly spaces through multiple interventions along the road to ensure the safety of children as well as providing recreational and educational facilities.

3. Leisure infrastructures for all

Along the entrance road, people gather in different locations on the sidewalk to play board games, drink coffee or simply chat as they shop and walk along the road. The design included 'street furniture' to enhance these activities, such as

planting trees to provide shade, adding seating arrangements and shade umbrellas.

The municipality appreciated the process of involving residents and approved of all the planned interventions. CatalyticAction negotiated the terms of implementation, as full cooperation of the municipality was needed. The rehabilitation of the public park behind the hospital was discussed. Even though written approval from the municipality to create a playground in the park was obtained, the mayor was considering turning it into a parking lot. CatalyticAction shared the research findings revealing the importance of this park to the people of Bar Elias with the mayor. Its revitalisation was central to participants' vision for a safe, welcoming and inclusive city centre. In front of the polyclinic cars parked on the sidewalk, and the mayor considered creating a parking area behind the clinic for the employees so that no one would park on the sidewalk, where interventions were planned. After several negotiations and additional site visits with the public works department, it was

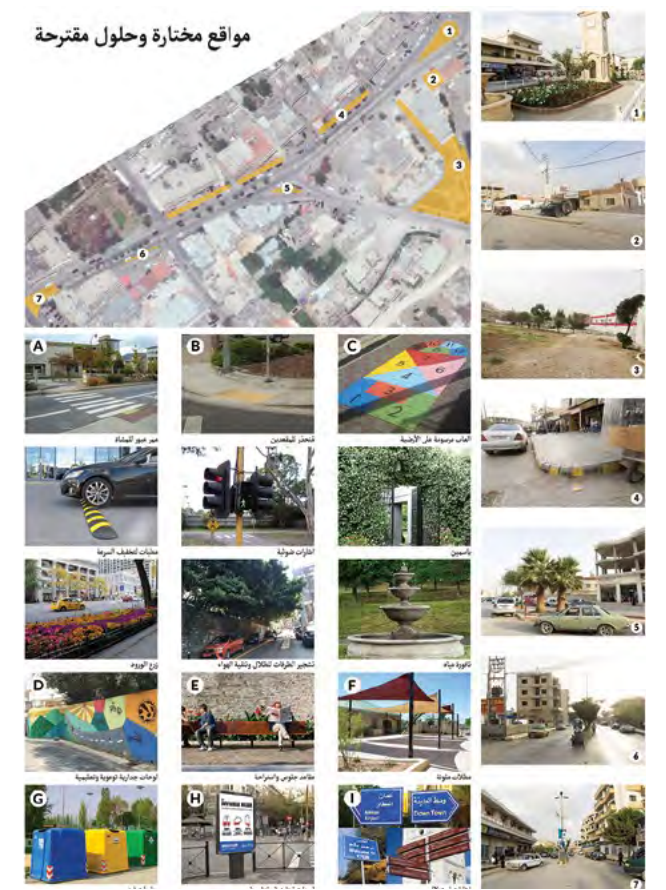
decided to turn a small part of the park into a parking space, while maintaining most of the green space as a public space free of cars, and CatalyticAction designed this compromise.

The mayor and several participants at the design consultation were not sure that the pedestrian crossings would be used properly in Bar Elias because they thought that further awareness-raising on the importance of pedestrian safety and respect for laws and regulations was required. There was also a concern about the benches to be set up in front of the shops, arguing that non-residents would linger around shops and residences and disturb locals. The municipality and the participants appreciated the durability of the planned intervention, both in its materiality and process of implementation. The design consultation allowed us to move towards a more final design, which would fit within the limited budget.

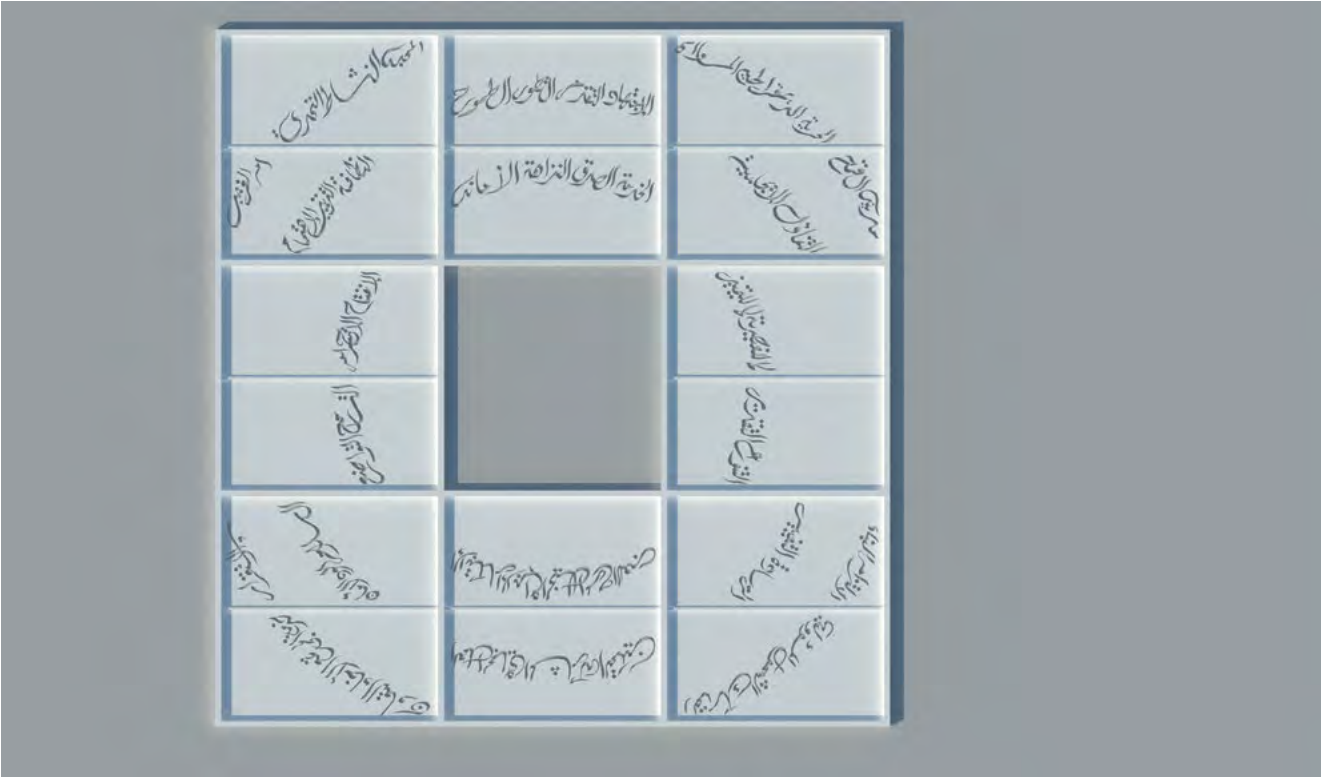
The mayor of Bar Elias watches the project documentary during the design consultation



Two of the panels used to discuss preliminary designs with the public



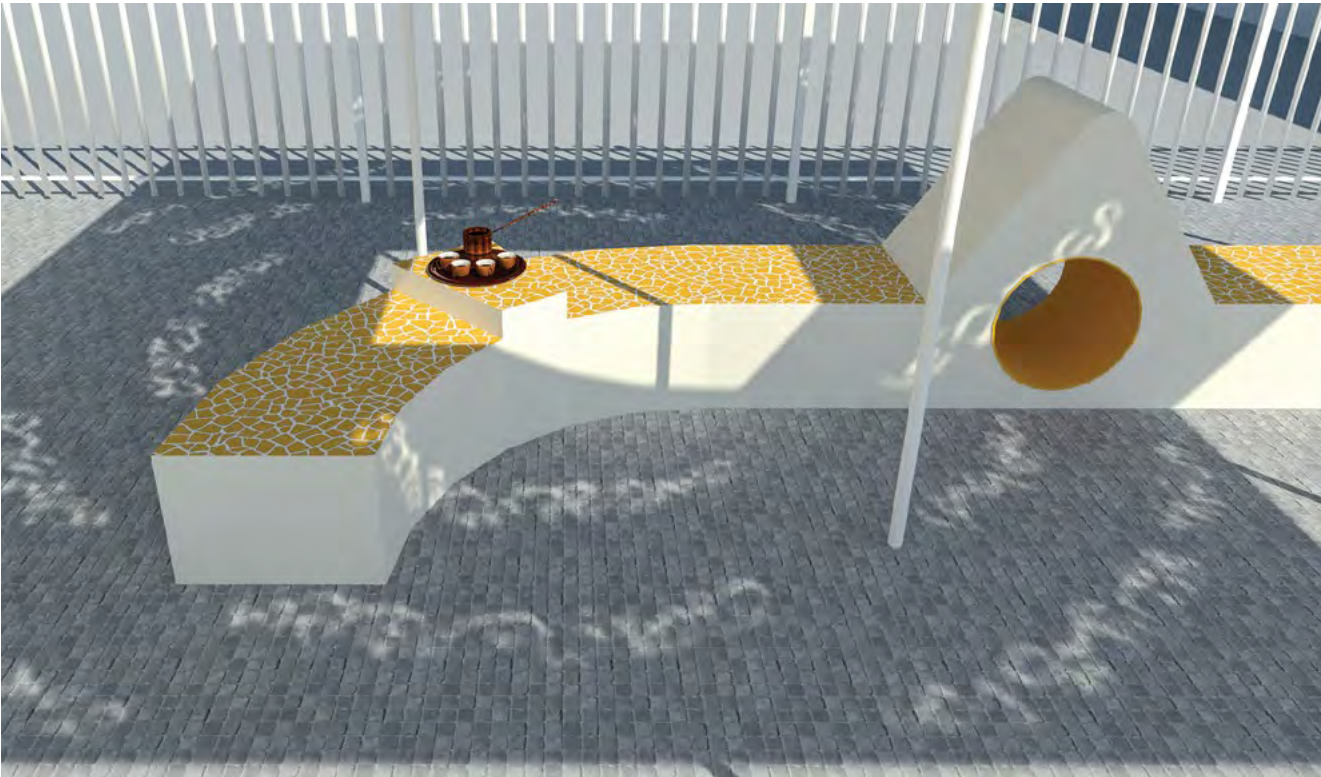
Developing the design of the main shade with Arabic calligraphy



Rendering of the circular bench and shade



3D representation of the circular bench



Rendering showing the smaller shades, seats, floor games and trees



Young woman shares her feedback about the design



Citizen scientist Moayyad looking at the panels



Citizen scientist Maysam and her daughter share their feedback



Young man shares his feedback



Installing recycled plastics on one of the small shades



Community Engaged Implementation

Using local subcontractors and labour boosts the local economy, develops local skills, and increase the feeling of ownership and positive impact of the intervention. Therefore, with the help of citizen scientists, local subcontractors were identified for the skilled work required for implementing the design. The main construction team was formed of: a Palestinian concrete foreman who runs the business with his family; a Syrian welder whose shop is located in Bar Elias and lives in the nearby town of Ghazze; a Lebanese carpenter who is born and lives in Bar Elias with his family; and a Syrian gardener who lives in the nearby town of Ghazze. Fifteen Syrian male general labourers living in Bar Elias as well as 7 women from Bar Elias (2 Palestinians, 3 Syrians, 2 Lebanese) assisted the construction activities. Moreover, local community members participated in activities around the revitalisation of the park, the painting of benches and murals.

Procurement Guidelines:

- Recruiting locals with the required skillsets from Bar Elias, and from different nationalities.
- Ensuring the local subcontractors understand the nature of the work, which is different from the usual approach because they had to work closely with the designers and engage with community members at various points.
- Negotiating the fees and pricing quotations to respect the budget.
- Purchasing goods and services from Bar Elias, where possible, or other locations across Lebanon.

Speed humps, paint, street signs and aluminium laser-cut panels were sourced from specialised companies located in Beirut but operating across Lebanon. Other mixed construction materials were bought from local hardware stores in Bar Elias such as screws, ceramic adhesive, concrete CMU blocks, sand, gravel, etc.

After a long and wet winter in Lebanon, which did not permit construction work, the implementation took place during the month of May 2019, which was also the holy month of Ramadan. The timeline of the project was structured daily to include construction tasks and community activities. The implementation was coupled with research activities.

The final intervention included the following:

1. Public spaces for gathering

A large circular seating area formed of two mirrored and curved benches was built on a wide pavement next to the polyclinic, where patients often wait for their appointment but previously lacked shade or benches. To enable this, cars were discouraged from parking on the pavement through the removal of two ramps on the road. To create sufficient shade and some rain protection, a rectangular metal screen covers the seating area. The aluminium panels have been laser-cut in such a way that the shadows created spell out phrases by the local researchers and the wider local community members who participated in the October workshop, showcasing values and hopes for Bar Elias such as the popular saying “Bar Elias, the mother of strangers”, as well as “cleanliness” and “togetherness”. The benches are made of reinforced concrete, and involve play elements for children. The concrete foreman created the necessary wooden formwork with a local carpenter. “It is a unique shape that requires attention

Proposed spatial interventions plan



Collecting and sorting discarded ceramic tiles



People using the main bench



A girl enjoying the colorful main bench as she waits for her mother



to the details, with the chamfered edges all along, a circular tunnel and embossed tables, we tried to follow very carefully the instructions of the architects,” said Omar the concrete foreman.

The benches were also covered in colourful mosaics made by two artists, sisters Nour and Amani Al-Kawas whose mother is from Bar Elias. These were made from leftover and discarded tiles collected from local ceramic tiles shops. Passers-by and local researchers joined in and learned the technique of mosaic-making.

Beyond this main seating area, several blocks for resting were added along the sidewalk together with smaller shades: one shade with three cubical seats in front of the polyclinic, and three shades on two sidewalks in front of the shops. The cubical seats were also topped with beautiful and colourful mosaics. The smaller shades were designed to include one panel of laser-cut aluminium and another made with reused plastics. The laser-cut aluminium included words and phrases in Arabic calligraphy, including “recycling”, “reuse”, “environmental protection” and “reducing consumption” while giving ideas of how plastics can be reused in a creative manner to generate shade.

At the taxi stands, drivers waiting to pick up commuters used to sit on foldable chairs stored in their car boots, on planters or under the shade of the tree, creating meeting points for them to chat. Four benches were added on both sides of the road to allow a more comfortable wait for both drivers and passengers. These benches were also covered in colourful mosaics.

Trees were planted along the sidewalks, creating much-needed shade for pedestrians and shopkeepers.

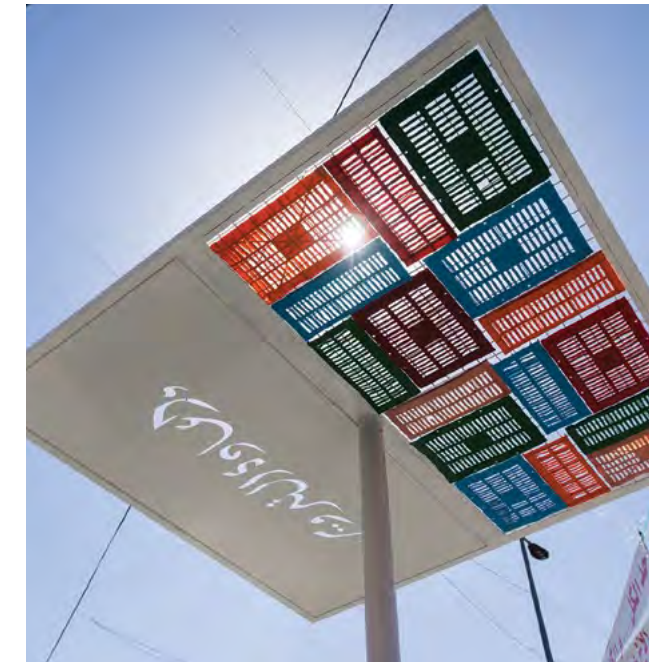
Main seating area with plum tree and floor games overlooking Bar Elias clocktower



Poster for plastic collection



Small shade made of vegetable crates



Men using the new bench by the taxi stop



Woman sitting in the shade



Local concrete foreman preparing the formwork of the main bench



Local welder completing the small shade made with repurposed yogurt covers



Local concrete worker preparing to pour the access ramp



Local welder unwraps the small shade made with repurposed ice cream cups



Bar Elias police together with a local worker & citizen scientist install the speed humps



2. Accessibility and safety

The sidewalk along the Bar Elias entrance road is up to 60 cm high in some places – making it very difficult for pedestrian to navigate. Because of this, and because cars often park on the pavement, many pedestrians walk on the road, exposing themselves to speeding cars. In order to facilitate better access – especially for the elderly, wheelchair users and parents pushing baby strollers, ramps were built on the sidewalks. Three shop owners and residents expressed some worries that the ramps would be used by motorcycles and could ruin the existing flooring on the sidewalks. Despite the negotiations and the efforts to explain the importance of the ramps for other people living in Bar Elias, they weren't convinced. This resulted in amending the original design by moving 2 ramps to other locations and cancelling one. A total of 15 pedestrian access ramps onto the pavements were ultimately built. When the project was completed and people started using the access ramps, one of the shop owners who had been opposed, changed his mind about two ramps and asked us to implement them, but unfortunately this was not possible at that time.

In addition, 3 speed humps were installed on the road to discourage speeding in this area, which is used by numerous pedestrians throughout the day. The locations of the speed humps were agreed together with the municipality. To install the speed humps, the municipal police assisted by diverting the traffic and closing parts of the road temporarily, while a municipal worker installed the speed humps with the supervision of CA.

A mother pushing her baby stroller on the access ramp



Children enjoying the floor games at night



To encourage children to use the sidewalks rather than walk on the road, floor games were painted along the sidewalks, adding colours and playfulness. The floor games were painted by the CA team, volunteers, local researchers and academics. The paint used for the floor games is an industrial, high performance paint, with a specific application technique, which didn't allow us to involve children in this process, even though they were all very excited to see the vibrant colours. To apply the paint, the sidewalks had to be washed with water and the shopkeepers assisted the team in the cleaning: they provided water, brooms, and helped with the cleaning.

Street signs were added to identify important local sites and make the town more welcoming to outsiders: a sign point to indicate the town's centre, a sign designating the taxi stand, a sign pointing in the direction of the rehabilitated public park, making it more visible from the main road, and a sign marking the main bench area and shade. Spotlights were installed overlooking the seating area and the public garden, making them safer at night.

3. Rehabilitated park

The public green space just off the main road that had once served as an important public space for the town had fallen into disrepair with the construction of the MSF hospital and the new Bar Elias polyclinic. Collective clean-up sessions were organised to free the area of rubbish. A local gardener was employed to remove the overgrowth, revealing some beautiful remaining trees and bushes. Rubble from the construction

The street sign indicating Bar Elias city center



sites was removed, revealing the old paths of the garden. The paths were then washed and cleaned by municipal workers.

As agreed with the municipality and the polyclinic management team, a portion of the public park was turned into a parking space. As part of the intervention, the flooring of the parking lot was levelled with gravel and the entrance was fixed to allow the polyclinic staff to park there. By creating a small parking area there, traffic along the main road was reduced, as it is accessed from a secondary road.

Additional trees were planted, including an olive tree that is greatly valued by the locals, and two jacaranda trees. Smaller shrubs and plants were also added including: roses, rosemary, evergreen spindles. Three wooden benches were added in the park, fabricated at a local carpenter's shop and painted by the team in collaboration with local children.

To mark the entrance to the newly revitalised park, a Jasmine arch and a planter with flowers were installed along the main road and a pathway was paved to make the park more accessible. The municipality agreed to take responsibility for its upkeep and showed its support by sending machinery and workers to remove the rubbish as well as water tankers to water the new plants. They later built a water well to make the watering easier in future. The polyclinic management team expanded the intervention too to include more benches and planters along the new path, next to their building.

The rehabilitated park



4. Beyond physical interventions

A Syrian local researcher and a school teacher, before moving back to her hometown in Syria, implemented workshops with Syrian students at a local school in Bar Elias where they learned about the importance of recycling, reusing and taking care of the environment. The students learned about the project and that their contribution is important. Through different discussion and arts craft, they learned how to make a beautiful tree out of plastic and other discarded material. They also reflected on uses of the streets and how they would like to change them. During the implementation, different community activities took place, including the collection and repurposing of plastics to form the smaller shade structures, painting the benches and painting a mural that transformed a previously rough wall into a colourful wall at the entrance of the road. The mural, implemented in collaboration with The Chain Effect [<https://www.thechaineffect.me>] encourages cycling in the city.

On a busy night of Ramadan, the PSI was inaugurated through an interactive performance by The Flying Seagull Project, near the main seating area where children and parents joined for a fun and memorable night.

A Jasmine arch and a planter with flowers installed along the main road with a tiled pathway leading to the park



A colorful mural painted with the community



The PSI inauguration with an interactive performance by The Flying Seagull Project





9

Learning

The participatory planning workshop was a key learning point

This section reflects on the spatial intervention's impacts, learning, and potential as a research methodology.

Transforming Social Relations Through The Process

There are two intertwined ways through which the intervention transformed social relations: through the process and through the impact of the physical intervention. Many efforts were made to create an environment where all felt able to participate. Each workshop participant had at least a connection with someone else in the group which helped them to feel safe. The seven citizen scientists working in the groups had a strong relationship with the five facilitators, enabling an open communication channel to voice any concern and discuss tensions. The design workshop and the overall process created a space of freedom for participants as well as a process of personal transformation in which, for the first time, Lebanese, Syrians, and Palestinians of different age groups, genders, education levels, and class were able to work together as equals. Elderly people said they felt young again because they were directly addressed by younger participants without the formality of the strong age hierarchy present in society. At the same time, illiterate elderly felt their voice was heard by more educated residents.

Some women would not be normally allowed to take part in such processes, but could participate because the process was framed to their fathers/husbands as educational due

to the involvement of two well-recognised universities. This allowed them to engage in social interactions with residents of the city they would not normally be able to meet and talk to, including carrying out small-group or pair research activities with people from another gender and nationality. One female workshop participant revealed that for the first time, she felt she was not just a mother, but her voice was considered as equal to that of other participants in shaping decisions about the urban intervention: "What I learned is that women can have an active role in this. Women's place is not just at home. I can give an opinion and can have an active role on municipal issues. I learned about collaborating with other people. I had a lot of fun doing it and met a lot of new people from other countries." The group also became aware of unequal gender relations in their attempts to gather data. For example, a husband was blocking a woman from being interviewed while she was very eager to talk and the group found a way around this to hear her voice.

The project also hired women in the construction process, disrupting a sector dominated by men. A sense of empowerment also arose because the two architects who facilitated most of the process were both young Lebanese

Citizen scientists interviewing an elderly resident in a refugee settlement (Photo by Sara Monaco)



Women from different nationalities took part in the process



women, who were seen negotiating with the male mayor and other male directors at the municipality as well as managing and paying male contractors on site. In the design workshop, three out of five facilitators were women and they were the only ones speaking Arabic, the language of the workshop. Their association with an international university and organisation gave these women the opportunity to lead the process, but they had to gain the trust of many actors through the quality of their work.

For some Syrians, the process allowed them to become part of the town by contributing to shape it. This created a feeling of inclusion but it was also a means for them to give back to the town and the residents who hosted them, allowing them to reciprocate what they had received.

One of the ways to deal with internal conflict or different priorities between different groups and individuals was to explicitly focus on the most vulnerable, as everyone agreed it was important to benefit those individuals first. This led the group to identify wheelchair users, most of whom were begging or selling small items along the road. Once implementation started, the group reflected on how, despite the disability ramps being intended primarily for people with disabilities, a number of other groups found them extremely useful. As footpaths were very high, the ramps benefited elderly people, mothers with prams, and street vendors pushing trolleys, reducing their

vulnerability to cars. Participants realised that interventions for the most vulnerable can also significantly improve the wellbeing of other, less vulnerable groups, thus creating a win-win solution.

However, an important issue raised by many was how more powerful groups could also shape the intervention for their own benefit. In particular, the concern was around motorbikes using the ramps to drive on the footpaths to avoid traffic, show off, or park, furthering the risks to pedestrian users. This sparked a reflection on appropriation and the need for education and awareness to ensure these public interventions would have a positive impact.

Finally, the project also had a pedagogical impact on the municipality. The presentation of the proposed design was accompanied by a video documenting the participatory process and making a convincing case for the participation of residents in the planning of urban interventions. While initially sceptical, because the results pleased them and they realised the intervention also had support from local residents who shaped it, the municipality showed an openness to replicating the approach in future, although with external support.

Transforming Social Relations Through The Physical Intervention

The physical intervention was able to convert a public space into a social place, breaking barriers across nationality, gender and age. As this road was the only public space used by people from all nationalities in a town with a strong spatial segregation, the intervention attempted to expand the uses of the space and the length of time that people utilised it. The shading extended the hours of potential use during sunny days. The play elements were introduced to incentivise parents to stay longer and entertain children while their parents are shopping. Moreover, the social interaction between children from different nationalities incentivises parents to talk to each other, building new relationships. Play is also extremely important for children's cognitive and physical development, yet many refugee children do not have access to education and live in crowded environments where play space is limited. Mainstreaming play into urban public spaces, including streets, is a way of creating play opportunities for the most disadvantaged children in a way compatible with parents' schedules.

These types of interventions contribute to changing the narrative from refugees posing a burden to refugees helping turn Bar Elias from a small town into a city. As explained above, Bar Elias already had a more positive perspective of refugees than other places. The demographic increase created the critical mass for the town to become a city – however,

due to what locals considered 'neglect' it did not look like a city, although the increasing population was already sparking a process of change, with more banks and a new hospital opening. There was a clear demand for proper urban development, as articulated by one citizen scientists: "We need an entrance road that shows that we are a city. And we need those improvements because we are the same as any other city." Residents had hoped that the intervention would give Bar Elias an entrance to be proud of. They were aware that the intervention was made possible through international aid aimed at forced migrants and the core contribution of Syrians in positively transforming the city. The aesthetic of the interventions along the main town entrance was considered very important to foster pride in the city and reverse the narrative of neglect. This was also done in such a way to build a historical identity based on the town's history of emigration, immigration, exchanges, and the welcoming of strangers.

Unexpectedly, the intervention was able to catalyse complementary actions from other actors, which multiplied the impact and the scale of the intervention's limited funding within an academic research project. First of all, the municipality sent their machinery to break asphalt, workers to remove the rubbish, water tankers to water the new plants and trees, and drilled a water well in the park. The polyclinic staff expanded the intervention themselves and added more benches and planters. Moreover, shortly after the project's inauguration, the municipality decided to build a massive arch at the beginning of the entrance road. The infrastructure along the road was widely used as a meeting point during a national wave of protests in the autumn of 2019, showing that the intervention

Young men strolling along the road on a busy night happy to meet with Andrea and Joana



Polyclinic staff take a break



Street vendor resting on the new wooden bench in the rehabilitated park



was successful in transforming the entrance road into an active social place, and indeed the focal point of the city.

Finally, the process and the intervention built a human infrastructure for change made up of residents from different identities who were able to participate in and initiate city-making processes, while taking into account and analyse the diversity of residents' needs and aspirations. This is a network of people and capacities that operates for the city beyond sectarian divisions and other dimension of segregation. A workshop participant said: "Before, I was inward-looking, I only knew people from Syria and my neighbourhood. During the workshop, I opened up to a lot of people: Syrians, Lebanese and Palestinians. And when I pass through the street now, we say hi to each other. So it brought us together." Another commented: "I enjoy that there is still communication [between the participants] and that I am part of something that I can help with, but that will also help me." Another one said: "I met people who are older than me, I met people who are younger than me and all of them increased my sense of awareness. They taught me things I didn't know before. And increased my openness to learning from people who are both older and younger than me."

The group's network became more formalised through enduring contact on WhatsApp and on Facebook. Many expressed their desire to continue to be involved in decision-making about their town. They described a number of ways in which they used the skills learnt for other activities, including in their student group, by participating in the municipal elections, or mobilising neighbours to develop an empty space near their home.

Participatory Spatial Intervention as a Research Methodology

Researching power relations and their relationship with vulnerabilities and infrastructure is a challenging task, even more so in a sectarian country with a history of civil war across religious and political divides. Researching these issues can be problematic as these identities are socially constructed and eliciting questions about these divisions can reinforce them (Brubaker, 2006). Therefore, it is better to observe how they emerge empirically in social interaction, without starting from preconceived ideas of the relevance of specific identities over others. A diversity-sensitive participatory design intervention as a research methodology to identify and study power relations offers a privileged observation point to explore these relations through practice and face the related challenges. For example, we learned that there was much less hostility towards Syrians compared to what is generally assumed in policy literature, but we found that the dynamics of spatial segregation had severely limited interactions between Lebanese and Syrians, thus reducing reciprocal trust.

Citizen scientists and the Lebanese members of the research team were fundamental to addressing local tensions. The members of our diverse group fully understood and supported the broader agenda and helped immensely with informal briefings and monitoring the situation, as they were able to intervene and talk through conflict. This was the key factor in the success of this process.

Senior man happy to see the team working on the construction



Local concrete foreman installing a street sign



The process of the intervention built a human infrastructure





The colorful mural at the beginning of the entrance road

10 Conclusion

Through the PSI, we learned that combining action-research, citizen science, participatory design and a diversity lens not only contributes to the design of infrastructures that respond to residents' needs, but that it can transform social relations, build a human infrastructure able to negotiate and activate important change processes, while diffusing social tensions. Such an approach is very important in unequal and conflictual settings, where a relational, contextual and intersectional approach can reveal the complexities of power relations and inequalities. It can create an urban citizenship, a "participatory citizenship" born out of the "community building" element of participatory design. Such a form of citizenship is able to reduce social tensions and build new solidarities between different groups while constructively engaging with authorities. This was the case in the PSI in Lebanon, where this new urban participatory citizenship transcended the limits of traditional state citizenship in a context where the state is unable to respond to the needs of citizens while at the same time denying citizenship rights to a wide range of residents, constraining their agency through uncertain legal status. The exercise of this urban participatory citizenship enhances the agency of all residents, breaking invisible social and spatial borders that segregate society across a number of social identities.

This methodology offers tools for other contexts, including urban neighbourhoods affected by internal displacement, or other situations where social tensions exist. In particular, it helps address the complexity of the relationship between the humanitarian response and a long-term development approach by combining an immediate response to present vulnerabilities with a significant step towards the long-term vision for the town, as articulated by both locals and newcomers.

Finally, it is fundamental to involve the municipality from the outset. In our case, they were convinced to support the project by local team members, and by participants who became the strongest advocates for the interventions. If an intervention revolves around social infrastructure in public spaces, then municipality involvement is needed for maintenance and protection, but also for active cooperation throughout the implementation. The municipality can offer resources which act as multipliers of limited funding available, grant long-term sustainability, and through a successful example may be persuaded to adopt a more inclusive process in future decisions about urban infrastructures.



Workshop participant taking notes
(Photo by Hanna Baumann)

I Bibliography

- Al-Masri, Muzna (2017) “The Burden of Scarce Opportunities: The Social Stability Context in Central and West Bekaa UNDP Conflict Analysis Report”
- ARK (2017) “Regular Perception Surveys on Social Tensions throughout Lebanon.” Wave I: Narrative Report, August 2017, Beirut, Lebanon.
- Bauman, Z. (2000). “Liquid modernity”. Cambridge: Polity Press.
- Brubaker, R. (2006). “Nationalist politics and everyday ethnicity in a Transylvanian town.” Princeton, NJ; Woodstock: Princeton University Press.
- Christophersen, M., Thorleifsson, C.M., and Tiltnes, A.A. (2013) “Ambivalent Hospitality: Coping Strategies and Local Responses to Syrian Refugees in Lebanon.” Fafo-report.
- Cornwall, A. (2002). “Making spaces, changing places: situating participation in development.” IDS Working Paper 170.
- El Amine, Y. (2019) “A Broader View of the Litani’s Pollution Crisis: Mounting Conflict and Hidden Pitfalls.” AUB Policy Institute Policy Brief #4/2019 https://www.aub.edu.lb/ifi/Documents/publications/policy_briefs/2018-2019/20190405_litani_pollution_crisis.pdf
- Fakhoury, T. (2017) “Governance Strategies and Refugee Response: Lebanon in the Face of Syrian Displacement”. International Journal of Middle East Stud. 49, 681–700 doi:10.1017/S0020743817000654
- Frediani, A. A., French, M. A., & Ferrera, I. N. (2011). “Change by design: building communities through participatory design” (U. C. Press Ed.). New Zealand: Urban Culture Press <https://www.saferworld.org.uk/resources/publications/1172-building-peace-into-refugee-responses-syrian-refugees-in-lebanon>
- International Rescue Committee (IRC) (2016) “Investigating Protection Gaps, Needs and Responses Relevant to Single and Working Syrian Refugee Men in Lebanon” <https://www.rescue.org/sites/default/files/document/464/irclebanonrefugeemensvulnerabilityassessment.pdf>.
- Interview with Bar Elias mayor Mawas Araj, Bar Elias, September 2018
- Janmyr, M., and Mourad, L. (2018) “Categorising Syrians in Lebanon as ‘Vulnerable.’” Forced Migration Review, no. 57
- Jenkins, R. (2008). “Social identity” (3rd ed.). London: Routledge.
- Saferworld, LCPS (2018) “Building peace into refugee responses, Syrian refugees in Lebanon”
- Sözer, H. (2019) “Humanitarianism with a Neo-Liberal Face: Vulnerability Intervention as Vulnerability Redistribution.” Journal of Ethnic and Migration Studies. <https://doi.org/10.1080/1369183X.2019.1573661>.
- Ullrich, L. (2018) “Below the Surface: Results of a WhatsApp Survey of Syrian Refugees and Host Communities in Lebanon.” UNDP <https://reliefweb.int/sites/reliefweb.int/files/resources/67579.pdf>
- UNHCR (2018), Map: “Registered Refugees in Bekaa & Baalbek-Hermel”
- UNHCR, Lebanon Inter-Agency coordination (2015) “Most Vulnerable Localities in Lebanon” <https://data2.unhcr.org/en/documents/download/45715>
- UNHCR. (2016). Dataset: Informal Settlements of Syrian Refugees in Lebanon, 29 February 2016. <https://data.humdata.org/dataset/syrian-refugees-informal-settlements-in-lebanon> (last accessed 3 March 2020)
- UNICEF, UNHCR & WFP (2018) “VASyR 2018 - Vulnerability Assessment of Syrian Refugees in Lebanon.” <https://data2.unhcr.org/en/documents/download/67380>
- Verdeil, E. (2018) “Infrastructure Crises in Beirut and the Struggle to (Not) Reform the Lebanese State.” Arab Studies Journal 16, no. 1

This publication presents the process of implementing a Participatory Spatial Intervention, its methodology, and our reflection as a way of sharing our experience of this co-design project that took place between August 2018 and July 2019. The Participatory Spatial Intervention is a co-produced way to build capacity and generate knowledge through an experimental process aiming to have an impact on the sustainable prosperity of the locality. A physical spatial intervention is embedded in a participatory action-research process and becomes a catalyst for generating questions and activate local social processes. We learned that combining action-research, citizen science, participatory design and a diversity lens not only contributes to the design of infrastructures that respond to residents' needs, but that it can transform social relations, build a human infrastructure able to negotiate and activate important change processes, while diffusing social tensions. This work took place in Bar Elias (Lebanon) which hosts a large number of refugees and vulnerable populations.

