



# **Environmental Factors and Social Tensions in Lebanon**

*Regular Perception Surveys on Social  
Tensions throughout Lebanon*

Wave 17 Thematic Report

February 2024

## Preamble by UNDP

Lebanon stands at a crossroads, with its environmental and socio-economic prospects threatened by multiple, overlapping crises. These crises have not only intensified existing environmental issues but have also brought to light new challenges. The country's struggle with environmental degradation preceded the crises and was worsened as a result of the financial collapse, political instability, and the repercussions of regional conflicts. The environmental situation in Lebanon is impacted by severe pollution, inadequate waste management, water insufficiency, continuous depletion of resources, unbalanced growth, pollution of air, water, soil and food, and degradation of biodiversity. Weak environmental governance and the lack of enforcement of legislation are underlying factors that have further deteriorated in the last few years. Moreover, the impact of the crisis in Syria has placed additional strain on Lebanon's limited resources, leading to heightened environmental challenges.

Since 2017, through UNDP's Tensions Monitoring System, the linkages between environmental challenges to the broader social tensions have become increasingly evident. The monitoring has revealed that environmental degradation in Lebanon is both a cause and a consequence of social instability. Field-based monitoring increasingly demonstrates how environmental issues contribute to conflict incidents and broader tensions. For instance, deteriorating perceptions regarding water quality and availability are leading to tensions over perceived disparities and unfair distribution of water. This tension arises from gaps in desludging, leakages into lands, or conflicts over water use. Similarly, disputes over generators or theft of electricity cables, as well as community backlash against waste accumulation, further exacerbate social tensions.

Building on this understanding, UNDP in Lebanon, in collaboration with the ARK Group, embarked on a deeper analysis of the intricate dynamics between environmental factors and social tensions, both on the inter-communal and intra-communal levels. The resultant report sheds light on behaviours and concerns related to the environment. It also explores how perceived or real environmental concerns may contribute to increased social tensions, thus emphasising the imperative for holistic solutions that address the root causes of these challenges and promote social stability, economic prosperity, and environmental sustainability. In line with this, the report offers programmatic recommendations aimed at mitigating environmental factors contributing to tensions.

## Executive Summary

Environmental challenges in Lebanon, including severe pollution, the mismanagement of natural resources, and the impact of climate change should be understood as contributing to the underlying dynamics of social tensions within the country. This report seeks to explore the complex interactions between environmental factors and social tensions in Lebanon, focusing particularly on the interrelations between the Lebanese host communities and displaced Syrians, as well as relations between different Lebanese groups. The data for this study was sourced from Wave 17 (November 2023) of the ARK-UNDP Regular Perception Surveys on Social Tensions throughout Lebanon.

### PERSPECTIVES ON THE ENVIRONMENT

**On average, Lebanese were very concerned with protecting Lebanon's natural resources.** Indeed, most Lebanese considered this just as important as addressing other economic and political challenges. This reflected a widespread acknowledgment of specific environmental issues, such as air pollution, the illegal dumping of garbage, and the pollution of oceans, beaches and rivers.

However, despite this shared concern, perspectives regarding environmental protection as a collective endeavour were much more mixed. **Many Lebanese lacked confidence in society's capacity to successfully mitigate or respond to environmental challenges.** For example, only about a third of Lebanese agreed that 'Lebanese citizens really care about protecting Lebanon's natural resources'. Environmental protection was viewed almost exclusively as a governmental/ municipal responsibility, and relatively few understood this to be an individual responsibility. Younger respondents were somewhat more likely to regard environmental protection as important, compared to older respondents. However, younger respondents were not found to be significantly more likely to prioritise addressing environmental problems over other economic and political challenges.

Provided with a list of possible environmental issues, respondents were then asked which three they considered the 'most urgent to address today'. **There was a strong consensus regarding the two most important environmental issues, which were 'air pollution from traffic, private generators, local industries' (62.1%), followed by 'illegal dumping, burning of waste, or other poor solid waste management' (58.3%).** The third most-cited concern was with 'pollution of oceans, beaches or rivers due to dumping, agricultural runoff or sewage' (36.2%). The prioritisation of concerns reflected a broad recognition of the immediate health and quality of life implications these issues pose.

Adaptive behaviours in response to environmental and energy challenges have implications for the environment and public health. These strategies, while reflective of community ingenuity and resilience, may also lead to further degradation of natural resources and escalate social tensions as communities vie for the remaining resources. **The most common adaptive action identified in this research involved 'using trees for firewood' (14.9%), due to the country's ongoing energy crisis.** Nearly as prevalent was the response of 'relocating or considering relocating due to environmental factors' (12.0%).

To better understand Lebanese perspectives on the environment, respondents were also asked about perspectives on climate change and extreme weather. **In response to: 'How serious of a problem would you say extreme weather conditions in Lebanon are?', the modal response was that extreme weather was a 'somewhat serious problem' (79.2%).** Only a minority of 3.8% said that this was a 'very serious problem', and only a minority of 17.0% said that they considered this to be 'no problem at all'

or 'not a very serious of a problem'. The most-cited exposure to recent extreme weather was for the experience of 'rains/floods' (71.6%), followed by 'forest fires' (18.2%).

#### ACCESS TO ELECTRICITY AND SOLAR POWER

Nearly all households were greatly dissatisfied with the electricity service provided by the government's *Electricité du Liban* (EDL). Amongst Lebanese, 93.8% described the quality of this service as 'poor' or 'very poor', and amongst Syrians, 95.3% likewise described the quality of this service as 'poor' or 'very poor'. For the median household, sources of power included approximately 4 hours per day from EDL, 16 hours per day from alternative sources including private generators subscriptions and/or solar power, and 4 hours of outage. Respondents were also asked, 'In your opinion, is competition over access to solar power contributing to tensions in your area?' In total, 24.6% of Lebanese and 26.8% of Syrians responded in the affirmative. **There was an urban vs rural difference in this perception, with respondents in urban areas (26.7%) significantly more likely to view competition over access to solar power as contributing to tensions, compared to rural areas (16.3%),** likely due to greater competition over limited rooftop space for new solar installations.

#### WASTE MANAGEMENT

With the same question wording used to query public satisfaction with the quality of electricity services, respondents were also asked to rate the quality of 'garbage collection, or solid waste removal' services. **Amongst Lebanese, 57.0% described the quality of solid waste services as 'poor' or 'very poor', and amongst Syrians, 48.3% likewise described the quality of these services as 'poor' or 'very poor'.** Respondents were also asked, 'Considering changes over approximately the last one year, have you noticed an increase in pests or rodents in your neighbourhood or the area around your home?' In total, 36.3% of Lebanese, and 56.2% of Syrians responded in the affirmative. **The dissatisfaction with waste management services and the increase in pests or rodents not only indicate a direct impact on public health but also on the quality-of-life disparities between Lebanese and Syrian populations.** Such environmental issues can lead to increased diseases, contribute to a sense of neglect, and exacerbate feelings of insecurity among residents.

#### QUALITY OF INTER- AND INTRA-GROUP RELATIONS

In August 2022, 40.0% of Lebanese surveyed described their interactions with Syrians as either 'negative' or 'very negative'. This figure rose to 51.2% by March 2023, before dropping to 37.3% in July 2023. **However, by November 2023 (Wave 17), the perception of more-negative Lebanese-Syrian relations had worsened again, with 47.7% reporting more-negative relations.** On the Syrian side, the perception of inter-communal relations has also deteriorated, though with less volatility. Between July 2023 (Wave 16) and November 2023 (Wave 17), the proportion of Syrians viewing their relationship with the Lebanese negatively jumped from 10.0% to 21.1%. The national trend in the perception of worsening inter-group relations was primarily driven by changes in attitudes observed in the districts of Baalbek, Hermel, Aley, Beirut, Bint Jbeil, Marjeyoun, and Baabda.

In contrast, the perception of the quality of relations between different Lebanese groups remained relatively constant over the last wave of the survey. **The percentage of Lebanese describing relations between different Lebanese groups in their area as 'negative' or 'very negative' declined from 33.6% in Wave 16 (July 2023) to 31.6% in Wave 17 (November 2023).** The most significant improvement was seen in Beirut, where the percentage of respondents describing these relations as 'very negative' declined from 56.7% in Wave 16 (July 2023) to 48.5% in Wave 17 (November 2023).

## ENVIRONMENTAL FACTORS ASSOCIATED WITH INCREASED TENSIONS

Greater public concern with specific environmental factors may contribute to increased social tensions. This hypothesis rests on the understanding that environmental issues can exacerbate existing social and economic inequalities, leading to heightened tensions between different groups. For example, as observed through UNDP's field monitoring, one of the most direct pathways through which environmental factors can exacerbate social tensions can be through increased competition for scarce resources such as water. Respondents were asked directly about incidents that were understood to be impacted by environmental factors. **However, overall rates of direct exposure to environmentally related disputes were low, with less than 1% reporting recent exposure to land and common space disputes, and only 2.1% reporting recent exposure to water disputes.**

Respondents were also asked, 'In your opinion, how have temporary settlements in your area impacted the local environment? Please consider factors like waste management, sanitation, and water use'. **Amongst Lebanese, 72.3% said that temporary settlements had impacted the environment in their area 'negatively', and only 0.3% said 'positively'.** Syrians were significantly less likely to agree, with only 30.9% saying that such settlements had impacted the environment in their area 'negatively'. For example, in Saida, the solid waste crisis continued to worsen over the last quarter of 2023. UNDP's field monitoring subsequently recorded several incidents and tensions relate to outsourcing waste collection which led to vertical tensions between the residents and the municipality as well as tensions with neighbouring villages over the usage of landfills.

Considering the relationship between multiple measures of environmental concern, and multiple measures of tensions, **a greater concern with environmental factors was consistently associated with a greater perception of social tensions, and more negative quality of relations between different groups.** However, this association was insufficient for explaining the much larger variation in Lebanese perspectives on the environment or Lebanese perceptions of the factors contributing to social tensions. **In other words, the survey did provide sufficient evidence to establish that there was a significant Lebanese concern with the environmental impacts of hosting a large number of displaced Syrians, and that this concern contributed to the perception of social tensions.** However, this analysis also demonstrated that this dynamic was not limited to Lebanese-Syrian relations; the perception that different environmental factors exacerbated existing social tensions also extended to intra-Lebanese relations.

## DISCUSSION

Social tensions in Lebanon have been shaped by the intersection of economic hardship, political instability, regional tensions, and environmental neglect, amongst other factors. **The current crisis has exacerbated environmental injustices, as the economic downturn has made it harder for the government and communities to address pressing environmental issues, such as waste management, energy supply, water scarcity, and air pollution.** The lack of resources and infrastructure to manage these issues has also disproportionately affected marginalised communities, including both displaced Syrians as well as more-vulnerable Lebanese communities. **The results presented in this analysis demonstrate some of the immediate impacts of environmental concerns in the formation of public attitudes regarding inter- and intra-group relations in Lebanon.** By better understanding the many, indirect pathways through which environmental factors, such as those considered here, might influence social tensions, stakeholders may be able to develop more effective preventative strategies, beginning with more careful consideration of environmental justice implications in the design of conflict-sensitive interventions.

## Table of Contents

Preamble by UNDP .....	i
Executive Summary .....	ii
List of Figures.....	vi
Introduction.....	1
Data and Methodology.....	2
Conceptual Approach.....	2
Limitations.....	3
Outline of the Report .....	4
Perspectives on the Environment.....	4
Concern with Protecting Lebanon's Natural Resources .....	5
Environmental Protection as a Collective Endeavour .....	5
Understanding of Specific Environmental Issues or Problems .....	7
Coping with Environmental Governance Problems.....	8
Climate Change and Extreme Weather .....	9
Access to Electricity and Solar Power .....	10
Waste Management.....	12
Quality of Inter- and Intra-Group Relations .....	13
Lebanese-Syrian Inter-Community Relations .....	13
Lebanese Intra-Group Relations .....	14
Environmental Factors in Inter- and Intra-Group Relations.....	14
Disputes over land, water, and shared/common spaces .....	14
Competition over Access to Solar Power .....	15
Environmental Factors Associated with Increased Tensions .....	16
Discussion.....	18
UNDP's Programmatic Recommendations .....	20

## List of Figures

Figure 1: Perception of Lebanese commitment to environmental protection. ....	6
Figure 2: Actors understood as responsible for addressing environmental problems in Lebanon. ....	6
Figure 3: Ranking of environmental problems in Lebanon. ....	7
Figure 4: Environmental coping mechanisms .....	9
Figure 5: Perception of challenge posed by extreme weather in Lebanon. ....	10
Figure 6: Rating of selected service quality: Waste removal, sewage, electricity. ....	12
Figure 7: Quality of Lebanese-Syrian inter-community and Lebanese intra-group relations. ....	14



## Introduction

This report seeks to explore the complex interactions between environmental factors and social tensions in Lebanon, focusing particularly on the inter-communal relations between Lebanese host communities and displaced Syrians, as well as relations between different Lebanese groups. Environmental challenges in Lebanon, including severe pollution, the mismanagement of natural resources, and the impacts of climate change should be understood as contributing to the underlying dynamics of social tensions within the country. The primary objective of this report is to provide a better understanding of how environmental degradation – exacerbated by the recent experience of Lebanon's economic crisis, the hosting of large numbers of displaced Syrians, and current levels of political instability – has influenced social dynamics and relationships within Lebanon.

Exploring the role of environmental factors in shaping social relations in Lebanon is a core component of understanding the tension and resilience landscape in the country. Environmental challenges in the country may largely be attributed to a lack of effective regulation, leading to severe consequences such as water contamination and air pollution. For example, the widespread use of generators due to frequent electricity shortages introduces significant pollution, impacting air quality and contributing to noise pollution. The degradation of natural resources and extreme weather events may not only strain economic and health systems but also negatively influence communal relations. Understanding how environmental challenges impact social relations in Lebanon involves examining the direct and indirect effects of these stressors on communities. These environmental pressures can lead to competition over scarce resources, such as clean water, further straining inter-communal relations. Moreover, the stress imposed by environmental degradation and extreme weather events can exacerbate existing socio-economic disparities, fuelling discontent and mistrust between different groups. Addressing these environmental issues, therefore, is not just about improving public health or economic conditions but also about mitigating a significant source of social tension.

Resource scarcity and environmental stresses can heighten competition and conflict between different groups. Cutting of trees for example, either to clear land for settlements or to be used as fuel for heating and cooking, is one issue which often causes both negative environmental impact and leads to tensions. This deforestation can lead to soil erosion and loss of biodiversity, impacting local ecosystems and livelihoods dependent on forest resources. Likewise, with the surge in population in specific geographies, there have also been signs of increased competition for already-scarce water resources. Competition such as this can lead to tensions either between host-communities and refugees or between different villages, especially in areas where water and other natural resource scarcity is acute. The sudden increase in population in areas with temporary settlements may also overwhelm local sewage and solid waste management systems, in particular in areas where gaps in such services exist. This can lead to environmental pollution, health risks and strained relations, as the country as a whole struggles with inadequate infrastructure. Regular UNDP field monitoring within the Tensions Monitoring System has also demonstrated how gaps in solid waste management have increasingly contributed to clashes with owners of neighbouring lands or between communities with scapegoating, evictions or threats of eviction, or unlawful measures.

These environmental factors may be understood as having a significant impact on the quality of communal relations. Conversely, effective environmental management and sustainable practices could serve as avenues for collaboration and conflict resolution, fostering social stability. Drawing



off the results from a recent, nationally representative survey of Lebanese and Syrians (Wave 17, November 2023), this report details public perceptions of environmental issues and relates these perceptions to the quality of social relations. This analysis aims to document how environmental concerns, from urgent issues to long-term sustainability, shape public attitudes and relations.

## Data and Methodology

The data for this study was sourced from seventeen waves of the ARK-UNDP Regular Perception Surveys on Social Tensions throughout Lebanon (2017 - 2023), which is a nationally representative survey conducted throughout Lebanon on a rolling basis approximately every four to six months. Amongst other themes, the survey covers various aspects of perceptions of safety and security, the perceived quality of intragroup relations, satisfaction with service provision, varieties of political participation, and help seeking behaviours. Additional question items specifically related to environmental protection and natural resources were introduced for this wave of the survey. Other question items related to social tension themes were also adjusted to provide additional response options related to environmental factors. A total of 5,000 interviews were conducted for the Wave 17 survey, contributing to a rich dataset of over 90,000 interviews over all waves of the survey to-date.

The first seven waves of the survey, as well as the most-recent waves (Wave 15-17), were conducted using a multi-stage stratified cluster design. Interviews were conducted face-to-face. However, Waves 8-14, coinciding with the COVID-19 pandemic, employed an alternative, remote means of data collection with a variation on respondent-driven sampling (RDS) methods. Details regarding the survey sampling methods employed in this research have been published separately.<sup>1</sup>

The estimates provided in this report are weighted to account for the complex survey design, including the probability of household and primary respondent selection, and the results are representative of and generalisable to the total adult population of Lebanon. The margin of error for total sample statistics within a wave is approximately less than 3.0%. This margin of error will be larger for sub-sample estimates, for example, within smaller geographic or demographic groups.

## Conceptual Approach

The theoretical framework for this analysis begins with the premise that environmental challenges may have important direct or indirect impacts on the quality or nature of communal relations, considering both Lebanese-Syrian relations as well as Lebanese intra-group relations. The intersection of ecological stressors and social relations, while complex, may be better understood through the synthesis of multiple conceptual approaches.

Environmental challenges can contribute to social tensions through mechanisms of resource competition, inequality, and governance failures, but they also hold the potential for enhancing social stability if managed collectively and equitably. The theoretical relevance of this study lies in its potential to inform policy directions that not only address environmental degradation but also foster social stability by enhancing collective environmental governance and justice.

Environmental scarcity, or the depletion of natural resources, can lead to heightened competition and potentially conflict. This notion of environmental scarcity is particularly salient for Lebanon, a country where basic services such as water and electricity are not only scarce but also unequally distributed.

---

<sup>1</sup> For additional information on survey methods, visit the [ARK-UNDP Interactive Dashboard](#), which includes access to previous reporting from this research project, as well as access to inceptions and design documents.

Competition for scarce resources can exacerbate pre-existing social divisions, which in turn can fuel discord between or within different social groups. A community's ability to manage environmental goods and mitigate conflicts may, nevertheless, be greatly enhanced by the strength of its social bonds and networks. Social resource conceptualisations, thus, also provide a lens through which to view the potential for community resilience in response to environmental challenges. However, in Lebanon, where social stability may also be eroded by political instability and economic stressors, new environmental stressors might also weaken these networks, thereby undermining the potential for communities to resolve conflicts.

The public perception in Lebanon, as detailed throughout this report, points to a crisis of governance with regards to environmental management. Robust and transparent institutions play an important role in managing common-pool resources and mitigating conflicts. Effective governance is crucial for the equitable distribution of resources and the implementation of sustainable environmental policies. A real or perceived governance vacuum can therefore exacerbate social tensions related to environmental issues. As such, questions such as, 'Who do you believe should be primarily responsible for addressing environmental problems in Lebanon?' are also prioritised in this analysis.

Concepts of environmental justice are also relevant to this analysis, given the likely relationships between the impacts of environmental degradation and the perpetuation of other social inequalities. For example, as described in more detail in the body of this report, the disproportionate reliance on private generators and informal electricity connections among different social strata illustrates a clear environmental inequity. Such disparities can lead to deteriorating social relations and increased tensions between communities, as the unequal distribution of environmental burdens, real or perceived, may contribute to or intensify pre-existing inequalities and erode social stability.

Environmental challenges can be both a cause and multiplier of conflict, but also, conversely, a domain for cooperation and peacebuilding. This distinction is particularly relevant for Lebanon, where environmental challenges might contribute to social tensions but also present an opportunity for collaborative problem-solving transcending deeply entrenched social and political divisions.

## Limitations

While this conceptual approach draws on multiple disciplinary perspectives, this may still not account for all nuances of Lebanon's complex socio-political landscape. Theories of environmental scarcity, social capital, environmental justice, human ecology, governance, and environmental security offer a wide lens for analysis but may oversimplify more complex relationships.

In terms of the specific methodologies employed in primary data collection, the reliance on survey data naturally introduces its own set of limitations. While surveys provide an effective means for gauging public perceptions and self-reported experiences, they may not always capture the depth and breadth of the issues at hand. Responses may be shaped by respondents' interpretation of the questions, their willingness to disclose information, and their understanding of the topics.

Whilst the survey explores the perceived causes of social tensions, it does not measure actual conflict occurrences or the intensity of these conflicts. As such, the findings may indicate correlations between environmental stressors and social tensions but cannot definitively establish causality. Given these limitations, the conclusions drawn from this study should be considered as indicative rather than conclusive. The study provides insights into the perceived linkages between environmental factors and social tensions in Lebanon but should be complemented by further research that can address these limitations, including qualitative studies and incident monitoring.

## Outline of the Report

This analysis of the relationship between environmental factors and social tensions in Lebanon begins with a summary of Lebanese and displaced Syrians' perspectives on the environment, including, for example, the level of concern with protecting the natural environment and the understanding of environmental protections as a collective endeavour. This is followed by a summary of findings related to the level of public satisfaction with, and environmental concerns regarding, different government services, with a focus on specific services with clear environmental impacts, for example, electricity and waste management services. The survey also included an assessment of conflict and tension events directly related to environmental factors, for example, individual and household-level exposure to water, land, and common space disputes. A summary and discussion of these results is used to better understand the public perception of some of the most direct or immediate impacts of environmental factors on communal relations. Lastly, a measure of the perceptions of the quality of relations between Lebanese and Syrians, and between Lebanese of different groups, is proposed. These measures are used as dependent variables in a series of regression models with the intent to better understand some of the more complex and indirect relationships between a range of environmental concerns, such as the public concern with pollution, and perceptions of more negative relationships between Lebanese and Syrians, or between different Lebanese social groups. The report concludes with a discussion of the implications of the research for projects and programmes, as well as a series of recommendations proposed by UNDP Lebanon.

## Perspectives on the Environment

Public perceptions of environmental problems should be considered within larger discussions regarding national priorities and policymaking. This section of the report provides a summary of people's perspectives on the environment, including the concern with specific environmental factors and a discussion of the coping strategies that have been employed within different communities to help manage the environmental impacts of the present crisis. The prioritisation of environmental issues by the public may be seen as a reflection of their immediate impacts on daily life. In the current national context, where environmental degradation has had direct and observable effects on health, livelihoods, and quality of life, understanding how the public prioritises different issues becomes even more essential. For instance, in urban areas, the quality of air and water may be of greater concern due to the dense population and industrial activities, whereas in regions more reliant on agriculture, land degradation and water scarcity might be pressing issues affecting both the economy and food security.

These priorities also intersect with broader socio-economic factors. For example, environmental degradation can exacerbate economic hardships, particularly in a country already reeling from financial collapse. The economic crisis could also have contributed to a de-prioritisation of environmental concerns, with immediate survival needs instead taking precedence. Demographic factors such as age, gender, education, and socio-economic status may also play a significant role in shaping environmental perspectives. For example, younger populations may prioritise environmental issues differently from older generations, influenced by global environmental movements and education. Likewise, levels of educational attainment might affect the awareness and understanding of environmental issues.

## Concern with Protecting Lebanon's Natural Resources

Respondents were first asked, 'How would you rate the importance of environmental protection in Lebanon?' In response, 16.9% answered 'very important', 50.3% answered 'important', and 32.8% answered 'not very important'. Respondents were then asked, as a follow-up question, 'And compared to the other economic and political challenges facing Lebanon today, how urgent do you believe addressing environmental problems is for Lebanon?' Some 30.8% said 'less important', 66.3% said 'just as important', and 3.0% said 'more important'.

Younger respondents were somewhat more likely to regard environmental protection as 'important' or 'very important', compared to older respondents. However, younger respondents were not found to be significantly more likely to prioritise addressing environmental problems over other economic and political challenges.

Asked 'how often they worried about [...] pollution levels or other environmental risks in [their] area', the modal response was that most respondents said they worried about this 'sometimes' (50.2%). Syrians were somewhat more likely to say they worried about this 'often' or 'all the time' (33.2%), compared to Lebanese (28.4%). Regionally, respondents were most likely to say they worried about this 'all the time' in the governorates of the South (29.7%) and the Beqaa (27.6%).

Younger respondents were neither more nor less concerned about pollution levels, compared to their older counterparts. Women and men also demonstrated similar levels of concern with environmental protection, and similar levels of concern regarding the risks posed by pollution levels or other environmental challenges. Men (32.4%), however, were slightly more likely than women (28.1%) to indicate that they considered addressing environmental problems as 'less important', compared to other economic and political challenges.

## Environmental Protection as a Collective Endeavour

Respondents were asked to what extent they agreed or disagreed with the statement, 'Most Lebanese citizens really care about protecting Lebanon's natural resources'. Some 30.8% said they agreed with this statement to some extent, 43.4% that they disagreed with this statement to some extent, while 25.7% provided a neutral response. Respondents were most likely to agree with this statement in the governorates of the North (57.4%), the South (52.4%) and Nabatiye (47.1%), while respondents were most likely to disagree with this statement in the governorates of Baalbek-Hermel (57.2%), Mount Lebanon (52.4%) and the Beqaa (51.0%).

The responsibility for addressing environmental problems in Lebanon was primarily understood to be a governmental concern, with a majority of 86.2% responding that the 'government of Lebanon' should be responsible. Nearly half of respondents also attributed some responsibility for this to local communities, through 'municipal authorities' (49.1%) or 'local communities' (40.4%). Only 6.7% said that 'individuals like myself' should be responsible for addressing environmental problems.

The strong inclination to view environmental protection as a government responsibility, combined with the relatively minor role seen for individual action, underscores a critical challenge in mobilising grassroots environmental movements. This perception might stem from a lack of faith in individual or community impact vis-à-vis the scale of environmental challenges, or it could reflect a resignation to the idea that significant interventions require state-level action – a problematic notion given the public perception of a lack of government intervention.

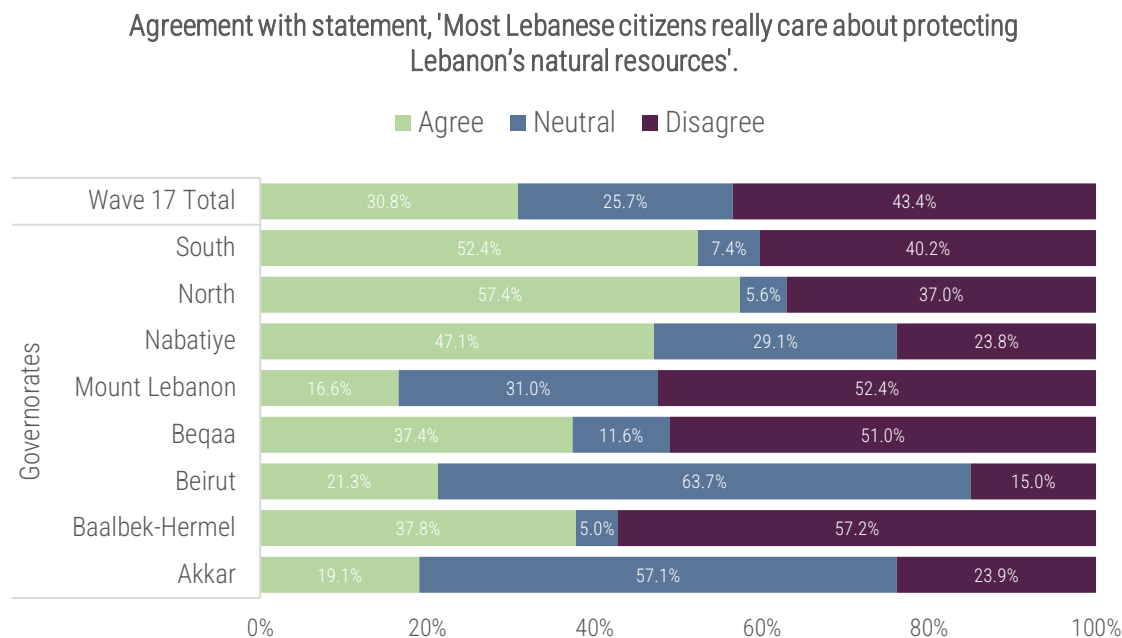


Figure 1: Perception of Lebanese commitment to environmental protection.

The acknowledgment of municipal authorities and local communities as responsible entities, albeit to a lesser extent than the national government, might signal an opportunity for localised environmental initiatives. However, the limited sense of individual responsibility highlights a potential disconnect between recognising environmental issues and feeling empowered to contribute to their solutions. Younger respondents under the age of twenty-five (8.5%) were only slightly more likely to name 'individuals like myself', compared to the average response over all other age categories (6.4%).

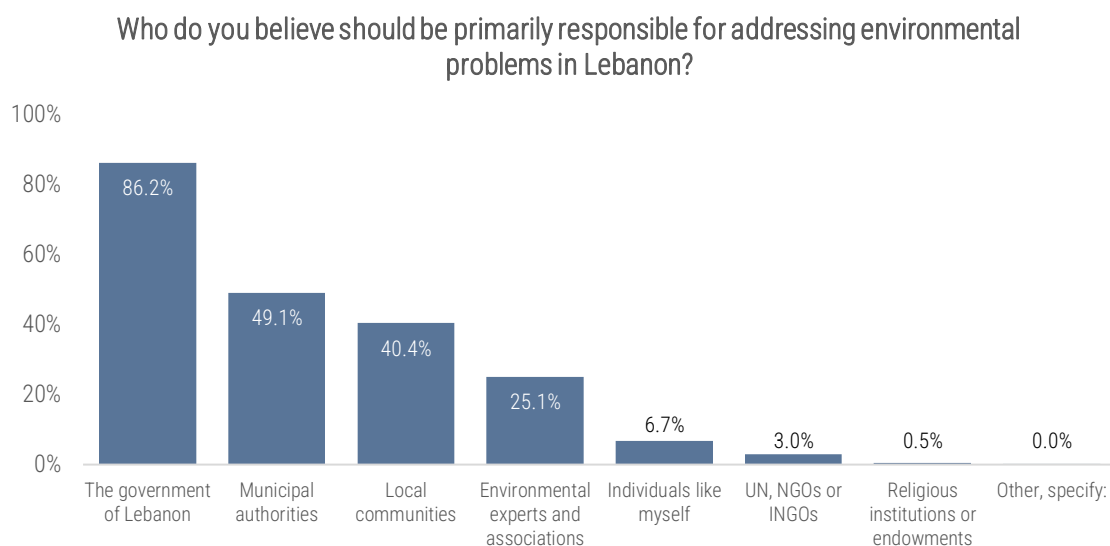


Figure 2: Actors understood as responsible for addressing environmental problems in Lebanon.

## Understanding of Specific Environmental Issues or Problems

Provided with a list of possible environmental issues, respondents were then asked which three they considered the 'most urgent to address today'. There was a strong consensus regarding the two most important issues, which were 'air pollution from traffic, private generators, local industries' (62.1%), followed by 'illegal dumping, burning of garbage, or other poor solid waste management' (58.3%). The third most-cited concern was with 'pollution of oceans, beaches or rivers due to dumping, agricultural runoff or sewage' (36.2%). As might be expected, this was understood as a much greater concern in coastal regions, including the capital of Beirut, where 63.1% of the population viewed this as amongst the environmental problems most urgent to address.

Other notable geographic differences in the perception of environmental problems included the increased concern with deforestation in the governorates of the North (24.4%), Nabatiye (15.5%), and the South (19.5%), compared to other regions (<5.0%). 'Water scarcity / shortage' was also seen as a greater problem in areas more reliant on agriculture, especially the governorates of Akkar (31.6%) and Baalbek-Hermel (26.2%). The concern with a 'lack of green spaces' was most prevalent in more-urban areas, such as Beirut (20.3%) and Mount Lebanon (30.3%).<sup>2</sup>

The prioritisation of air pollution from traffic, private generators, and local industries as the most urgent issue, alongside the problem of illegal dumping and poor solid waste management, reflected a broad recognition of the immediate health and quality of life implications these issues pose. The emphasis on pollution of water bodies in coastal regions, particularly in Beirut, points to a localised understanding of environmental priorities, where proximity to the coast amplifies concerns over marine and freshwater pollution. This concern is likely driven by the direct impact on public health, tourism, and fisheries, sectors critical to the local economy in coastal communities.

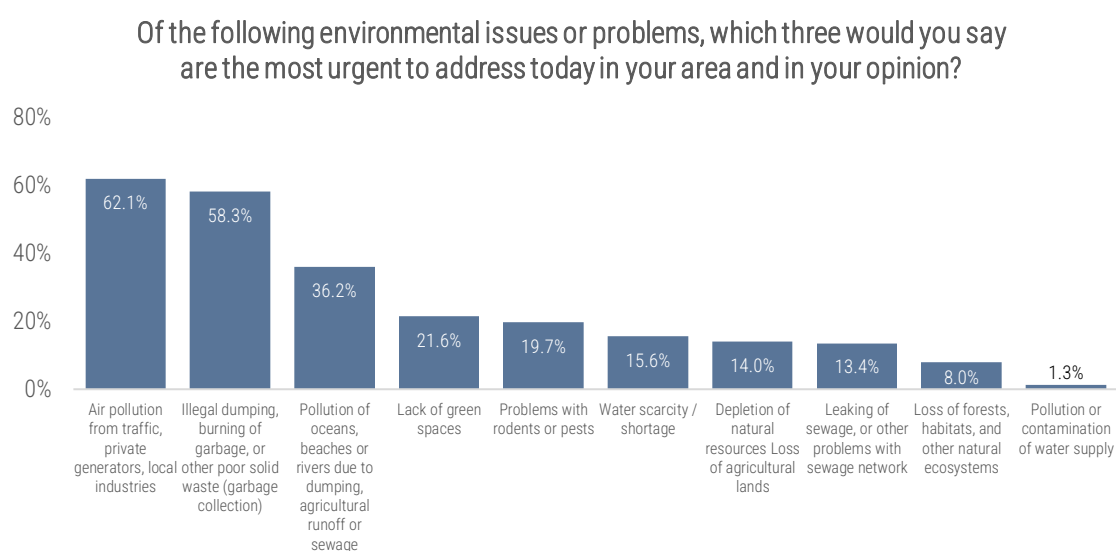


Figure 3: Ranking of environmental problems in Lebanon.

<sup>2</sup> The administrative area of the governorate of Mount Lebanon includes the southern suburbs of Beirut, many of which are densely populated, with limited access to green spaces.

## Coping with Environmental Governance Problems

Respondents were asked, 'And in the last year, due to the current economic and political situation in the country, have you or someone in your household engaged in any of the following actions?' Adaptive behaviours in response to environmental challenges – such as resorting to cutting trees for firewood due to fuel shortages or unauthorised water well digging – have significant implications for the environment. These strategies, while reflective of community ingenuity and resilience, may also lead to further degradation of natural resources and social tensions, as communities vie for remaining resources. These coping mechanisms, which should also be considered as responses to failures of environmental governance, nevertheless provide a snapshot of adaptive resilience.

At the aggregate level, the most common adaptive action, as reported by 14.9% of households, involved 'using trees for firewood', due to the country's ongoing energy crisis. Syrian households (19.6%) were somewhat more likely to report 'using trees for firewood', but the prevalence of this coping mechanism was also high amongst Lebanese households (14.4%). To the extent that deforestation due to this factor has contributed to increasingly prevalent anti-refugee narratives, this appeared to be more-concentrated in regions where Syrian households were *relatively* more likely to report recourse to this coping mechanism, compared to Lebanese households, that is, in regions where this behaviour would be considered not a 'common practice' but rather specifically a behaviour associated with displaced Syrians. This difference was mostly observed in the districts of Zahle, Bint Jbeil, Baalbek, Chouf, Nabatiyeh, Rashaya, Marjeyoun, and Western Beqaa.

Nearly as prevalent was the response of 'relocating or considering relocating due to environmental factors' (12.0%). A further 3.9% reported using 'fishing (or hunting) using different methods or in different areas' as a means of coping with socio-economic challenges. This most likely referred both to commercial and recreational hunting, for birds or small game, given the geographic distribution of responses, with a greater concentration of these reports in the districts of Marjeyoun, Bint Jbeil, Koura and Miniyeh-Danniyeh. Prevalence rankings for the remaining most-cited environmental coping mechanism are provided in Figure 4.

Regionally, these coping mechanisms exhibited significant variance, reflecting the diverse environmental and socio-economic landscapes of Lebanon's governorates. The North stood out with the highest levels of alternative fishing/hunting methods (18.2%) and the use of charcoal or other energy sources (2.6%), suggesting a resourceful but potentially unsustainable adaptation to resource scarcity. In contrast, results from Nabatiye documented an increased reliance on alternative water sources (13.4%), suggesting that water shortages may be of greater concern in this region, compared to other regions. Akkar and Baalbek-Hermel reported the highest percentages of households resorting to cutting trees for firewood (24.1% and 24.6%, respectively). In Beqaa, reports of the use of additional, previously unused land spaces (7.5%) were indicative of adaptation strategies likely fuelled by the region's agricultural focus. Lastly, households in Beirut (12.6%) and Mount Lebanon (18.7%), with their relatively greater urban density, showed lower engagement in natural resource-based coping strategies but a higher inclination towards relocation, perhaps due to urban-specific environmental stressors, such as waste management and pollution.



### Due to the current economic and political situation in the country, have you or someone in your household engaged in any of the following actions?

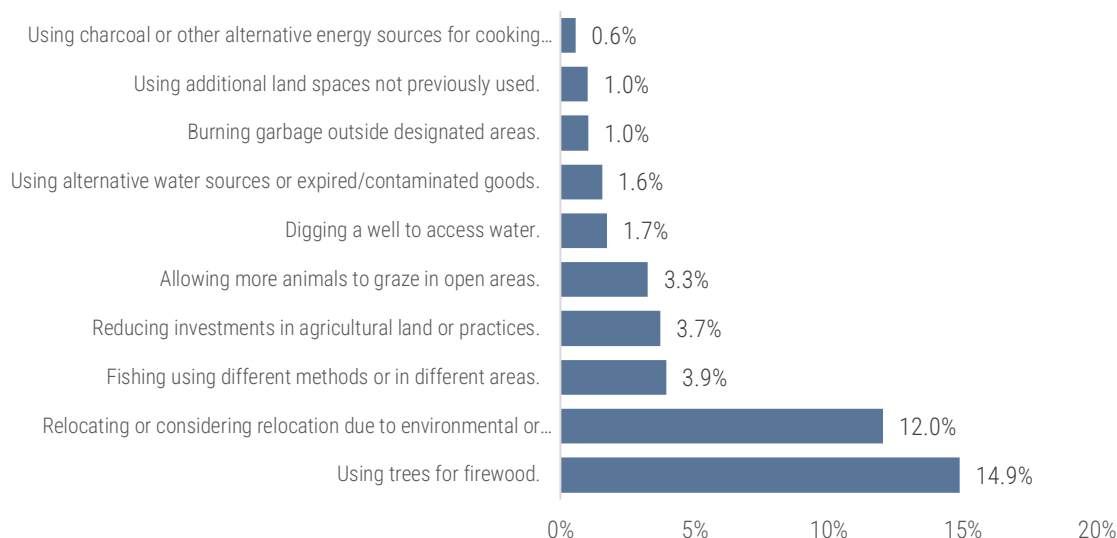


Figure 4: Environmental coping mechanisms

## Climate Change and Extreme Weather

Respondents were asked, 'How serious of a problem would you say extreme weather conditions in Lebanon are?' The modal response was that extreme weather was a 'somewhat serious' problem (79.2%). Only 3.8% said that this was a 'very serious problem', and only a minority of 17.0% said that they considered this to be 'no problem at all' or 'not a very serious' problem. Extreme weather was more likely to be considered a serious problem in geographies more reliant on agriculture, including Akkar, Baalbek-Hermel, and the Beqaa. This was consistent with the perception of the challenge posed by other environmental problems in more agriculture-reliant areas, for example, with 'water scarcity/shortage' also significantly more likely to be considered an urgent challenge to address in these areas. Geographically disaggregated results are provided in Figure 5.

Respondents were also asked about their or their household's exposure to extreme weather events with the prompt, 'To the best of your knowledge, have you or your household personally been affected by extreme weather in the last five years?' In total, 21.4% of households believed they had been affected by one or more extreme weather events. This belief was most prevalent in the governorates of Mount Lebanon (34.2%), the Beqaa (18.3%) and Nabatiye (18.4%).

The most-reported type of extreme weather events were 'rains/floods' (71.6%), followed by 'forest fires' (18.2%) and 'snowstorms' (8.9%). Considering both variation in reports of exposure to extreme weather by geography, as well exposure to specific extreme weather events, the three most-impactful types of exposure appeared to be, first, exposure to 'rains/floods' in Mount Lebanon (including Beirut's southern suburbs), second, exposure to 'forest fires' in the vicinity of Nabatiye, and third, exposure to 'snowstorms' in Baalbek-Hermel.

Persons or households reporting being affected by such extreme weather events were also asked about the type and severity of the event, i.e., how they had been impacted by extreme weather. The most-cited impact was 'health problems' (55.2%), which was also greater amongst those reporting

'forest fires' (89.7%). After 'health problems', the most-cited impact of extreme weather events was 'major home or property damage' (20.2%), which was primarily attributed to 'rains/floods'.

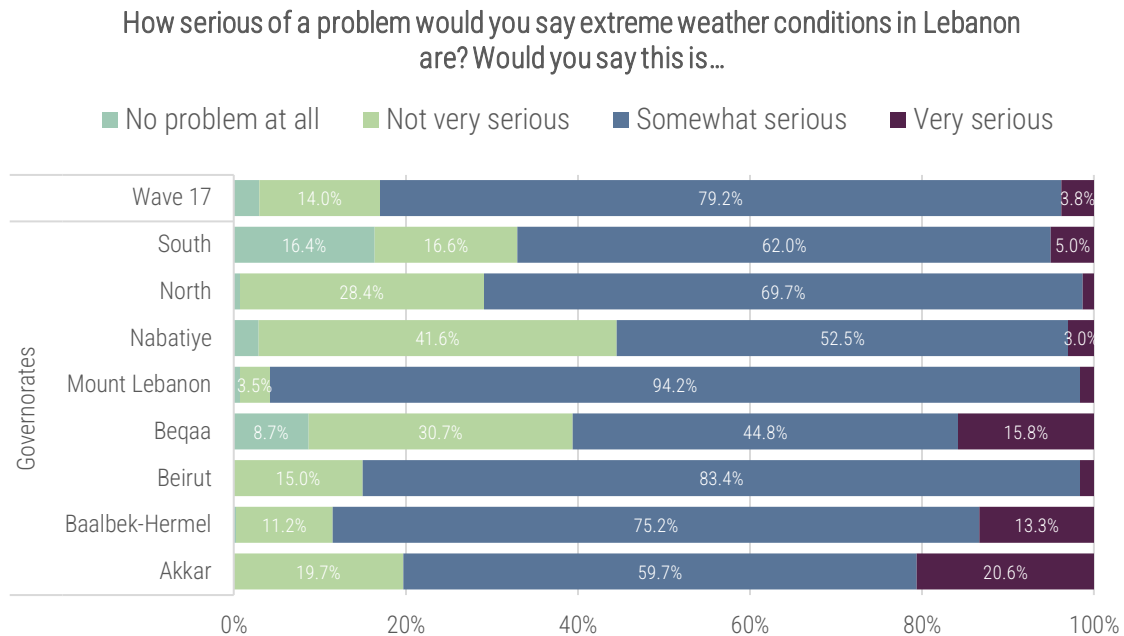


Figure 5: Perception of challenge posed by extreme weather in Lebanon.

The perception of extreme weather as a more serious problem in regions reliant on agriculture is evidence of the potential direct impact that environmental issues can have on economic livelihoods. These areas, characterised by higher levels of poverty and limited economic diversification, may be more vulnerable to the impact of climate change. The economic dependency on agriculture in these regions, in particular, may make the population more sensitive to extreme weather events, such as droughts or floods, which directly threaten livelihoods and food security. These contrasting perceptions, between different regions, point to the requirement for environmental justice initiatives addressing the unique vulnerabilities of different communities, ensuring that adaptation and mitigation efforts are sensitive to local contexts. Localised impacts, for example, affecting livelihoods, would also be expected to contribute to local tensions. As per UNDP's field monitoring, localised impacts are also increasingly leading to horizontal tensions, with citizens expressing negative sentiments towards the government and its ability to deliver needed services.

## Access to Electricity and Solar Power

The reliance on various power sources across Lebanon reflects broader issues of sustainability and environmental degradation. Communities with limited access to clean energy sources may be more likely to suffer from pollution-related health issues, further entrenching health disparities and environmental injustices. The lack of reliable electricity can also stifle economic opportunities, particularly for small businesses and agricultural sectors reliant on consistent power supply, which can in turn deepen economic disparities and contributing to social unrest. Inequality in access to electricity and clean energy sources can erode social stability, fostering resentment between different groups and geographies within Lebanon. Lastly, the ongoing electricity crisis and the

government's inability to provide stable and sustainable energy solutions may also contribute to increased dissatisfaction or lesser confidence in other state institutions.

Consistent with other recent waves of the survey, nearly all households were greatly dissatisfied with the electricity service provided by the government's Electricité du Liban (EDL). Amongst Lebanese, 93.8% described the quality of this service as 'poor' or 'very poor', and amongst Syrians, 95.3% likewise described the quality of this service as 'poor' or 'very poor'. For the minority providing a more positive report, these households almost exclusively benefited from the improved service provided through the private utility, Electricité de Zahlé (EDZ) in the Beqaa. Some households in the vicinity of Jezzine also reported benefitting from improved electricity through hydroelectric alternatives.

Respondents were asked about their access to electricity, both through EDL – and when there were outages – from other sources including private generator subscriptions and solar alternatives. On average, households reported receiving an average of approximately 4.9 hours per day of electricity 'from the grid', or EDL. In Zahle and Jezzine, this increased to an average of 17.3 and 15.2 hours per day, respectively. In contrast, the lowest levels of access to EDL power were observed in neighbouring Bsharri and Zahle, where households reported receiving only 2.3 and 2.1 hours per day from EDL, respectively. For household receiving any power from EDL, 95.3% described this as 'a legal connection to the grid', while the remaining 4.7% described this as 'an informal connection to the grid'. Rates of reliance on 'informal connections to the grid' were relatively higher in the districts of Saida, Hasbaya, Tyre, Keserwan and Jbeil, compared to other regions, as well as amongst Syrian households, compared to Lebanese households.

Most households, thus, relied on private generator subscriptions for the majority of hours of electricity each day, but levels of access to private generator subscriptions varied significantly, by region and household income. On average, households received 13.9 hours of electricity from private generator subscriptions daily, but this distribution was heavily skewed. Approximately 18.5% of households had no access to any supplemental power through private generator subscriptions, while 32.6% of households had access to 20 or more hours per day through private generator subscriptions, or enough to secure 24 hours of electricity per day from all sources.

For the median household in Lebanon, sources of power included approximately 4 hours per day from EDL, 16 hours per day from alternative sources including private generators subscriptions and/or solar power, and 4 hours of outage. This was consistent with the practice of many private generator networks to limit or reduce supply during late-night or early-morning hours in most areas. During outages, about a third of households (32.6%) reported some level of access to solar PV systems, and 14.9% also said they relied on a batteries backup system to help fill the gap.

This differential access to electricity also correlated with differences in socioeconomic status (SES). High-SES households are more likely to be able to afford extensive hours of generator power. Solar power, while environmentally friendlier, may be understood as a necessary coping strategy, given the lack of EDL power, rather than a choice for lower-SES households unable to bear the cost of private generators. This situation is an example of one of the many ways whereby economic injustice and environmental injustice may intersect, where cleaner energy options are not adopted for their environmental benefits but as a forced alternative due to energy supply constraints. Solar power, despite its environmental advantages, presents both pros and cons in this context. On the positive side, it offers a renewable energy source that reduces reliance on polluting diesel generators, contributing to lower carbon emissions and potentially improving public health by reducing air pollution. However, the initial installation cost of solar panels is substantial. Lower-SES households

utilising solar PV systems as an alternative may opt for more affordable but lower quality solar solutions. These installations, while initially cost-effective, can have a shorter lifespan and may be more prone to breakdowns and inefficiencies. The disposal of malfunctioning or end-of-life solar panels poses a significant environmental challenge, as these panels contain materials that can be harmful if not properly recycled or disposed of. Lebanon's current waste management infrastructure may not be fully equipped to handle the specific requirements of solar panel recycling, leading to potential environmental harm. This adds another layer to the environmental justice discussion, where the push for renewable energy solutions in economically constrained contexts must also account for the life cycle and disposal impact of these technologies, ensuring that efforts to mitigate one environmental issue do not inadvertently contribute to another.

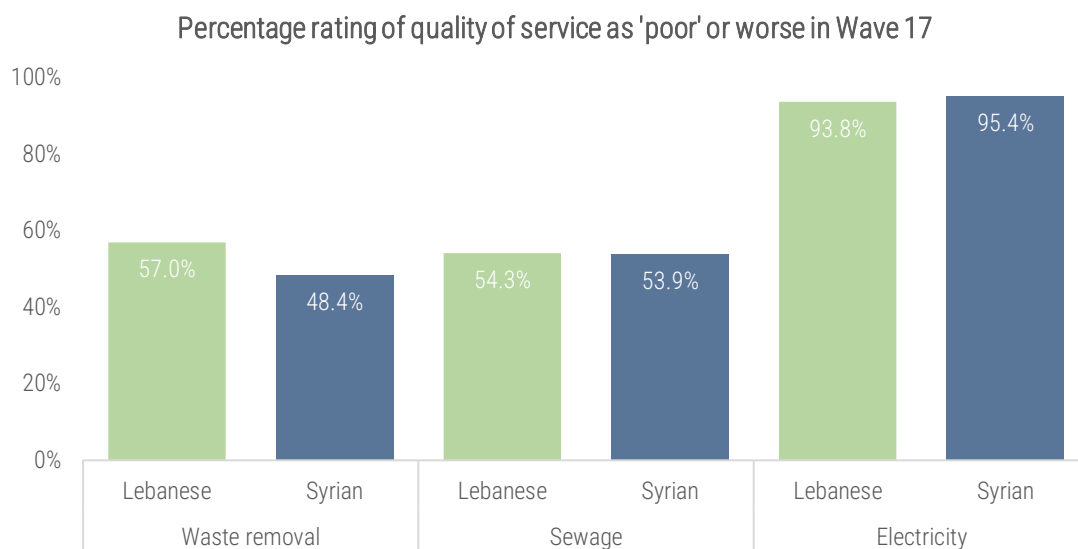


Figure 6: Rating of selected service quality: Waste removal, sewage, electricity.

## Waste Management

With the same question wording used to query public satisfaction with the quality of electricity services, respondents were also asked to rate the quality of 'garbage collection, or solid waste removal' services. Amongst Lebanese, 57.0% described the quality of these services as 'poor' or 'very poor', and amongst Syrians, 48.3% also described the quality of these services as 'poor' or 'very poor'. Oftentimes, areas with perceived poor services such as Saida, Baabda, Minnieh-Dennieh, and Tripoli are also solid waste tension hotspots.

Regarding access to different types of waste management services, respondents were asked, 'How is waste being collected in your area?' The majority of about two thirds (64.6%) said that waste was collected 'by company trucks and/or individual waste collectors', while the remaining third (35.2%) said that waste in their area was collected by 'municipal employees'. Fewer than 1% said that waste was not collected in their area or was collected by another party. Despite that fact that more households said that their waste was collected 'by company trucks', this report was primarily limited to the (much more populous) greater Beirut metropolitan area. In seventeen of the twenty-six other districts, garbage collection was more likely to be understood as a responsibility of the municipality.

This assessment of the reliance on different types of waste management services included the follow up questions, 'Is waste being sorted at source in your area (e.g. organic, recyclables, and reject)?' and 'Are there informal waste collectors in your area such as pickers and/or scavengers of waste in other areas?' Only 8.3% of Lebanese and only 4.3% of Syrians were aware of any waste sorting occurring in their area. Only in the districts of Bsharri, Zgharta and Jezzine did a majority of respondents say that they were aware of waste being sorted in their area.

The awareness of 'informal waste collectors' was somewhat more prevalent in all districts. In total, 46.0% of Lebanese and 55.3% of Syrians said that they were aware of such practices, with 'pickers and/or scavengers of waste'. This phenomenon was most prevalent in smaller but more urban areas outside of Beirut, for example, Tripoli, Zahle and the city of Nabatiye. Such tensions are frequently reported as leading to incidents, in particular, outside Beirut.

Respondents were also asked, 'Considering changes over approximately the last one year, have you noticed an increase in pests or rodents in your neighbourhood or the area around your home?' This question regarding changes in pest or rodent populations is directly related to public health concerns. An increase in pests or rodents could be indicative of declining sanitation and waste management services, posing health risks to communities. Responses may also reflect on the effectiveness of local governance and infrastructure in managing environmental health risks. In total, 36.3% of Lebanese, and 56.2% of Syrians responded in the affirmative. The report of increased problems with rodents was most prevalent in the districts of Rachaya, Western Beqaa, Zahle, Aley, Chouf, Tripoli and Miniyyeh-Danniyeh. However, the concern with rodents was not found to be directly correlated with more negative ratings of waste management services. That is, respondents who answered in the affirmative, regarding the increased presence of rodents in the area, were not significantly more likely to rate garbage collection services as 'poor' or worse.

## Quality of Inter- and Intra-Group Relations

For the purposes of this analysis, 'inter-group' or 'inter-community relations' refers to the quality of relations between Lebanese host-communities and Syrian refugee communities, whereas 'intra-group' refers to the perception of the quality of relations between different Lebanese groups, for example, different Lebanese confessional groups. To assess these perceptions, respondents were asked to rate the quality of these relations in their area, on a five-point scale ranging from 'very negative' to 'very positive'. Lebanese and Syrian respondents were asked about their perception of the quality of inter-communal relations; only Lebanese respondents were asked about their perception of the quality of Lebanese intra-group relations. Figure 7 shows the evolution of these attitudes over all waves of the survey, from 2017-2023.

### Lebanese-Syrian Inter-Community Relations

In August 2022, 40.0% of Lebanese surveyed described their interactions with Syrians as either 'negative' or 'very negative'. This figure rose to 51.2% by March 2023, before dropping to 37.3% in July 2023. However, by November 2023 (Wave 17), the perception of more-negative Lebanese-Syrian relations had worsened again, with 47.7% reporting more-negative relations. On the Syrian side, the perception of inter-communal relations has also deteriorated, though with less volatility. Between July 2023 (Wave 16) and November 2023 (Wave 17), the proportion of Syrians viewing their relationship with the Lebanese negatively jumped from 10.0% to 21.1%. The national trend in the

perception of worsening inter-group relations was primarily driven by changes in attitudes observed in the districts of Baalbek, Hermel, Aley, Beirut, Bint Jbeil, Marjeyoun, and Baabda.

### Lebanese Intra-Group Relations

In contrast to the perception of deteriorating relations between Lebanese and Syrians, the perception of the quality of relations between different Lebanese groups has remained relatively constant over the last wave of the survey. The percentage of Lebanese describing relations between different Lebanese groups in their area as 'negative' or 'very negative' declined from 33.6% in Wave 16 (July 2023) to 31.6% in Wave 17 (November 2023). The most significant improvement was seen in Beirut, where the percentage of respondents describing these relations as 'very negative' declined from 56.7% in Wave 16 (July 2023) to 48.5% in Wave 17 (November 2023).

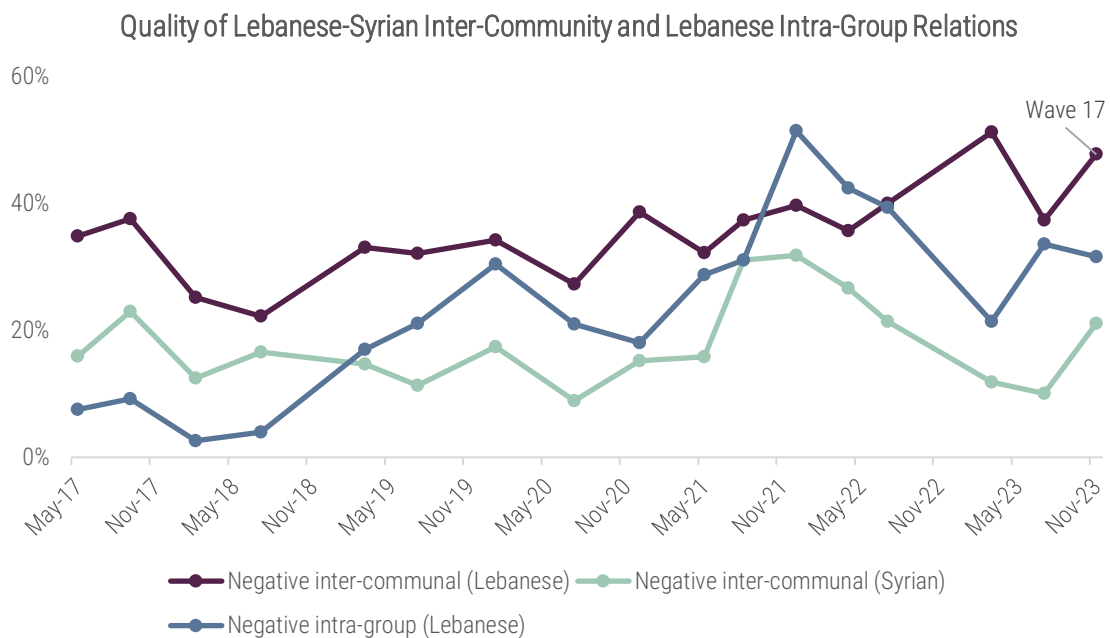


Figure 7: Quality of Lebanese-Syrian inter-community and Lebanese intra-group relations.

## Environmental Factors in Inter- and Intra-Group Relations

Greater public concern with specific environmental factors – such as those discussed in this report – may contribute to increased social tensions. This hypothesis rests on the understanding that environmental issues can exacerbate existing social and economic inequalities, leading to heightened tensions between different groups. For example, one of the most direct pathways through which environmental factors can exacerbate social tensions might be through increased competition for scarce resources. Respondents were asked directly about disputes, tensions and other conflict events that were understood to be impacted by environmental factors, such as access to water.

### Disputes over land, water, and shared/common spaces

The public's exposure to different types of conflict events, including crime and armed violence, has been measured over all waves of the survey. For Wave 17, three additional items were added to the questionnaire to assess the prevalence of land, water, and common space disputes. Respondents

were asked about, ‘disputes over property, land ownership, or how public lands are used’, ‘conflicts related to access to water’, and ‘tensions arising due to the use of shared/common spaces (like rooftops) for solar and water installations’. For each of these three scenarios, respondents were asked if they had experienced this themselves, had witnessed this, or if they had heard about a family member experiencing this. Rates of direct exposure, calculated as the sum of percentages for directly experiencing or directly witnessing each, are provided in Table 1.

Overall rates of exposure were relatively low, with less than 1% reporting recent exposure to land and common space disputes, and only 2.1% reporting recent exposure to water disputes. Nevertheless, in a country with millions of inhabitants, these relatively small percentage estimates translate to thousands of individuals and families directly affected, to varying degrees, by such disputes. The impact of these disputes may also extend beyond the individuals and families directly involved. The tensions and conflicts arising from disputes over land, water, and common space may also have ripple effects throughout communities, exacerbating social divisions and undermining efforts towards social stability.

*Table 1: Prevalence of land and water disputes, tensions related to use of shared/common spaces. Per cent witnessing or reporting personal or household-level exposure to dispute or conflict.*

Governorate	Land use/ownership disputes	Common space disputes	Water use/access disputes
Akkar	0.0%	0.1%	0.3%
Baalbek-Hermel	1.3%	1.8%	1.6%
Beirut	0.0%	0.0%	0.1%
Beqaa	1.6%	3.1%	0.8%
Mount Lebanon	1.0%	0.7%	2.5%
Nabatiye	1.8%	0.5%	4.1%
North	0.0%	1.0%	0.3%
South	0.8%	1.0%	4.0%
<b>Wave 17 Total</b>	<b>0.8%</b>	<b>0.9%</b>	<b>2.1%</b>

## Competition over Access to Solar Power

Solar power represents a sustainable alternative to Lebanon's unreliable electricity supply and the expensive, polluting diesel generators commonly used to bridge the power gap. However, unequal access to solar power might also exacerbate existing social, economic, and political tensions. For example, in regions where the government or partners have initiated solar power projects, competition for these resources can become a source of conflict, especially if allocations are perceived to be unfair or politically motivated.

Respondents were asked, ‘In your opinion, is competition over access to solar power contributing to tensions in your area?’ In total, 24.6% of Lebanese and 26.8% of Syrians responded in the affirmative. The perception that solar power contributed to tensions in the area was heightened in Aley, Western Beqaa, Chouf, Minnieh-Danniyeh, Zahle and Keserwan, compared to other districts. There was also a significant urban vs rural difference in this perception, with respondents in more urban areas (26.7%) significantly more likely to view competition over access to solar power contributing to tensions, compared to more rural areas (16.3%). Despite the relatively low report of direct exposure to common space disputes, this most likely reflected increased competition in more densely populated areas for limited rooftop space, which would be required for new solar power installations.



However, it should also be noted that, even within urban areas, the perception of competition over access to solar power varied significantly. For example, the concern access to solar power contributing to tensions was limited in Beirut (7.8%), that is, within the strict municipality/governorate of Beirut, compared to surrounding suburbs in the larger metropolitan area. Around the capital, this concern was instead concentrated in the city's eastern and southern suburbs. This was likely explained by the increased density of residential buildings in the suburbs, differences in access to EDL power, the organisation of private generator networks in these areas, and differences in the regulation and/or enforcement of building codes, by municipal authorities or building committees.

Competition over rooftop space, for solar or water installations, would also be expected to depend on the type of building, and the assessment of this difference also helps to explain some of the variation between rural and urban areas, and between urban and suburban areas. As a part of the protocol used for randomly selecting respondents, data collectors were required to enter the number of residential units in the building where the interview took place. This information was used to better understand how building type (size), or neighbourhood density, might influence perceptions or experiences of common space disputes. For example, single-family homes should be less likely to experience disputes related to the use of rooftop space, due to the lack of competition. Likewise, very large or tall buildings should also be less likely to experience disputes related to the use of rooftop space, due to the fact that such buildings are more likely to have managed roof access. Thus, disputes like this would be expected to be most common in medium-sized dwellings. And this was clearly evidenced in the survey. The concern with solar power contributing to tensions was greatest, on average, in medium sized 4-6 family unit buildings. In buildings with 5 family units, a maximum 61.2% of respondents said that they believed that access to solar power contributed to tensions in their area. Buildings of this size and type were most likely to be found in smaller urban areas (e.g. Baalbek) and in more-dense suburban areas (e.g. Minnieh-Danniyeh, Baabda, Chouf).

## Environmental Factors Associated with Increased Tensions

Inter- and intra-group relations in Lebanon are complex, and the quality of relations between different communities is likely to be determined by many factors. The concern with the environment might be one factor (amongst many) understood as playing a role in determining the quality of these relations. This analysis sought to better understand the strength of the association between different indicators of environmental concern and varied perceptions of the quality of relations between different social groups. Ordered logistic regression was used for this analysis, to assesses the strength of the relationship between a number of different environmental outcomes and the level of perceived tensions, both between Lebanese and Syrians, as well as between different Lebanese groups, while controlling for a limited selection of demographic and other factors. The measures of the perceptions of group relations outlined in the preceding section of this report (Quality of Inter- and Intra-Group Relations, p. 13) were used as the dependent variables in this analysis.<sup>3</sup>

Lebanese who perceived there to be a more negative impact from temporary settlements in their area were much more likely to regard the quality of relations between Lebanese and Syrians as 'negative' or 'very negative'. This could be due to a mechanism whereby Lebanese, having witnessed

---

<sup>3</sup> Due to the number of different environmental factors considered in this analysis, these models were primarily intended as exploratory. A positive association between a specific environmental concern and the perception of increased tensions may not necessarily be causal.

some environmental impacts of temporary settlements then formed more negative attitudes regarding the presence of displaced Syrians in Lebanon. Or conversely, this may be due to specific prejudices regarding displaced Syrians leading to increased agreement, in the survey interview, with all plausible negative impacts of the Syrian presence in Lebanon. So, the impact of temporary settlements on the environment might be understood as a proxy for broader anxieties about resource competition, changes in community dynamics, and economic pressures.

Exposure to land, water and common space disputes was also found to be significantly associated with the perception of increased tensions. This relationship was considerably stronger for the assessment of Lebanese intra-group relations, compared to inter-communal relations between Lebanese and Syrians. For example, Lebanese with any report of exposure to land, water, or common space disputes were significantly more likely to evaluate the relationship between different Lebanese groups as 'negative' or 'very negative'. This included direct exposure to such disputes but also extended to indirect exposure. Even persons who only said they had 'heard about' such disputes were also more likely to view communal relations as more negative. The relationship between exposure to disputes and more negative perceptions of the quality of relations between different groups was also found to be somewhat stronger in the case of experiencing or hearing about water disputes, compared to land and common space disputes.

Increased concern with pollution was also found to be associated with more negative perceptions of relations between different Lebanese groups. For example, Lebanese who said they 'often' or 'all the time' worried about the threat posed by pollution were nearly twice as likely to evaluate relations between different Lebanese groups as 'negative' or 'very negative'. However, increased concern with pollution was not found to be associated with perceptions of the quality of Lebanese-Syrian relations.

The response to the prompt, 'In your opinion, is competition over access to solar power contributing to tensions in your area?' was also strongly correlated with more negative perceptions of the quality of relations. Lebanese who responded in the affirmative were approximately 1.9 times more likely to describe relations with displaced Syrians as more negative, and Lebanese who responded in the affirmative were also approximately 1.6 times more likely to describe relations with other Lebanese groups as more negative.

A greater concern with environmental factors, or environmental degradation, across these multiple measures, was consistently associated with a greater perception of social tensions, and a more negative assessment of the quality of relations between different groups. This was true in the Lebanese evaluation of impact of the Syria refugee crisis on the Lebanese environment, but this trend was also far more generalised, and not specific to Lebanese concerns regarding refugee population pressure or the establishment of informal temporary settlements in an area. The same environmental factors contributing to more negative Lebanese perceptions of the quality of Lebanese-Syrian inter-communal relations also contributed – and nearly to the same degree – to more negative Lebanese perceptions of the quality of Lebanese intra-group relations.

In addition to the specific environmental outcomes considered here, common factors across both models – that is, the regression analyses used to explain variance in the perception of both inter-communal and intra-group relations – included the perception of increased competition in access to resources, greater dissatisfaction with the level or quality of governmental service provision and a difference in the rural vs urban prioritisation of environmental issues. Over the multiple measures considered in this analysis, concerns with air pollution and waste management tended to be stronger driving factors of more negative perceptions of communal relations in urban areas, whereas

concerns regarding land use, water access and unemployment tended to be stronger predictors of more negative perceptions of communal relation in rural geographies.

While there was a strong and significant relationship between more negative Lebanese perceptions of Syrians and the Lebanese perception of more severe or negative environmental impacts, this association was insufficient for explaining the much larger variation in Lebanese perspectives on the environment or Lebanese perceptions of the factors contributing to social tensions. In other words, the survey did provide sufficient evidence to establish that there was a significant Lebanese concern with the environmental impacts of hosting a large number of Syrian refugees, and that this concern contributed to the perception of social tensions. However, this analysis also demonstrated that this dynamic was not limited to Lebanese-Syrian relations; the perception that different environmental factors exacerbated existing social tensions also extended to Lebanese relations.

## Discussion

Social tensions in Lebanon have been fuelled by the intersection of economic hardship, political instability and environmental neglect, amongst other factors. These recent crises have exacerbated environmental injustices, as the economic downturn has made it harder for the government and communities to address pressing environmental issues, such as waste management, water scarcity and air pollution. The lack of resources and infrastructure to manage these issues has also disproportionately affected marginalised communities, including both displaced Syrians as well as more vulnerable Lebanese communities, in both rural and urban environments.

On average, Lebanese were very concerned with protecting Lebanon's natural resources. Indeed, most Lebanese considered this just as important as addressing other economic and political challenges. This reflected a widespread acknowledgment of specific environmental impacts, such as air pollution, the illegal dumping of garbage, and the pollution of oceans, beaches, and rivers. However, despite this shared concern, perspectives regarding environmental protection as a collective endeavour were much more mixed. Lebanese lacked confidence in the society's capacity to successfully mitigate or respond to environmental challenges. For example, only about a third of Lebanese agreed that 'Lebanese citizens really care about protecting Lebanon's natural resources'. Environmental protection was viewed almost exclusively as a governmental/municipal responsibility, and relatively few understood this to be an individual responsibility.

The impact of climate change and the threat posed by extreme weather was also identified as a significant concern. Though only about a fifth of respondents believed that they had been personally affected by this, so far, as many as four-fifths of the population believed that this was a serious threat, while looking to the future. The recognition of climate change as a serious future threat, despite limited immediate personal impact, suggests a collective understanding of its long-term consequences. This foresight could motivate preventive actions and policies. However, prioritising long-term environmental sustainability might conflict with immediate economic and social needs, creating tensions between short-term survival strategies and long-term environmental planning. The anticipation of climate change impacts could, for example, lead to debates over resource allocation, especially in a context where resources are already strained. Decisions on investing in climate resilience (e.g. infrastructure upgrades, renewable energy) versus addressing immediate needs (e.g. waste management, electricity provision) could become contentious, reflecting broader debates about how best to respond to the ongoing economic crisis in Lebanon, where grievances related to the provision of public services have been one of the main drivers of social unrest since 2019.

Nearly all households were greatly dissatisfied with the electricity service provided by EDL. Amongst Lebanese, 93.8% described their access to electricity as 'poor' or 'very poor', and amongst Syrians, 95.3% likewise described their access to electricity as 'poor' or 'very poor'. A majority of Lebanese (57.0%) and nearly half of Syrians (48.3%) also described the quality of waste management services in their area as 'poor' or 'very poor'. The overuse of natural resources and the contamination of landscapes and water bodies due to inadequate waste disposal can contribute to degradation of the environment. Poor waste management services can also heighten pollution risks, affecting access to clean water, increasing the prevalence of diseases, and resulting in other negative public health outcomes. These conditions not only pose significant public health risks but also contribute to a sense of neglect. Both Lebanese and Syrian communities suffer from these issues, but the blame may be disproportionately placed on refugees for overburdening the system.

Environmental stressors, stemming from issues such as pollution, inadequate waste management and unreliable electricity, affect all residents' quality of life and economic stability, irrespective of nationality. This shared burden can, nevertheless, exacerbate feelings of insecurity and competition for scarce resources, leading to heightened perceptions of inequality and tension. In this context, environmental degradation acts as a magnifier of existing socio-economic disparities and governance shortcomings, highlighting the system's inability to provide for residents' basic needs. This situation may foster feelings of frustration and resentment, which may be misdirected towards visible 'out-groups', such as refugees, but fundamentally stems from broader systemic failures.

Efforts to mitigate environmental degradation in refugee-hosting areas, nevertheless, would be expected to contribute to improved inter-communal relations, so long as Lebanese communities feel they also directly benefit from these improvements. Otherwise, such efforts could also contribute to the Lebanese perception that refugees have benefited disproportionately from international assistance. Consistent with previous findings regarding the Lebanese perception of the capability and fairness of international assistance, in this most-recent wave of the survey, nearly nine-in-ten Lebanese believed that 'vulnerable Lebanese have been neglected in international assistance'.

The widespread recognition of shared environmental concerns may also present an opportunity for collaborative action. Recognising the common threat, posed by a lack of environmental justice and poor environmental governance, could foster collaboration between different social groups, including both Lebanese and Syrians, thereby creating opportunities for joint initiatives. Such initiatives would seek to address immediate environmental issues, while also mitigating tensions.

The urgency of addressing environmental inequality parallels the urgency to tackle economic disparities. Extreme weather events, due to climate change, and environmental degradation are likely to continue to exacerbate existing inequalities, hitting the poorest and most vulnerable hardest. The results presented in this analysis demonstrate some of the immediate impacts of environmental concerns on attitudes regarding inter- and intra-group relations in Lebanon. By better understanding the many, indirect pathways through which environmental factors might influence social tensions in the country, stakeholders may be able to develop more effective preventative strategies, beginning with more careful consideration of environmental justice implications in the design of conflict-sensitive projects and programmes. The integration of environmental justice perspectives in the design of conflict sensitive projects and programmes will help ensure that interventions not only mitigate environmental impacts but also promote fairness and reduce inequalities between and within communities.

## UNDP's Programmatic Recommendations

The insights from the Environmental Factors and Social Tensions in Lebanon report underscore the pressing need for Lebanon to embrace a comprehensive strategy to tackle environmental and socio-economic challenges. This entails an approach which strengthens environmental governance with updated laws and increased institutional capabilities, crucial for the effective management and protection of natural resources.

UNDP's extensive work and research in the environmental field has contributed to a comprehensive set of environmental policies and legislation adopted during the last decade. Moving forward, in UNDP's Country Programme Document for Lebanon (2023-2025), green and inclusive development is one of its three programmatic core pillars where UNDP remains committed to continue to support the effective and efficient implementation of environmental policies and legislation at all levels.

This report provides unique insights into the complex interplay between environmental factors and social tensions in Lebanon. In response to the report, UNDP in Lebanon has formulated a set of programmatic recommendations to inform partners, donors, and decision-makers in their environmental efforts, ensuring that they do not only promote environmental resilience but also sustainable development, and social stability. These recommendations highlight the need to:

- **Address environmental, economic, and social factors simultaneously through a holistic approach as their linkages are evident.** Policies should promote sustainable development, ensuring environmental protection, economic stability, and social equity.
- **Address public perceptions through awareness campaigns and education to bridge the gap between concern and action.** The evidence presented that there is a strong inclination that environmental protection is a government/municipal responsibility, combined with a minor role for individual action, underscores a critical challenge in mobilising grassroots environmental movements. This emphasizes the need and potential for further community engagement in sustainable practices.
- **Consider behavioural insights when addressing environmental concerns.** The most important environmental issues according to the public are those that trigger specific concerns around immediate health and quality of life (such as air pollution and illegal dumping/burning). Integrating those insights into awareness raising can play a significant role in promoting positive actions.
- **Enhance disaster preparedness and response at all levels, as it is critical to decrease the negative effects, including on local communities.** Extreme weather and climate change is quoted by almost 80% as a 'somewhat serious' problem, with more than 20% of households reporting being affected by one or more extreme weather events. This further emphasizes the need for early action and preparedness at the local level.
- **Prioritise waste management:** Solid waste management is not only a major environmental issue but also a key tensions driver, in particular in urban areas and areas close to informal tented settlements and collective shelters. With Lebanon's waste management crisis, short-term solutions such as distributions of bins and garbage collection are inadequate. Rather, more sustainable practices are needed. Solutions should align with national strategy and ensure financial viability, in terms of cost-recovery for service provision such as waste collection and treatment, needs to be the basis for all solutions adopted so that the provision

of these services can continue. Further to this, UNDP recommends the implementation of integrated waste management systems that include recycling, composting, and proper disposal methods to improve public health and environmental quality. Enhanced collaboration between government, private sector, and communities is essential for effective waste management.

- **Put in place overarching strategies for water resources:** The compounded crisis, in particular the socioeconomic and electricity crisis, have had a significant impact on perceptions on the quality and accessibility of water, which in turn manifests in tensions and incidents between and within communities. But there are also exogenous factors such as geographic disparities in service provision; disparities in electricity outages; population pressure; pre-existing tensions and negative relations; and lack of trust in institutions. Addressing these challenges requires overarching strategies prioritizing conservation, efficient usage, and infrastructure development. Cost-recovery for water services, including treatment and distribution of water supply, is essential.
- **Transition towards renewable energy sources:** Lebanon's energy crisis reflects broader issues of sustainability and environmental degradation. Gaps in access to electricity, and inequality in access to alternative sources continue to contribute to tensions between different groups and towards the state with clashes over generators. In this context, transitioning towards renewable energy sources emerges as a vital step towards mitigating Lebanon's energy crisis and improving environmental health. The impacts of climate change, including increased temperatures, altered precipitation patterns, and more frequent extreme weather events, intensify Lebanon's environmental vulnerabilities. Implementing measures to reduce greenhouse gas emissions, alongside adaptation strategies to cope with the changing climate, is essential for securing a sustainable future for the country.
- **Advocate for environmental justice and conflict-sensitive environmental strategies:** Environmental and social impacts add another layer of complexity to tensions and conflict. This requires policies that accommodate the needs of all populations, including refugees. Through international collaboration, Lebanon can access the essential expertise, resources, and best practices needed to confront its environmental challenges. One key element in that regard is to continue to advocate for environmental justice, ensuring equitable access to resources and inclusive policies that consider the needs of all community members. Conflict-sensitive environmental management strategies that address the root causes of tensions are crucial for fostering social stability.
- **Accelerate opportunities for green jobs to address tensions and promote environmental protection:** In a context where access to jobs continues to be a main tension driver, economic diversification towards green jobs and sustainable industries does not only offer a pathway to employment opportunities, but it also contributes to reducing tensions and environmental protection.
- **Identify and address emerging environmental issues:** Equally important is addressing emerging environmental issues such as unplanned urbanization, quarrying, and chemical management, which pose significant threats to Lebanon's environmental integrity and indirectly amplify the environmental causes to the tensions identified in this report.