

CLIMATE, PEACE, AND SECURITY CONSULTATION IN YEMEN

RESULTS REPORT 2026

WEATHERING RISK
PEACE PILLAR



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EXECUTIVE SUMMARY

This report presents the results of an extensive consultation as part of the project *Environmental Pathways for Reconciliation in Yemen*, which aims to support locally led and sustainable peace by using the environment as an entry point and key element of peacemaking. The project builds upon the findings of an initial consultation with 15,870 individuals facilitated by the European Institute of Peace in 2020–2021. It found that the environment ranks among the highest priorities of the local population when asked about urgent needs in the context of the search for peace and reconciliation,¹ demonstrating that environmental concerns offer an unexplored entry point for common peacemaking and reconciliation efforts in Yemen.

The consultation informing this report examined the environmental dimension of local grievances and conflict further by exploring Yemenis' perceptions of environmental issues, their impact on peace and security, and existing or potential environmental peacemaking solutions. It consisted of a survey conducted with a wide array of ordinary citizens whose views are often overlooked in political and peace efforts, as well as semi-structured focus group discussions and key informant interviews with influential individuals. Conducted during 2023 to 2024, **this extensive consultation reached a total of 3,694 people** across the thirteen governorates of Aden, Taiz, Marib, Al-Mahra, Al-Hodeidah, Shabwah, Sana'a, Al-Dhale', Hajjah, Hadramawt, Al-Jawf, Abyan, and Ibb.

This analysis reveals the multiple dimensions of environmental risks that Yemen is grappling with and their impact on its social fabric, human security, and conflict. The results also provide insights into the gaps and potential entry points when addressing these risks, especially with a focus on peace and reconciliation. This report expands on the findings from the first two rounds of consultations conducted in nine of the thirteen governorates during 2023 and the subsequent results compiled in the 2024 report,² adding perspectives and insights from the four new governorates of Hadramawt, Al-Jawf, Abyan, and Ibb.

Key findings

The results of this consultation reveal an urgency to implement conflict resolution and prevention approaches that are sensitive to the perspectives, needs, and priorities of Yemenis in a context of multifaceted security risks that are significantly connected to natural resources, environment and climate change. The consultation also highlighted the major opportunities for peacemaking through environmental dialogue, conflict-sensitive natural resources management, environmental protection, and climate change adaptation efforts, some of which are already ongoing, led by local and international actors alike.

The relevance of environmental issues in driving conflict and the opportunities for peace emerging from this report highlight a need to promote more efforts to better understand and address environment-related security risks in Yemen, including their impact on livelihoods and community cohesion, and the untapped opportunities to leverage them for peacemaking at the community and national levels. More specifically, the key findings of the report include:

1. European Institute of Peace (Dec. 2021). *Pathways for Reconciliation in Yemen*. Available at: <https://www.eip.org/publication/pathways-for-reconciliation-in-yemen/>
2. European Institute of Peace (2024). *Environmental Pathways for Reconciliation in Yemen. Consultation Report 2024*. Available at: <https://www.eip.org/publication/environmental-pathways-for-reconciliation-in-yemen-consultation-report-2024/>

1 | ***Yemenis across the country are knowledgeable and concerned about climate change and environmental degradation.***

Seven out of ten Yemenis recognise climate change as having at least a moderate impact on their daily lives, with nearly 85% expressing concern. While pointing to high levels of awareness overall, self-reported knowledge about climate change and its impacts varies significantly across demographics, with higher education and certain employment sectors correlating with greater understanding. Women reported slightly lower understanding than men, encouraging further investigation into the factors that support or obstruct access to information about climate change. Geographically, Abyan and Taiz show the highest concern, while Ibb, Al-Jawf, Hajjah, and Sana'a report less frequent thoughts on climate change.

2 | ***Yemen's population faces a myriad of environmental risks affecting livelihoods and human security.***

As over 80% of survey respondents consider the natural environment essential or important to secure their income, it is deeply worrying that 92% perceive a reduction in the availability of and access to natural resources in the recent years, notably in water, gas, and fuel. Water shortages are a particular concern, exacerbated by unsustainable, unregulated groundwater exploitation for agricultural use and its declining quality. Other environmental risks add to this, including different forms of pollution and extreme weather events. These challenges significantly affect daily life for 76% of respondents, leading to diminished access to essential goods, rising prices, and food insecurity. Vulnerable groups, including internally displaced persons and those dependent on natural resources, disproportionately bear these burdens.

3 | ***Unaddressed environmental issues drive tensions in Yemen, especially at the local level.***

Over half of respondents reported tensions or conflicts in their districts due to environmental factors, especially in Marib, Taiz, Al-Dhale', Abyan, and Ibb. Pollution and water scarcity are the main environmental issues perceived as leading to conflict. Human practices and governance-related aspects that include access, control, and the exploitation of natural resources are identified as primary drivers of tensions, aggravated by socio-economic factors such as demographic pressure through population growth and displacement. Women reported slightly more perceived tensions over environmental issues than men, and higher education levels correlated with increased reporting of such tensions.

4 | ***Addressing environmental risks with an integrated approach can be a solution to build resilience and social cohesion in Yemen, including as part of the peace process.***

Over 80% of Yemenis consulted consider it essential to respond to climate change and protect the environment in the short term. A significant majority (57%) also believe that environmental challenges should be integrated into peace negotiations. However, responses point to a substantial gap in public awareness of formal environmental policies or laws (70% unaware) and whom to approach for environmental concerns (64% unaware), indicating that formal institutions, channels, and frameworks seeking to address environmental issues are not sufficiently reachable for the local population. In this context, local community initiatives are recognised for their role in resolving environment-related disputes and addressing environmental risks to security, highlighting the potential for localised solutions in enhancing public agency.

Given the severity of the environmental crisis and the impact of the national conflict on governance and provision of basic services, it is no surprise that local institutions are weak and almost non-existent in some places. Accessibility to those that exist is identified as limited and local customary and community actors fill the role for dispute resolution. In this context, rather than a demand for improved environmental governance as a precursor to sustainable peace, **the issues identified in this report provide an opportunity to build an approach to environmental peacemaking that engages the agency of those most directly affected by the conflict and the environmental crisis.** The report provides a basis to inform action that helps build, rather than wait for, accountable governance structures. The core of that structure lies in three areas:

- *Engagement with the environmental concerns of the affected population,*
- *Encouragement and facilitation of their participation in identifying plausible strategies to address the environmental and climate risks in relation to the ongoing conflict, and*
- *Around these processes, build effective institutions that can both implement and be held accountable.*



Photo: Flood damage in Marib. ©Nazeh Mohammed (EIP, 2024).

INTRODUCTION

Since its unification, Yemen has endured many conflicts that have fragmented its society, strained the economy, and caused extreme humanitarian suffering. Since its escalation in 2015, the armed conflict has only grown more violent, and in the past years, has been coupled with an unprecedented humanitarian and environmental crisis.

1.1

CLIMATE, ENVIRONMENTAL AND CONFLICT CONTEXT IN YEMEN

Yemen has long faced mounting structural, economic, social, and security challenges. Following uprisings in 2011, as part of the Arab Spring, a takeover of Ansar Allah (commonly referred to as the Houthis) in 2014 that politically and militarily opposed the Government of Yemen (GOY), contributed to a faltering political transition. Emerging tensions have escalated from a political impasse into full-scale hostilities, involving many Yemeni and external parties. Repeated peace efforts halted violence intermittently but did not achieve a settlement of the conflict as of today. Without tackling the conflict's root causes, including the environmental factors driving Yemen's multifaceted crisis, a sustainable and inclusive resolution of the conflict remains out of sight.

The protracted armed conflict has contributed to large-scale environmental degradation and the deterioration of Yemen's natural resources.

Destructive military activity, including attacks on oil and gas infrastructure and the planting of mines, are coupled with a shortfall in public management and unsustainable livelihood practices, all driven by the political, economic, and humanitarian crises. With a majority of the country's population directly or indirectly relying on income from the agricultural sector,³ the environmental impact on livelihoods is significant. Currently, an estimated 19 million people depend on humani-

tarian assistance.⁴ Lacking basic services, many people resort to unsustainable practices such as deforestation, a shift to water-intensive cash crops, and well-drilling.⁵

Climate change is compounding Yemen's complex crisis.

In recent years, the country has repeatedly experienced drought, floods and storms, pest infestations, sudden disease outbreaks, erratic rainfall patterns, and rising sea levels. In 2023, natural disasters displaced close to 320,000 people from their homes.⁶ Since 1971, temperatures in the country have been increasing by an average of 0.42°C per decade and are set to rise further by 1.2–3.3°C by 2060, with related challenges likely to accumulate.⁷

These trends undermine livelihoods, drive competition for natural resources, and hence contribute to hostilities and insecurity.

Even before the outbreak of the national armed conflict, the competition for access to water and land had already led to local tensions. In 2010, it was estimated that 70–80% of rural conflicts in Yemen were related to water, and an assessment from 2014 found that one-third of cases in Yemen's criminal courts involve deaths due to water-related conflict.⁸ Urbanisation and internal displacement are putting an additional strain on natural resources and contribute to grievances.

3. Thamer, M., Ali, A. and Al Aghbari, I. (2023). Agriculture and Yemen's Economy. Carnegie Endowment for International Peace. Available at: <https://carnegieendowment.org/sada/89763>
4. Yemen. Humanitarian Needs and Response Plan. Available at: <https://www.unocha.org/publications/report/yemen/yemen-humanitarian-needs-and-response-plan-2025-january-2025>
5. Abdullah, K. (2021). With fuel scarce, Yemen's forests are the next casualty of war. Reuters. Available at: <https://www.reuters.com/business/environment/wider-image-with-fuel-scarce-yemens-forests-are-next-casualty-war-2021-08-11/>; FAO (2018). Water management in fragile systems: building resilience to shocks and protracted crises in the Middle East and North Africa. Available at: <https://www.fao.org/3/i9730en/I9730EN.pdf>; YFCA (2023). YFCA (2023). Climate Change Impacts on Yemen and Adaptation Strategies. Available at: <https://reliefweb.int/report/yemen/climate-change-impacts-yemen-and-adaptation-strategies>
6. UNFPA Yemen (2024). UNFPA Response in Yemen Situation Report – Oct-Dec 2023. Available at: <https://yemen.unfpa.org/en/publications/situational-report-04-october-december-2023>
7. De Coning, C. *et al.* (2023). Yemen: Climate, Peace and Security Fact Sheet. NUPI/SIPRI. Available at: <https://www.nupi.no/en/news/climate-peace-and-security-fact-sheet-yemen>
8. UNDP (2023). Water-related Conflict Assessment Report. Available at: <https://www.undp.org/yemen/publications/water-related-conflict-assessment-report>; The Hague Institute for Global Justice (2014). The Political Economy of Water Management in Yemen: Conflict Analysis and Recommendations. Available at: <https://www.academia.edu/30646733>



Photo: Camel herder in Al-Mahra. ©Nazeh Mohammed (EIP, 2024).

Fragmented governance, strained resources, and a lack of technical expertise are among the challenges impeding efforts to adapt to climate change and build resilience against its risks, adding significant pressure to the entrenched social, political, and security crises.

By fostering trust and resilience, resource and environmentally driven conflicts can be prevented and resolved, contributing to sustainable peace. In a previous consultation conducted by the European Institute of Peace in 2020–2021, respondents from eight out of nine governorates selected “restoring and protecting the environment” as their first or second highest, short-term priority, sometimes even above “ending the main war.”⁹ This shows that addressing environmental challenges cannot be delayed until the conflict is resolved, given the high potential for tension and grievance that they entail.

However, environmental issues have rarely been considered during attempts to foster peace on a national level, which so far have failed to reflect a long-term vision that considers not only the key interests of the main parties to the conflict, but also the needs and priorities of the civilian population. This has led to a failure to address systemic issues that undermine a sustainable resolution of the conflict, including its environmental repercussions. While Yemen’s civil society and communities have been concerned with mediation and conflict resolution in relation to natural resources and other environmental matters for decades, such efforts have remained largely confined to the local level. At the national level, an integrated environmental peacemaking approach that is sensitive to the environmental root causes of conflict and the increasingly urgent climate change factors, remains largely unexplored.

9. European Institute of Peace (2021). Pathways for Reconciliation in Yemen. Available at: <https://www.eip.org/publication/pathways-for-reconciliation-in-yemen/>

1.2

ENVIRONMENTAL GOVERNANCE IN YEMEN

Yemen has an extensive legal and institutional framework governing the environment. Institutionally, the main body tasked with climate-related issues is the Ministry of Water and Environment, which is organised into several units, including a Climate Change Unit, the National Water Resources Authority, and the Environmental Protection Authority, among others. The Ministry of Agriculture, Irrigation and Fish Wealth complements this institutional framework, taking a central role in overseeing resource use, particularly water, within Yemen's agricultural sector.

A set of policies and strategies has been developed that address climate and environmental concerns. Relevant frameworks include a National Adaptation Programme of Action from 2009,¹⁰ the 2015 Intended Nationally Determined Contributions under the UNFCCC framework to reduce emissions,¹¹ a National Biodiversity Strategy and Action Plan from 2005¹² that was updated in 2017,¹³ and a draft Country Finance Programme¹⁴ from 2024 laying out priorities for climate adaptation measures. Moreover, an array of national laws exist to regulate biodiversity conservation (law 26, 1995), urban planning and use of land for agriculture and the protection of natural resources (law 20, 1995), overfishing and aquatic resources (Presidential Decree on law 43, 1997), marine pollution (law

11, 1993 and law 43, 1997), the use of pesticides and fertilisers (law 25, 1999 and law 20, 1999), waste management (law 39, 1999), and water (law 33, 2002). In addition, customary rules and traditional practices over water rights exist locally but vary by demographic and tribal agreements set in place.¹⁵

However, policy development and enforcement have been facing significant hurdles since the escalation of the conflict. Strained institutional capacity and infrastructure, a lack of economic resources, and gaps in inter-institutional coordination have hampered the effective governance of environment- and climate change-related matters. These limitations concern both environmental and security policy, not to mention joint mechanisms that tackle their interfaces. As most existing policies date back at least a decade, more recent developments concerning the country's environmental, socio-political, economic, and security situation, remain largely overlooked. Adding to this come the insufficient availability and capacities to produce reliable and specific climate data to inform effective policy-making. As the conflict continues, much of the remaining institutional capacity is directed towards addressing immediate humanitarian needs, with long-term action to mitigate and adapt to the impacts of climate change and environmental degradation fading into the background.¹⁶

10. Republic of Yemen (2009). National Adaptation Programme of Action. Available at: https://www.adaptation-undp.org/sites/default/files/resources/yemen_napa.pdf

11. Republic of Yemen (2015). Intended Nationally Determined Contribution (INDC) under the UNFCCC. Available at: <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Yemen/1/Yemen%20INDC%2021%20Nov.%202015.pdf>

12. Republic of Yemen (2005). National Biodiversity Strategy and Action Plan. Available at: <https://www.cbd.int/doc/world/ye/ye-nbsap-01-en.pdf>

13. Republic of Yemen (2017). National Biodiversity Strategy and Action Plan II. Available at: <https://www.cbd.int/doc/world/ye/ye-nbsap-v2-en.pdf>

14. Republic of Yemen (2024). Yemen Country Programme. Green Climate Fund. Available at: <https://www.greenclimate.fund/document/yemen-country-programme>

15. See e.g. Muharram, I., Alsharjabi, K. and Mutahar, A. (2019). Traditional Rights of Irrigation Water in Some Yemeni Wadis. *Int. J. Soc. Sci. Humanit. Res.*, 7, pp.538-545.

16. Barry, S., McMurray, S. and Schmelzer, N. (2024). Integrating Climate Security into Policies: Roadmap for Yemen. Berlin: adelphi. Available at: <https://climate-diplomacy.org/magazine/conflict/integrating-climate-security-policy-frameworks-roadmap-yemen>



Photo: Unaddressed plastic pollution on grazing lands near Taiz City. ©Nazeh Mohammed (EIP, 2023).

1.3

METHODOLOGY OVERVIEW

The consultation employed a comprehensive mixed-method approach, integrating quantitative and qualitative tools, including a survey, focus group discussions, and key informant interviews. The variety of tools guarantees that the perspectives of individuals from different communities are included to provide a more nuanced view of Yemeni society at large. Participants were

selected to represent different societal groups, ranging from ordinary citizens and marginalised groups—typically underrepresented in political processes and considered particularly vulnerable to climate impacts—to more influential individuals on the community, district, or governorate level. The total number of individual participants was 3,694.

- **Survey:** Most respondents (3,428 individuals) were consulted through a survey consisting of 25 questions, which was rolled out through enumerators on the streets and in public spaces. Survey participants were selected randomly to represent a variety of inhabitants; however, certain parameters were considered to ensure the sample's representativeness. These included a representation of at least 35% women, as well as allowing for a diversity of age groups and education levels.
- **Focus group discussions:** 202 individuals were consulted in small groups of up to 12 participants to allow for more in-depth discussions. The groups were comprised of selected individuals representing groups that are particularly vulnerable to the impact of climate change (e.g. internally displaced people (IDPs), women, older adults, fishermen, and farmers), as well as those holding positions of higher influence in their communities.
- **Key informant interviews:** 64 interviews were held with experts and decision-makers at different levels to complement the data, and to collect perspectives from higher-level representatives on the topics discussed.¹⁷

The consultation included two components:

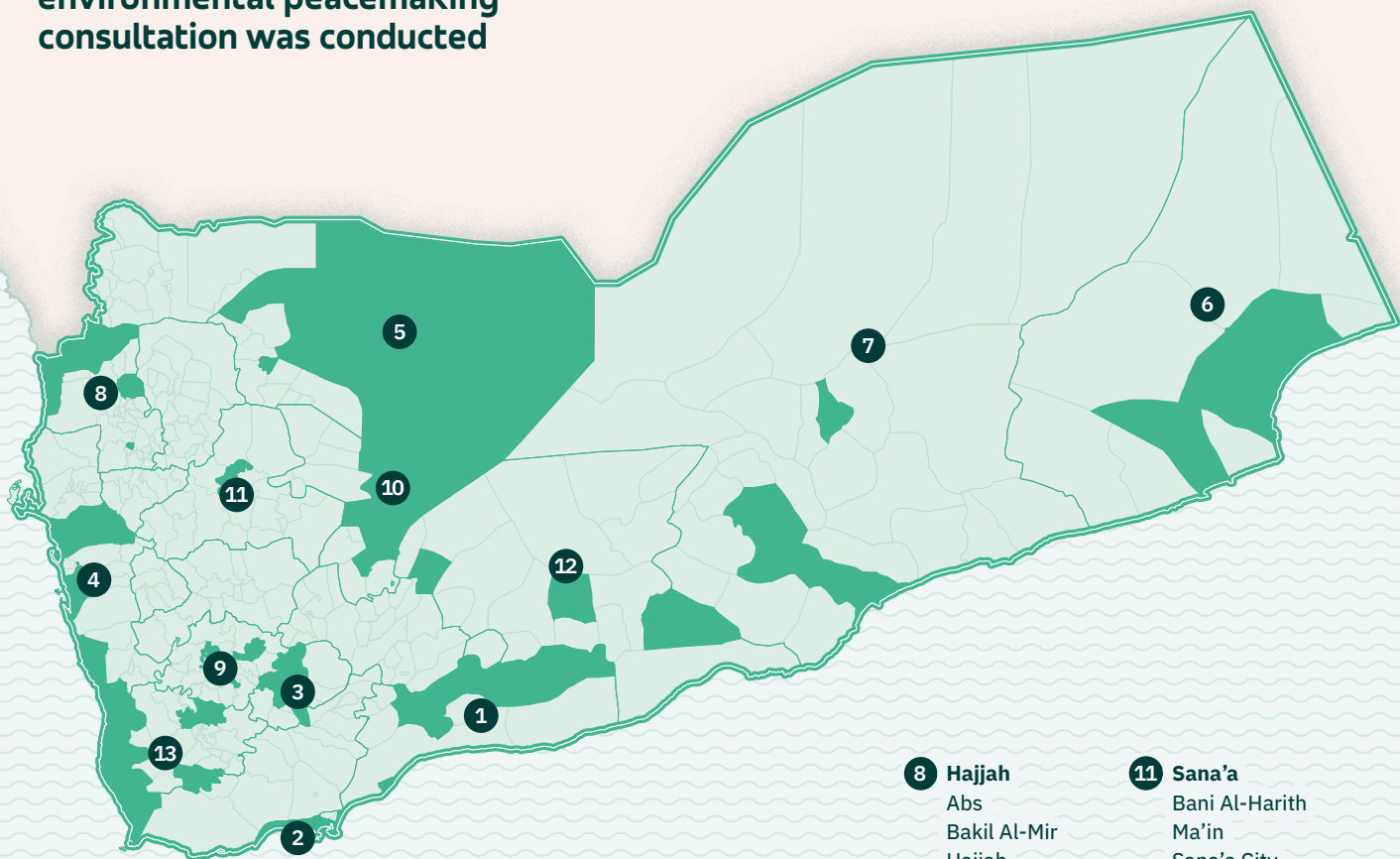
1. **Challenges related to environmental and climate-security risks**, which asked respondents to share their level of awareness and knowledge of environmental matters, including conflict risks related to natural resources management, environmental degradation, and the impacts of climate change.
2. **Needs and potential environmental peacemaking solutions**, which invited respondents to reflect on the importance of responding to climate change, integrating environmental considerations with respect to peace and political efforts, and identifying solutions and actors to address climate and environment-related security risks through peacemaking.

17. See [Annex 1](#) for further details on the methodology applied and [Annex 2](#) for the complete survey sample.

The consultation was conducted across 49 districts in the thirteen governorates of Marib, Al-Hodeidah, Taiz, Aden, Al-Mahra, Shabwah, Sana'a, Al-Dhale', Hajjah, Al-Jawf, Ibb, Hadramawt, and Abyan, capturing a wide range of the country's diverse geography and socio-political setup. The selection aimed to provide a balanced representation of governorates from the north and south, including traditional, political, and commercial hubs, as well as historically marginalised areas.

Figure 1

Map of districts where the environmental peacemaking consultation was conducted



- 1 Abyan**
Zinjibar
Lawdar
Modya
- 2 Aden**
Al-Burayqah
Al-Mansurah
Al-Tawahi
Khur Maksar
Kritar – Sirah
- 3 Al-Dhale'**
Al-Dhale'
Damt
Qa'tabah
- 4 Al-Hodeidah**
Al-Dhahi
Al-Durayhimi
Al-Khawkhah
Al-Tuhayta
Bajil
- 5 Al-Jawf**
Khab wa ash Sha'af
Bart Al-Anan
Al-Zaher
- 6 Al-Mahra**
Al-Ghaydah
Qishn
- 7 Hadramawt**
Al-Mukalla
Seiyun
Daw'an
- 8 Hajjah**
Abs
Bakil Al-Mir
Hajjah
Harad
Kushar
Midi
- 9 Ibb**
Ibb City
Hubaish
Al-Saddah
- 10 Marib**
Al-Jubah
Harib
Marib Al-Wadi
Marib City
- 11 Sana'a**
Bani Al-Harith
Ma'in
Sana'a City
- 12 Shabwah**
Ataq
Bayhan
Mayfa'ah
- 13 Taiz**
Al-Makha
Al-Mudhaffar
Al-Ta'iziyah
Al-Shamaytayn
Salah
Dhubab



1.4

REPORT STRUCTURE

This report is organised into four sections. The first part explores Yemeni perspectives on the environment and climate change by looking at local framings, knowledge, and concern about climate change, as well as the concrete environmental challenges that the country faces. Section two provides an assessment of the links between environmental factors, conflict and instability

established at the local level. The third chapter examines locally perceived priorities and gaps in responding to environmental risks and addressing related conflicts. Finally, part four concludes with key lessons learned, while looking forward to extending exploration to further unfold the potential of environmental peacemaking in Yemen.



Photo: Awwam, the great temple of Marib, dedicated to the moon god, Almaqah. ©Nazeh Mohammed (EIP, 2023).

LOCAL PERCEPTIONS OF ENVIRONMENT AND CLIMATE CHANGE

The impact of climate change is already a reality in Yemen. This section seeks to capture how the Yemeni population perceives environmental dynamics as they relate to human practices and the impacts of climate change that are undermining livelihoods and aggravating tensions.

Understanding these local perspectives helps ensure that peacemaking and peacebuilding approaches are sensitive to the needs and rights of Yemenis. This chapter starts by exploring local definitions of the environment and climate change, as well as the level of knowledge and concern about climate impacts. The second part delves into the environmental and climate-related challenges and risks that Yemen's population sees itself confronted with, as well as the perceived impact on daily lives and livelihoods.

2.1

UNDERSTANDING, PERCEPTION AND AWARENESS

Responses across the consultation sample indicate a comprehensive and nuanced understanding of the environment and its role in Yemen's social and economic fabric. Participants demonstrated consistent recognition of environment as air, water, and land that supports human, animal, and plant life, suggesting widespread understanding of basic environmental components. In focus group discussions, some participants expressed an integrated view, considering the relationship between natural, industrial, and social aspects as well as distinguishing between human-caused and natural disasters. Other participants conceptualised environment through their immediate living spaces ("the place where we live"), though this varied considerably by group.¹⁸

Unique lenses emerged from focus group discussions with different social communities. For example, male participants more frequently included aspects relating to cultivation, such as forests and agricultural fields, in their environmental definitions, while responses of female participants more frequently focused on immediate surroundings and fundamental life-supporting functions of their natural environment such as water, land and air.¹⁹ In contrast, decision-makers pointed to the importance of environmental standards, highlighting the role of effective governance.²⁰ Responses also show geographic variations between and within governorates, especially between urban and rural areas. For instance, in the governorate of Hadramawt, participants in Seiyun mentioned forests and agriculture, while participants in the governorate's capital Mukalla primarily focused

on air, water, and land with minimal mention of other categories.²¹ Meanwhile, focus group participants in Al-Jawf, a mostly rural governorate, showed a more nuanced understanding of the environment, including both immediate surroundings and specific ecosystems.²²

The respondents' understanding of climate change is comprehensive, considering impacts such as fluctuating rainfalls and increased frequency of extreme weather events, including droughts, cyclones and floods. While participants show awareness of scientific concepts, particularly global warming and ozone depletion, their understanding incorporates localised interpretations that reflect their lived experiences. Most prominently, participants across governorates demonstrate awareness of human activities' role in environmental degradation through pollution, although the specific mechanisms connecting human actions to climate impacts are not always clearly articulated. Many respondents attributed the causes of climate change to the increased carbon emissions from large factories, including in industrialised countries. The respondents' explanations reveal varying levels of scientific literacy, with global warming emerging as the most recognised concept across different groups. However, some participants also identified knowledge gaps within their communities, citing a lack of public awareness a driver of climate change.²³

A distinctive aspect of participants' understanding is a **widespread recognition that the conflict has undermined the capacity to prevent and respond to climate change impact**, with many respondents noting that the war has exacerbated

18. Mixed focus group discussions conducted in 2023 and 2024.

19. Mixed focus group discussions conducted in March 2024.

20. Focus group discussion with policymakers and local leaders from different governorates conducted in February 2023.

21. Mixed focus group discussion in Hadramawt governorate conducted in March 2024.

22. Mixed focus group discussion in Al-Jawf governorate conducted in March 2024.

23. Mixed focus group discussions conducted in 2023 and 2024.

the effects of climate change.²⁴ This idea connects global environmental phenomena with immediate socio-political circumstances, reflecting how communities understand climate change through the lens of their current reality. Some participants also described climate change as it relates to their social group. Respondents from the fishing sector, for instance, drew attention to

changes in water movements and the seasons, as well as extreme weather conditions in coastal areas.²⁵ Overall, the qualitative data points to a solid and context-specific understanding of crucial concepts in relation to climate change and environmental degradation, including their intersection with social and conflict dynamics.

2.1.1 | Knowledge and concern about climate change

Survey results confirm a **widespread awareness of climate change and its impacts**, while highlighting persisting gaps and socioeconomic factors that affect levels of knowledge and related adaptation capacity. Approximately 60% of respondents (57.1%) claimed to have at least moderate knowledge about climate change, with variations across demographic groups, while about 20% admitted having no knowledge on the subject. **Education and employment status strongly correlated with self-reported knowledge levels**, with those having higher education

and employment in health, public administration, finance, education, and research sectors reporting greater understanding compared to unemployed individuals or those working in the primary sector (*Figure 2*). The correlation between education and climate change knowledge is particularly notable, as illiterate participants and those without any formal education showed the lowest comprehension of climate change concepts (*Figure 3*). This pattern draws attention to the potential of educational initiatives in climate awareness and adaptation strategies.

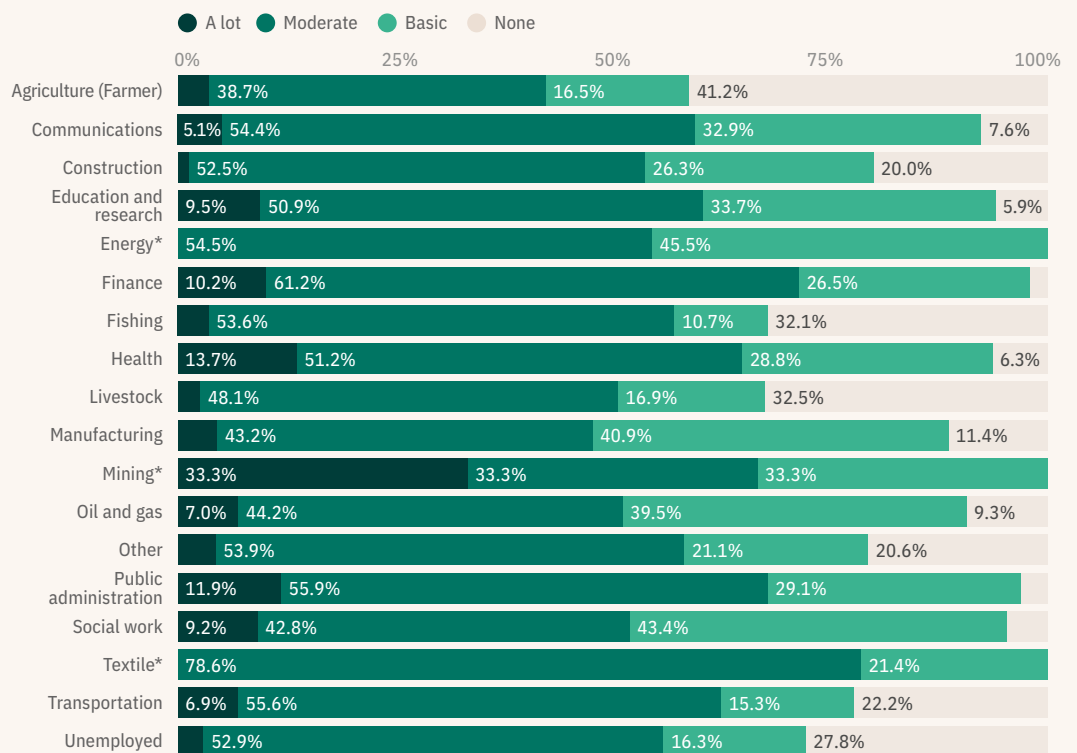
Figure 2

Climate change knowledge by employment sector

n = 3344

Greater knowledge was reported by those working in health, public administration, finance, and education and research. Less knowledge was reported by those in primary livelihoods such as agriculture, livestock and fishing, manufacturing, as well as unemployed respondents.

* Mining, textile and energy sectors: The share of respondents from these three sectors in the survey consultation lay below 1% and is hence disregarded in the disaggregation of results by occupational category.



24. Mixed focus group discussions conducted in 2023 and 2024.

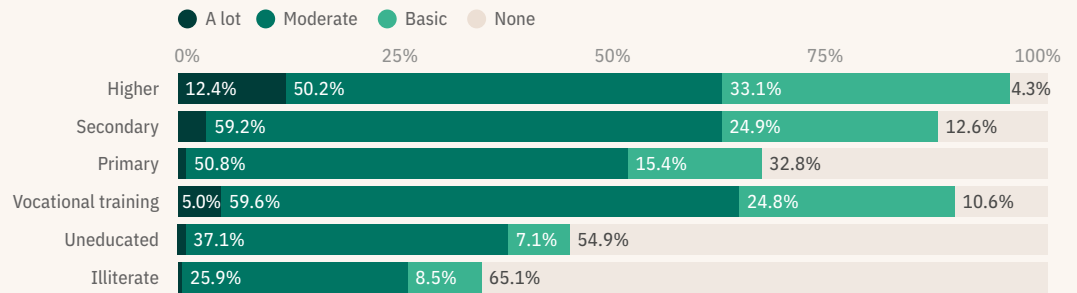
25. Focus group discussion with workers in the fisheries and agricultural sectors from different governorates conducted in February 2023.

Figure 3

Climate change knowledge by level of education

n = 3416

Respondents with higher education levels reported a greater understanding of climate change terminology and concepts than less educated and illiterate respondents.



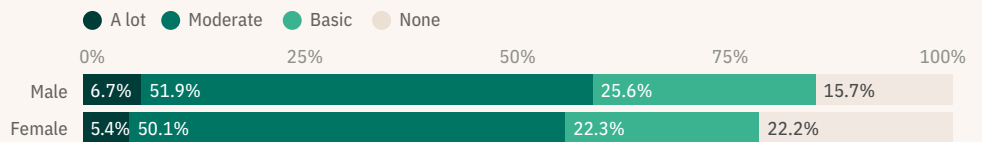
Women reported a slightly lower understanding of climate change than men. While approximately 85% of male participants indicated having at least basic knowledge of climate change, this share was around 78% for women (Figure 4). This disparity may be linked to the lower representation of women in higher education categories, in Yemen generally and across the survey sample (60% of respondents with higher education were men), as

well as societal roles and biases that may impact response patterns among men and women. It raises the need to put emphasis on the representation and participation of women in any initiatives aiming to foster awareness of and resilience against the risks emerging from climate change in Yemen to overcome existing gaps in knowledge and persisting hurdles to women’s participation.

Figure 4

Climate change knowledge, disaggregated by gender

n = 3396



Despite varying knowledge levels, most respondents acknowledged climate change impact on their personal, family, and community life. Nearly 30% described these effects as significant, while 39% considered them moderate (Figure 5). Workers in the fishing industry reported particularly high impact, followed by those in the education, administration, and social sectors (Figure 6).

This finding points to the asymmetrical effects of climate change on different socioeconomic and demographic groups, with populations who depend on natural resources to secure their income, such as fishermen, feeling particularly affected, as well as those who may be exposed to considerations of climate change more frequently in their professions, reporting it more frequently.

Figure 5
Self-reported climate change impact on daily life

n = 3424

About 30% of respondents observed significant impacts of climate change, and close to 40% felt moderately affected.

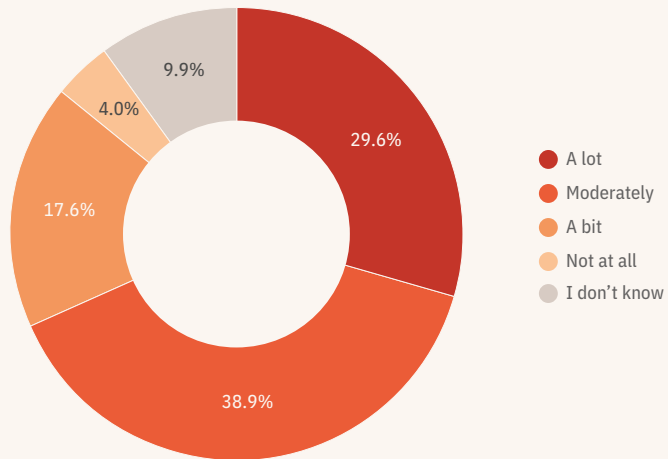
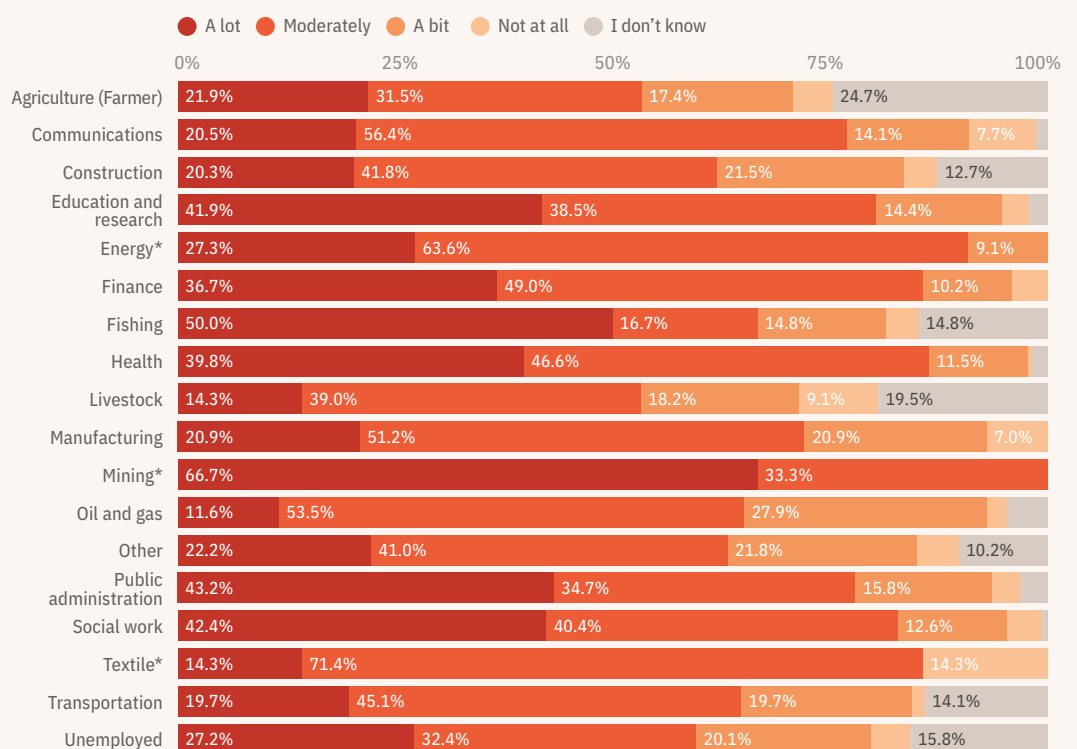


Figure 6
Climate change impact on daily life, disaggregated by employment sector

n = 3293

Workers in the livestock industry reported particularly high impact levels, followed by those in communications, social work, and health.

* Mining, textile and energy sectors: The share of respondents from these three sectors in the survey consultation lay below 1% and is hence disregarded in the disaggregation of results by occupational category.



Yemenis appear significantly concerned about the effects of climate change on their communities.

Approximately 84% of respondents worry about climate effects on themselves and their families, with about one-quarter being highly concerned. Concern levels were highest among groups particularly vulnerable to climate impacts. For instance, 43% of respondents in the fishing sector reported being very worried about climate change—the highest percentage among all professions (Figure 7). Respondents who identified themselves as heads of their family, most often

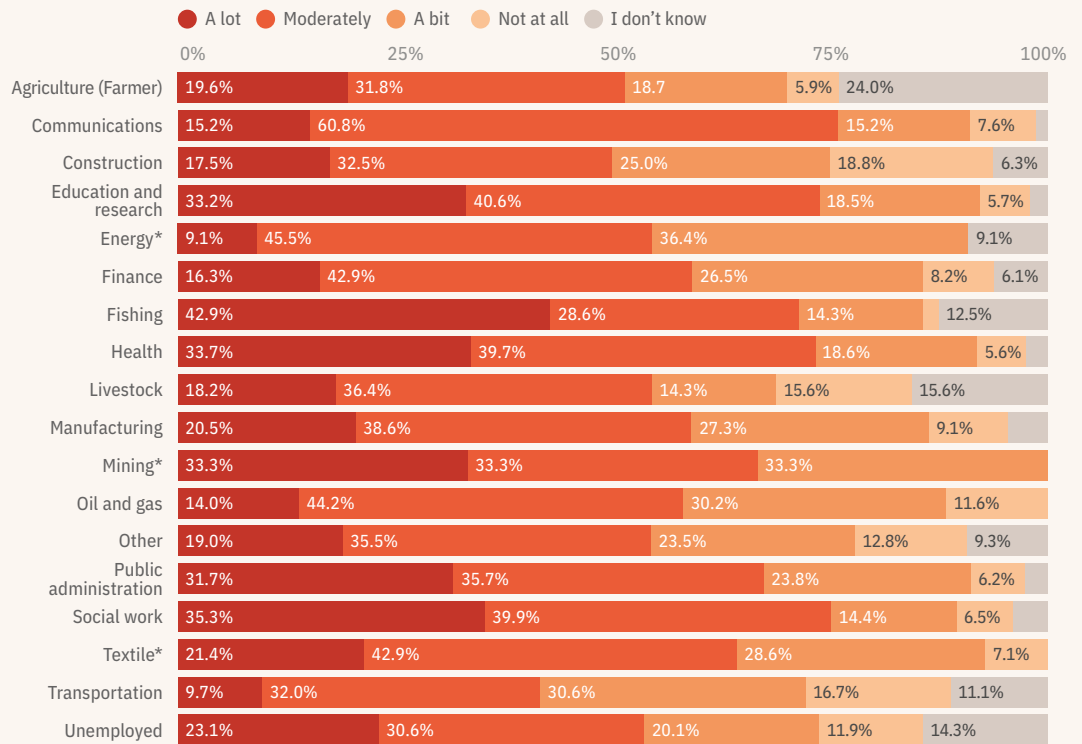
men (72.5%), expressed a higher degree of concern than other family members, with about 63% reporting high or moderate concern in comparison to 56% for other family members. Only a small minority expressed no awareness (9.4%) or no concern at all (9.5%). These differences in perceptions and knowledge among social groups highlight the importance of applying an intersectional approach when developing climate resilience strategies and promoting conflict resolution, dialogue, and reconciliation efforts.

Self-reported level of concern about climate change, disaggregated by employment sector

Figure 7

n = 3344

* Mining, textile and energy sectors: The share of respondents from these three sectors in the survey consultation lay below 1% and is hence disregarded in the disaggregation of results by occupational category.



2.1.2 | Governorate-level results

Climate change awareness varied geographically across Yemen (Figure 8). When asked how frequently they think about climate change, respondents in Abyan and Taiz showed the highest consideration, with over one-quarter indicating that they think about climate change daily. Conversely, Ibb, Al-Jawf, Hajjah, and Sana'a reported the lowest frequencies of thinking about climate change, with over 20% of respondents in these governorates claiming that they never think about climate change at all. Respondents in governorates who thought about climate change most often, also demonstrated a heightened acknowledgement of its impact on daily life within families and communities. Par-

ticularly noteworthy are Marib, Taiz, and Abyan emerging as the governorates with the highest acknowledgement of the impact of climate change (Figure 9). With the exception of Al-Hodeidah, respondents from governorates falling under the political control of Ansar Allah show lower consideration of climate change impacts (Al-Jawf, Ibb, Hajjah, and Sana'a). District-level analysis revealed diverse perspectives, with particularly high concern levels in Harib (68.2% reporting a significant impact on their family and community lives), Al-Wadi (56.6%), and Al-Jubah (54.2%) in Marib governorate, Mudiyah (56.3%) and Zinjibar (55.2%) in Abyan, as well as Salah (60.4%) and Al-Makha (59.1%) in Taiz.

Figure 8

How often people think about climate change, disaggregated by governorate

n = 3420

Respondents in Taiz and Abyan showed the highest consideration of climate change, with over a quarter thinking about it every day.

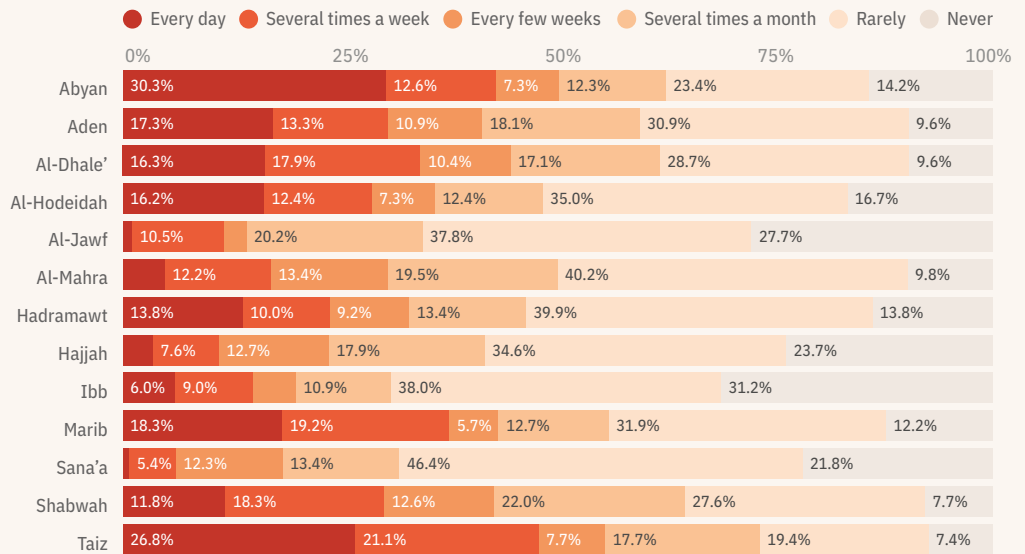
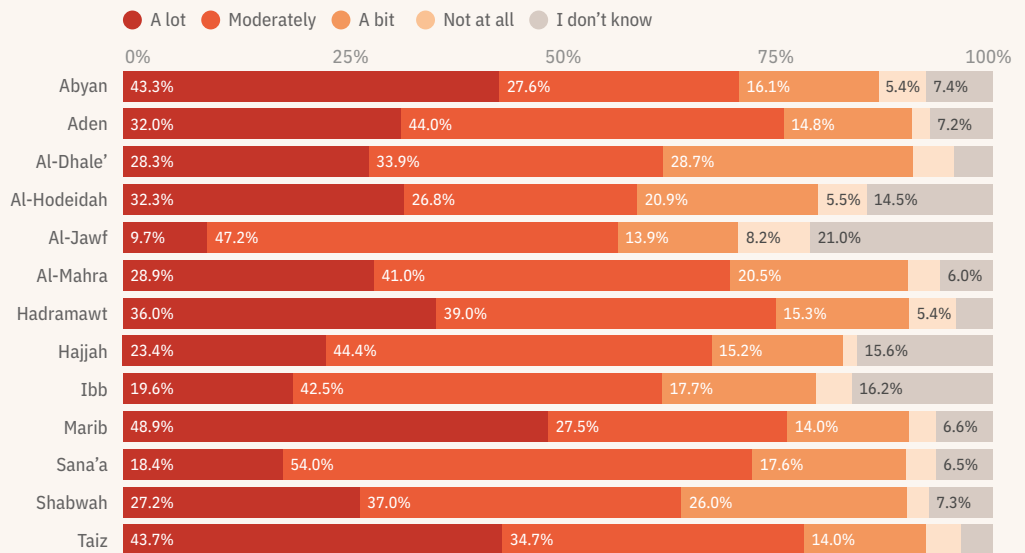


Figure 9

Self-reported level of climate change impact on family and community life, disaggregated by governorate

n=3424

The governorates of Marib, Taiz, and Abyan stand out with the most frequent reports of significant climate impact.



Key takeaways

The survey results indicate that **Yemen's population generally demonstrates awareness of climate change, though knowledge levels vary significantly across demographic groups.** Approximately 70% of respondents recognise climate change as having at least a moderate impact on their family and community lives, and almost 85% express some concern about it. The survey highlights notable disparities in the self-reported degree of climate change knowledge, concern, and awareness of its impacts, revealing variations influenced by demographic factors such as gender, education level, and employment sector. Those with higher education levels and employment in sectors like health, public administration, finance, and education reported greater knowledge, and women expressed lower understanding compared to men. Responses also display varying degrees of concern among different governorates, with Abyan and Taiz emerging as areas where popular concern is highest, while Ibb, Al-Jawf, Hajjah, and Sana'a reported thinking about climate change less frequently.

2.2

DIMENSIONS OF CLIMATE IMPACTS AND ENVIRONMENTAL CHALLENGES

The high levels of concern about climate change call for a more profound investigation of the climate- and environment-related risks affecting Yemen's population to inform integrated peace approaches. This section explores the types of environmental challenges experienced by the population in the selected governorates and reflects on their impact on lives and livelihoods.

2.2.1

Natural resource availability, livelihoods, and cross-cutting environmental risks

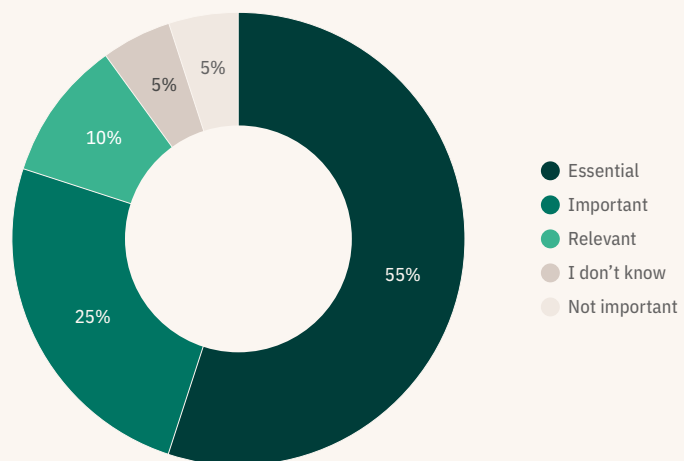
Natural environment and resource access are vital for sustaining Yemeni livelihoods. Survey data shows that 80% of participants view the natural environment as either essential or important for their income generation (*Figure 10*). This perspective is shared across genders, with men (57%) indicating only slightly higher dependence

on natural resources than women (53%). Primary sector workers, who interact directly with natural resources, as well as employees in the health, energy, and education sectors, consider access to these resources essential. Similarly, IDPs place higher importance on natural resources (61%) compared to host community members (54%).

Figure 10 Perceived importance of natural resources to sustain livelihoods

n = 3422

A total of 80% consider that natural resources are essential or important to their livelihoods.



In this context, concerns are raised by an overwhelming 92% of respondents reporting changes in natural resource availability and access in recent years. This perception was especially pronounced among seasonal migrants (93%) and IDPs (92%). Resources under greatest pressure included gas (33% reporting reduced availabil-

ity), water (26%), and oil (22%) (*Figure 11*). The shortage of water raises particular concern, with nearly one-fifth of participants having experienced water shortages in their areas during the previous year (*Figure 12*). Yemen's water crisis is not only driven by climate change impacts but emerges from a multiplicity of factors includ-

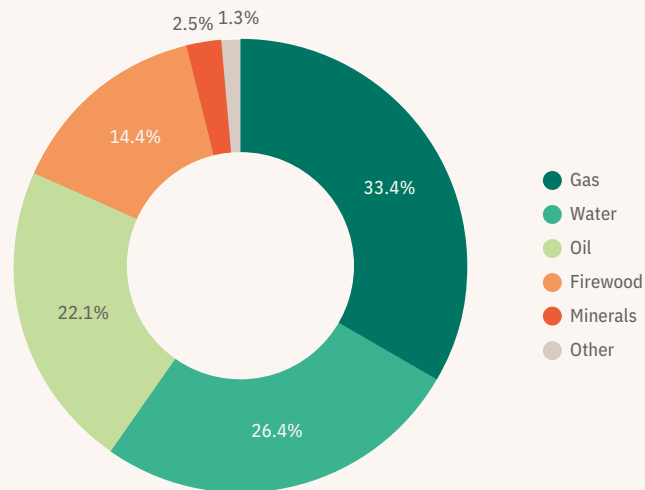
ing overextraction of groundwater, challenges in regulating water extraction and distribution, and other governance-related caveats.²⁶ Participants in focus group discussions confirmed these issues, reporting that significant water use for agriculture, combined with a deterioration in

water quality, has become a major challenge.²⁷ As demand increases with Yemen’s growing population, availability declines. In both urban and rural areas, this has translated into expensive water units, further limiting the access to water for vulnerable populations.

Figure 11
Perceived reduction of availability in natural resources in Yemen

responses: 8121

33% reported reduced availability of gas, 26% of water, and 22% of oil resources.



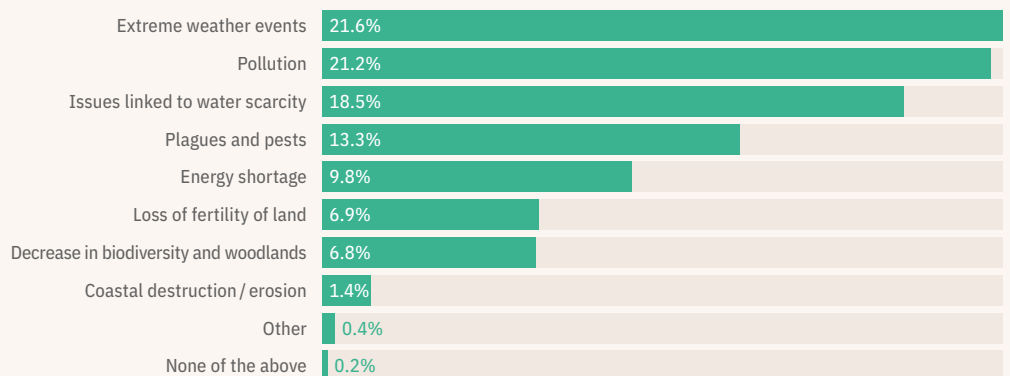
The scarcity and deteriorating quality of natural resources are further exacerbated by multifaceted environmental risks stemming from both human-driven issues such as pollution, and climate-induced risks like extreme weather events (Figure 12). Approximately 20% of respondents experienced some form of pollution in their area during the previous year. Air pollution was

reported most frequently (8.3%), followed by land (7.0%) and water pollution (6.0%). Residents also noted various extreme weather events, including extreme temperatures (11.3%), drought (4.9%), floods (3.8%), and coastal storms and cyclones (1.6%). Moreover, plagues and pests, affecting agricultural production as well as public health, were reported by 13% of respondents.

Figure 12
Perceived environmental issues experienced in 2023, aggregated data²⁸

responses: 16,308

Risks related to extreme weather, pollution, and shortage of water resources were perceived as the greatest challenges among respondents.



26. UNDP (2022). A Holistic Approach to Addressing Water Resources Challenges in Yemen. Available at: <https://www.undp.org/yemen/publications/strategic-framework-holistic-approach-addressing-water-resources-challenges-yemen>

27. Mixed focus group discussions conducted in 2023 and 2024.

28. 'Pollution': air (8.3%), land (7.0%), and water (6.0%) pollution. 'Extreme weather events': high temperatures (11.3%), drought (4.9%), floods (3.8%) and storms and cyclones (1.6%). 'Decrease in Biodiversity and Woodlands': Decrease in Biodiversity (5.19%) and loss of woodlands (1.58%).



Photo: In the coastal area of Wadi Al-Malik, 30 km south of the city of Mocha, weak environmental governance is evident in the coastal degradation and undermined flora. Nazeh Al-Hrefy (EIP, 2023).

Photo: In the ancient city of Mocha, archaeological buildings are destroyed and lack the necessary protection for their conservation. Nazeh Al-Hrefy (EIP, 2023).

A look at the qualitative data shows the nuances between different socio-economic groups, pointing to specific risks and priorities in relation to the livelihoods and life experiences of each community. While female respondents and those under the age of 30 highlighted the deterioration of infrastructure and residential buildings,²⁹ farmers stressed the challenges from pests and diseases, extreme events, floods, and droughts on agricultural land and crops.³⁰ Similarly, fishermen pointed to sea pollution and overfishing as stressors that are depleting fishing yields.³¹ Illegal fishing and fish dredging by neighbouring countries, a consequence of environmental neglect due to the war, pose a significant threat to food security and the income sources of coastal populations. The war's preoccupation with more immediate concerns has led to a neglect of environmental issues, allowing illegal practices that impact marine ecosystems and livelihoods to flourish.

Armed conflict has exacerbated these environmental risks, contributing to the spread of pollution from plastic and remnants of war, the destruction of infrastructure, contamination of land and sea, and the neglect of ecological reserves. The now-addressed ecological threat of an oil spill from the *FSO Safer* in the Red Sea³² and the degradation of ecological reserves in Aden³³ illustrate the environmental consequences and potential cost of inaction related to political impasse. In the focus groups and interviews, young participants and decision-makers expressed concern about the environmental problems stemming from oil tanker spills and pipelines, remarking on their potential impact on agriculture, fisheries, and health among coastal populations.³⁴ The ongoing conflict limits access to essential services and further contributes to environmental degradation, illustrating the complex interplay of factors impacting local communities.

2.2.2 | Societal impact of environmental degradation, resource scarcity, and natural hazards

The effects of environmental degradation and resource scarcity are widely felt across Yemen's population. Over three-quarters of respondents reported their daily lives being significantly (34%) or moderately (42%) affected by environmental issues (*Figure 13*), primarily through reduced access to essential goods and services, exacerbated by inflation. An alarming **95% of respondents noted increased prices for essential goods, while about half reported insufficient food for themselves and their families.** Continuous conflict, escalating food costs, diminished employ-

ment prospects, depleted productive assets, and declining wages, all contribute to food insecurity in Yemen. Despite ongoing humanitarian assistance, it is estimated that food insecurity is a concern for more than half of the country's households, with increasing tendency.³⁵ In regions such as **Al-Dhale', Marib, Abyan, and Al-Hodeidah**, more than half of this consultation's survey respondents reported experiencing severe interruptions to their primary income source due to environmental degradation.

29. Focus group discussions with women and youth from different governorates conducted in February 2023.

30. Focus group discussion with workers in the fisheries and agricultural sectors from different governorates conducted in February 2023.

31. Focus group discussion with workers in the fisheries and agricultural sectors from different governorates conducted in February 2023.

32. UN News (2023). Yemen: UN concludes removal of one million barrels of oil from decaying tanker. Available at: <https://news.un.org/en/story/2023/08/1139687>.

33. European Institute of Peace and PAX (2025). From Waste to Resolution: Assessing the Impact of Armed Conflict on the Solid Waste Sector in Yemen. Available at: <https://www.eip.org/publication/from-waste-to-resolution-assessing-the-impact-of-armed-conflict-on-the-solid-waste-sector-in-yemen/>.

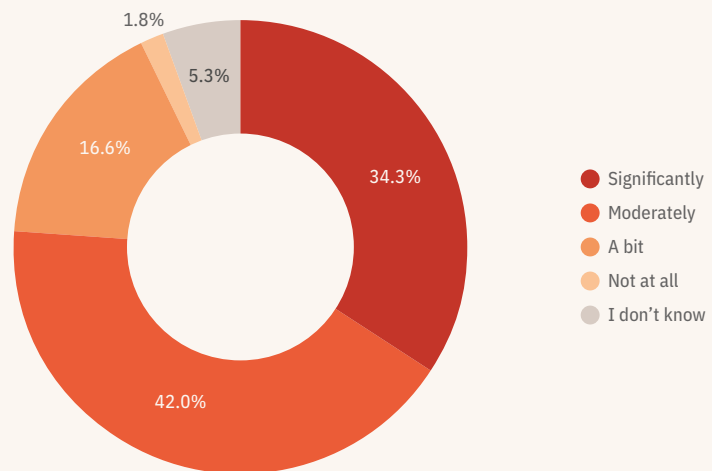
34. Focus group discussions with youth as well as policymakers and local leaders from different governorates conducted in February 2023.

35. WFP (2025). WFP Yemen Food Security Update, April 2025. Available at: <https://reliefweb.int/report/yemen/wfp-yemen-food-security-update-april-2025>; FAOSTAT (n.y.). Yemen. Available at: <https://www.fao.org/faostat/en/#country/249>.

Figure 13
Perceived impact of environmental issues on daily life

n = 3370

Over 75% of respondents consider themselves at least moderately impacted by issues relating to environmental degradation and natural hazards, with more than a third reporting significant impact.



Environmental factors also impact public health, with **over half of respondents perceiving a deterioration in physical or mental health due to environmental factors within themselves or their families**. Mental health challenges emerged as a prominent concern, particularly in areas with severe water and energy shortages. In Al-Tai'iziyah (Taiz), one of the conflict's most affected districts, poor mental or physical health rates reached 97%, while energy and water shortages were reported at 100%. Similarly, Al-Jubah in Marib (100%) and Zinjibar in Abyan (95.4%) represent the highest reported rates for mental or physical health impacts while showing high concerns about water and energy security. This finding is consistent with the results of the Institute's previous consultation in Yemen, which pointed out the need to address individual and collective post-war mental health and trauma in the context of reconciliation.³⁶

Vulnerable and marginalised groups bear disproportionate burdens from these environmental challenges. For instance, among IDPs, 82% reported moderate to significant impacts on daily life, compared to 74% of host community members, highlighting the heightened risks faced by displaced populations. IDPs often have no choice but to settle in lowlands or near volatile waterways, as reported by community activists in focus group discussions who underscored the increase in population centres near natural water streams; something that can alter the course of torrential rain, leading to infrastructure destruction, loss of agricultural land and displacement of IDP camps.³⁷ Qualitative insights from the consultation also indicated ongoing reluctance from host communities to share natural resources with IDPs, leading to persistent tensions and conflicts exacerbated by resource scarcity.³⁸

36. European Institute of Peace (2021). Pathways for Reconciliation in Yemen. Available at: <https://www.eip.org/publication/pathways-for-reconciliation-in-yemen/>.

37. Focus group discussion with activists from different governorates conducted in February 2023 and key informant interviews conducted in March 2024.

38. Mixed focus group discussion with male respondents in Abyan conducted in March 2024.

Similar differences in perception arise from the occupation sector of respondents. Particularly individuals whose income depends largely on natural resources, such as livestock herders, considered themselves highly affected by the abovementioned environmental risks (Figure 14). This contrast to comparably lower concern over climate change reported by these occupational groups (see Figure 2 above) may arise due to the more immediate character of aspects of environmental degradation, such as pollution, compared to slow-onset effects of climate change. A young respondent from Al-Mahra shared how climate

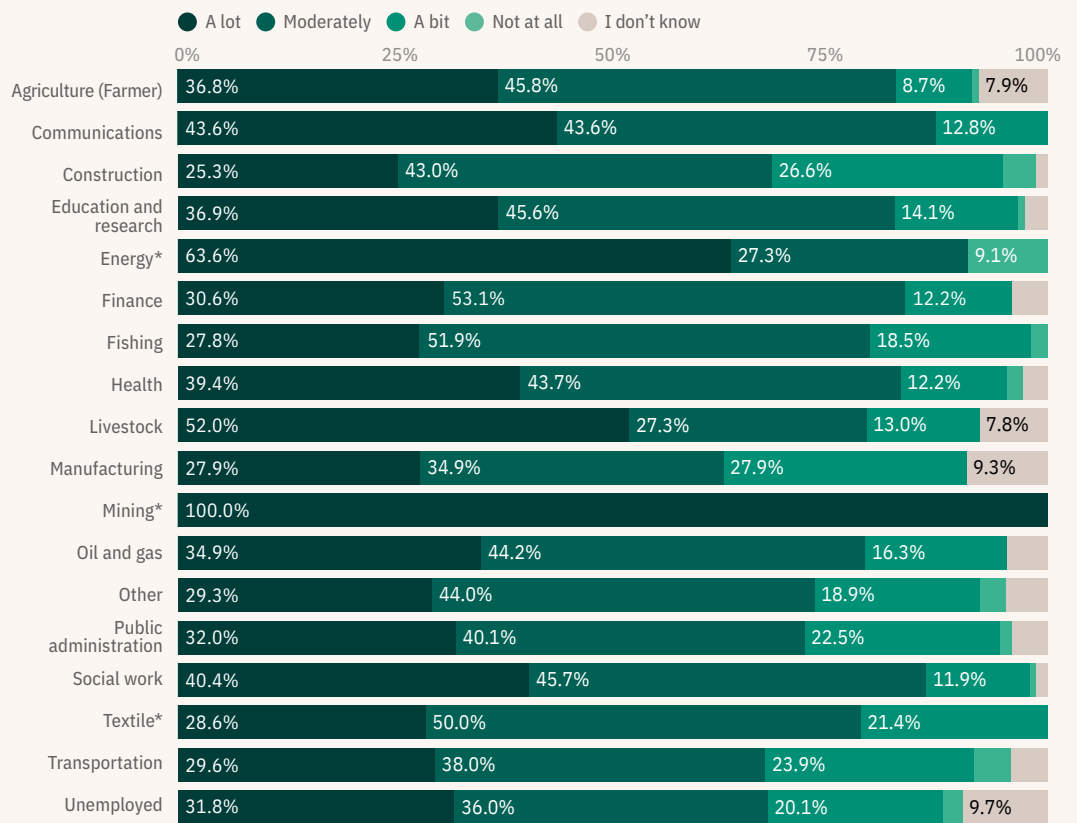
change is already affecting agricultural production, threatening farmers' livelihoods and the urban population's food security due to the shortage of agricultural products in cities and their surging prices.³⁹ Fishermen in the coastal governorate reported fishing operations coming to a halt, boats being damaged, fishing nets being lost, and, tragically, people being lost at sea.⁴⁰ Workers in the health and social sectors, who are in regular contact with vulnerable populations, also reported being highly affected by environmental risks.

Perceived environmental impact on daily life, disaggregated by employment sector

n = 3296

Respondents working in the primary, health, social, and communication sectors reported the highest impact.

* Mining, textile and energy sectors: The share of respondents from these three sectors in the survey consultation lay below 1% and is hence disregarded in the disaggregation of results by occupational category.



39. Focus group discussion with youth from different governorates conducted by in February 2023.

40. Focus group discussion with workers in the fisheries and agricultural sectors from different governorates conducted in February 2023.



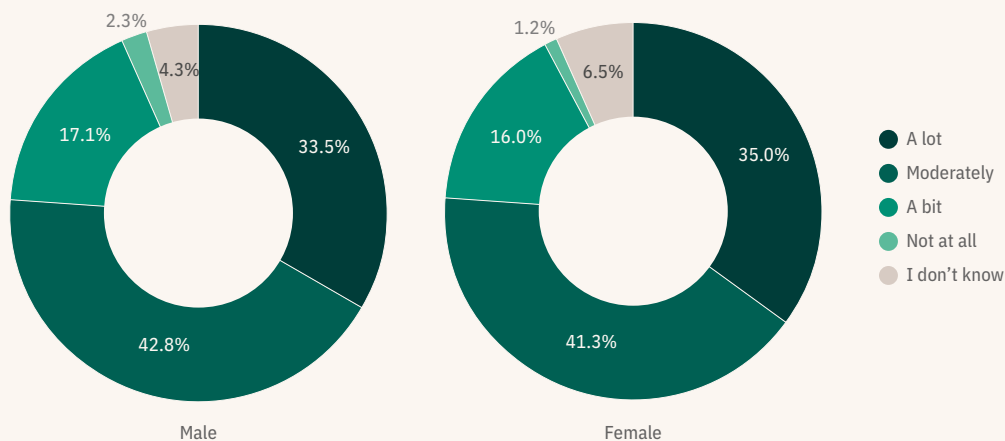
Photo: Fisherman from Mocha on the coast of Taiz governorate. ©Nazeh Mohammed (EIP, 2023).

Lastly, the results suggest that **specific risks are uniquely perceived by women and girls, as well as other demographic groups such as chronically ill, elderly, or disabled persons.** While male survey respondents reported similar environmental impacts on daily life to female respondents (*Figure 15*), qualitative discussions emphasised women’s vulnerabilities. Participants highlighted how persistent droughts have forced

women and girls to travel farther to fetch drinking water, increasing their exposure to road accidents, sexual and gender-based violence, landmines, and other physical risks.⁴¹ These findings urge for an intersectional approach to preventing and resolving security risks in relation to environmental degradation and climate change that accounts for the varying experiences faced by different communities.

Figure 15
Perceived impact of environmental risks on daily life, disaggregated by gender

n = 1880 for male respondents
n = 1466 for female respondents



41. Focus group discussion with women from different governorates conducted in February 2023.

2.2.3 | Governorate-level results

While the highlighted environmental risks were reported across the country, a view at the governorate and district level reveals some locally specific trends, in line with Yemen's diverse geographic and economic features. *Table 1* provides a detailed overview of the environmental risks that dominate in each governorate. Key trends include:

- **Al-Jawf, Hadramawt, Shabwah, and Hajjah stand out with reports on extreme weather events**, including high temperatures, floods, drought, and storms. At district-level, Al-Durayhimi in Al-Hodeidah (37.9%) and Daw'an in Hadramawt (32.7%) show highest vulnerability. Climate adaptation strategies and emergency preparedness are essential for these areas.
- Meanwhile, **Abyan, Shabwah, and Hadramawt show the highest reported rates of reductions in land fertility, woodlands, and biodiversity**, with over one-fifth of respondents in these governorates indicating that they have experienced it during the past year. Respondents in the districts of Ataq in Shabwah (23%), Zinjibar in Abyan (22.6%), Khab wa Ash Sha'f in Al-Jawf (21.7%), and Al-Dhale' (21.4%) reported significant biodiversity decline, requiring focused conservation efforts.
- Issues related to **plagues and pests were most often reported in Sana'a, Shabwah, and Hajjah**. At district level, Al-Saddah (Ibb) leads with 37.3% of respondents reporting pest incidents, followed by Al-Tuhayta in Al-Hodeidah (32.7%) and Hajjah (23.5%). Particularly Al-Saddah faces a combined risk of plagues and pests along biodiversity loss, reported by 11.4%. These districts need specialised pest management programmes and agricultural support.
- Issues related to the **scarcity and degradation of natural resources** were reported across both rural and urban areas, especially in relation to water. **Water scarcity features highest in Abyan** with 23% reporting shortages, followed by Al-Dhale' (21.9%), Taiz (20.6%), and Hajjah (20.2%). At the district-level, the highest reporting rate of water shortages shows in Lawder district (Abyan), reaching 42%. Other highly affected districts include Kushar in Hajjah (26.9%), Marib City (25.9%), and Qishn in Al-Mahra (24.4%).
- **Pollution emerges as a crucial issue, particularly in urban areas. Sana'a** stands out, with 34% of respondents reporting exposure to pollution during the past year, including elevated rates for land (15.7%), air (9.4%), and water (8.8%) pollution. **Ibb** follows closely, with 32.1% reported pollution, along with the highest reported water pollution (10.6%) among all governorates. **Aden** ranks third, with a significant 28.4% of respondents reporting issues related to pollution. Focus group respondents from these cities report an accumulation of garbage piles in the streets and the deterioration of sewage networks.⁴² Certain districts, including Damt in Al-Dhale' (40.4%), Bani Al Harith in Sana'a (38.7%), Al Saddah in Ibb (37.3%), and Ibb City (36.5%) reported particularly alarming pollution rates, threatening public health in these areas.

42. Mixed focus group discussions and key informant interviews in Ibb conducted in March 2024.

Table 1

Top three reported environmental issues experienced during the past year, disaggregated by governorate

	PRIMARY ENVIRONMENTAL PROBLEM	SECONDARY ENVIRONMENTAL PROBLEM	TERTIARY ENVIRONMENTAL PROBLEM
Abyan	Decrease in biodiversity, woodlands and land fertility 24.2%	Issues linked to water scarcity 22.9%	Extreme weather events 18.5%
Aden	Pollution 28.4%	Issues linked to water scarcity 19.9%	Extreme weather events 17.7%
Al-Dhale'	Pollution 22.9%	Issues linked to water scarcity 21.9%	Decrease in Biodiversity, woodlands and land fertility 17.4%
Al-Hodeidah	Extreme weather events 22.1%	Pollution 20.2%	Issues linked to water scarcity 14.9%
Al-Jawf	Extreme weather events 27.8%	Pollution 20.9%	Issues linked to water scarcity 15.6%
Al-Mahra	Pollution 20.0%	Issues linked to water scarcity 18.5%	Decrease in biodiversity, woodlands and land fertility 17.9%
Hadramawt	Extreme weather events 26.2%	Decrease in biodiversity, woodlands and land fertility 20.6%	Issues linked to water scarcity 16.0%
Hajjah	Extreme weather events 25.8%	Issues linked to water scarcity 20.2%	Plagues and pests 15.8%
Ibb	Pollution 32.1%	Issues linked to water scarcity 17.2%	Extreme weather events 12.9%
Marib	Extreme weather events 24.8%	Pollution 24.5%	Issues linked to water scarcity 16.7%
Sana'a	Pollution 34.0%	Extreme weather events 21.0%	Plagues and pests 16.6%
Shabwah	Extreme weather events 25.5%	Decrease in biodiversity, woodlands and land fertility 23.7%	Plagues and pests 16.7%
Taiz	Pollution 27.2%	Issues linked to water scarcity 20.6%	Extreme weather events 15.0%



Photo: As a result of the ongoing siege of Taiz that began in 2015, the accumulation of garbage in the streets and decaying refuse in the waterways of Taiz city, it became a breeding ground for mosquitos, leading to outbreaks of cholera. ©Nazeh Mohammed (EIP, 2023)

Photo: Waste management in Marib. Sewage water is collected from Marib city and released in a dedicated dumping area regulated by the government. ©Nazeh Mohammed (EIP, 2023).

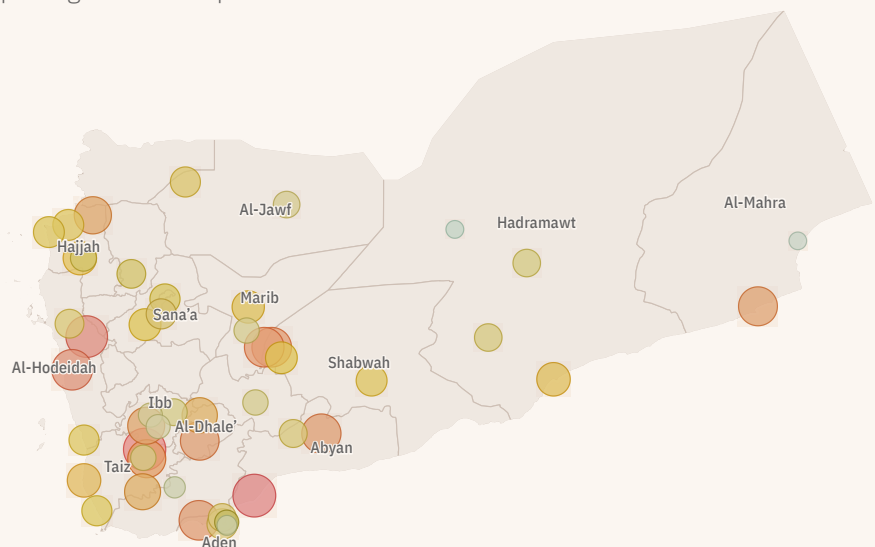
Local variations also appear in relation to the impact that these environmental challenges leave at the community level, particularly in relation to food security. Western and south-western regions report the most severe food insecurity (Figure 16), with particularly Al-Dhale' and Abyan reporting insufficient food access (around 72%, respectively). Taiz also shows particularly acute challenges, with almost all respondents (99%) reporting increased prices

for essential goods and 63% facing food insecurity. At the district level, Zinjibar in Abyan (99%), Al-Ta'ziyah in Taiz (95%), and Bajil in Al-Hodeidah (92%) show the highest levels of insufficient food access, underscoring the multifaceted challenges faced by these populations. The environmental risks identified across Yemeni governorates and their districts highlight the need for a tailored approach that responds to locally specific risks and to build resilience.

Figure 16
Perceived lack of food access at the household level, disaggregated by district

n = 3418

Zinjibar (Abyan), Al-Ta'ziyah (Taiz) and Bajil (Al-Hodeidah) are the districts with the highest reported rates of food insecurity.



Key takeaways

This section uncovered the multiple environmental challenges and related risks for livelihoods, health, and safety that Yemen's population is confronted with. Notably, natural resources such as **water, gas, and oil are in shorter supply**, with gas cited by 33% of respondents as experiencing reduced availability, followed by water (26%) and oil (22%). This corresponds with a high reliance on these resources for sustaining local livelihoods, reported by 80% of respondents. Environmental risks are compounded by pollution, with one-fifth of respondents experiencing some form of pollution (air, water, or land) in their area during the past year, particularly in the urban areas of Sana'a, Aden, and Ibb. Adding to this come extreme weather events, which are reported by 22% of respondents with pronounced concentration in Al-Jawf, Hadramawt, Shabwah, and Hajjah. The armed conflict has exacerbated these environmental risks, contributing to widespread pollution, destruction of infrastructure, and ecological degradation.

The impact of these environmental issues is severe, with 76% of respondents indicating that their daily lives are significantly or moderately affected. Strikingly, 95% of survey respondents noted increased prices of essential goods, and approximately half reported insufficient food for their families. Over 50% of respondents perceive a deterioration in their physical or mental health due to environmental factors, with particularly alarming rates in conflict-affected areas like Al-Ta'ziyah, highlighting the multidimensional nature of these challenges. Vulnerable groups bear disproportionate burdens from these environmental challenges. IDPs report significantly higher impacts (82%) compared to host communities (74%), and individuals whose livelihoods depend directly on natural resources, such as farmers and fishermen, are particularly affected.

PERSPECTIVES ON CLIMATE CHANGE, PEACE, AND CONFLICT

In view of the adverse effects of climate change and environmental degradation on communities across the country, leaving these issues unaddressed would risk further tension and conflict, particularly at the local level. This section presents insights into the Yemeni perspective on the interdependence of climate, peace, and security. The chapter begins by exploring cross-cutting security challenges and perceptions of their link to environmental factors, before delving into the local perspective and experience of tensions and conflicts relating to environmental factors and their governance.



3.1

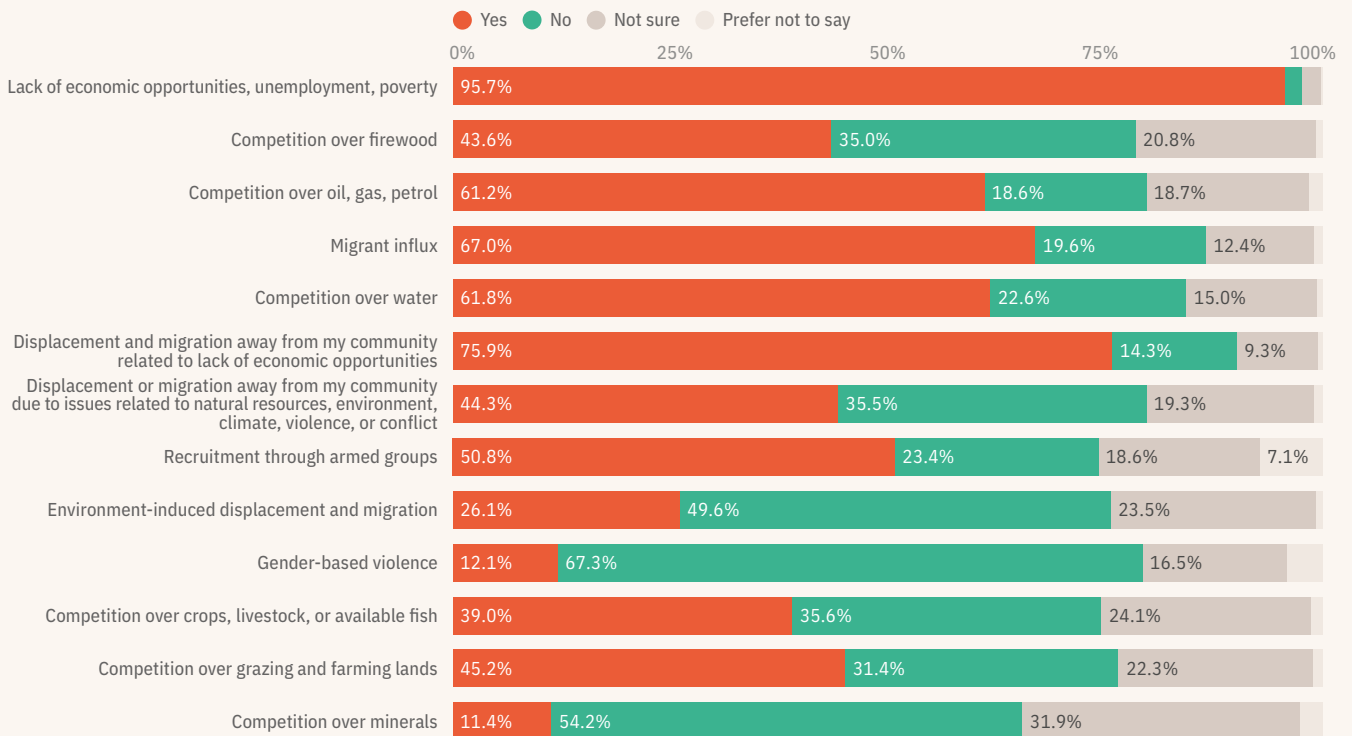
CROSS-CUTTING SECURITY CHALLENGES

The adverse effects of the political, governance and humanitarian crises are widespread, and contribute to the prevalence of economic and security challenges. Across the 13 governorates, lack of economic opportunities, unemployment, and poverty were reported as the most severe problems by 95% of the respondents. Additionally, competition for natural resources (mainly water and energy sources), often linked to displacement or migration, are perceived at the community level in all governorates (Figure 17).

The impact of environmental degradation and climate change on the agricultural and fishing sectors undermines economic opportunities. Interviewees reported that agricultural land, a main source of livelihood, is contaminated with landmines, unexploded ordnance, and remnants of war, which hinder farming as a viable livelihood. These environmental consequences of the conflict have indirectly increased the number of IDPs as they go in search of alternative livelihoods. As highlighted by participants in focus group discussions and interviews, this leads to unsustainable exploitation of natural resources as a survival mechanism and boosts mobilisation and recruitment by armed groups.⁴³

Figure 17

Perceived issues at the community level across thirteen target governorates, aggregated data



43. Focus group discussions and key informant interviews conducted in February 2023.

Yemenis identify environmental risks as drivers of displacement in their communities.

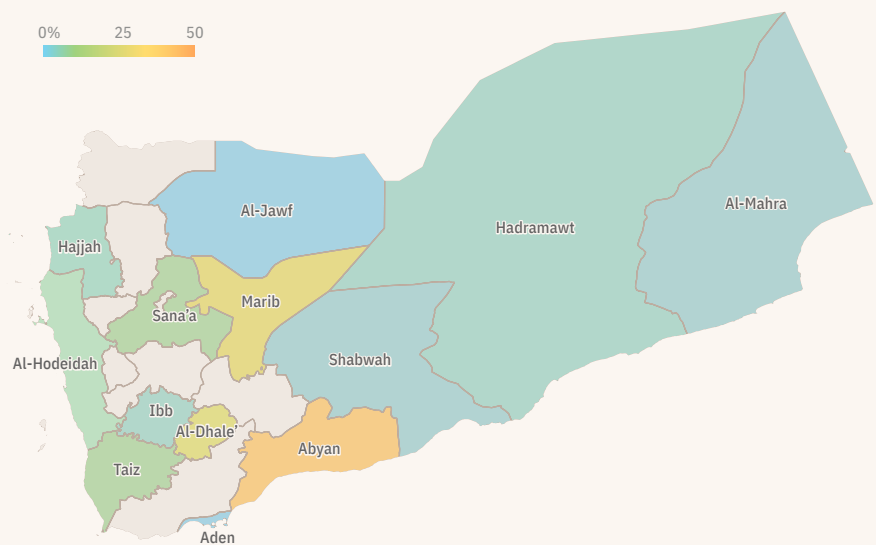
One in four respondents reported displacement and migration away from their communities as directly linked to environmental factors, with a pronounced concentration in Al-Dhale' (51%), Abyan (50.2%) and Marib (47.6%). In interviews, the deterioration of water resources was mentioned as a driver of such displacement, causing further stress over natural resources and services between IDPs

and host communities.⁴⁴ As an interviewee from Abyan reported, tensions have also occurred between displaced and host communities due to inadequate camp provision and relief materials.⁴⁵ Specific communities, such as the displaced residents of Al-Durayhimi (Al-Hodeidah), face further friction, since they are not able to return to their areas of origin after mines were planted close to residential areas.

Figure 18 Perceived relationship of emigration to environmental issues

n = 3416

Many Yemenis reported that emigration and displacement were significantly linked to environmental problems such as pollution or lack of natural resources to sustain livelihoods, particularly water.



Displacement also emerges as a factor contributing to competition for natural resources and services.

Hajjah (16.24%), Al-Mahra (14.38%), and Sana'a (15.95%) emerged as areas particularly affected by this opinion within communities. This topic received particular attention from women throughout the consultation, who emphasised the strain on services due to the large influx of IDPs.⁴⁶ Consulted decision-makers

equally acknowledged that displacement is a driver for more intense competition for services and natural resources in areas of stability.⁴⁷ In discussions with IDPs and migrants, respondents underscored perceived tensions regarding environmental concerns and resource sharing, while host communities focused on resource control and the strain on natural resources due to population growth.⁴⁸

44 . Key informant interviews in Abyan, Ibb, and Hadramawt conducted in March 2024.

45 . Key informant interview with a participant in Zinjibar, Abyan, conducted in March 2024.

46 . Focus group discussions and key informant interviews conducted in February 2023.

47 . Focus group discussion with policymakers and local leaders from different governorates conducted in February 2023.

48 . Focus group discussion with IDPs from different governorates conducted in February 2023.



Photo: Children guiding cattle across the drought-stricken plains of Marib governorate. ©Nazeh Mohammed (EIP, 2024).

3.2

ENVIRONMENTAL DRIVERS OF TENSION

Environmental issues are widely perceived to increase vulnerability, aggravating existing tensions and leading to conflict and violence across the country. The unsustainable governance of natural resources is a significant driver of tension across the consulted governorates. More than half (52%) of the respondents described encountering or hearing about conflicts or tensions in their district due to environmental factors (Figure 19). The reported occurrence of such conflicts is especially pronounced in the governorates of Marib (75%), Taiz (70%), Al-Dhale'

(64%), Abyan (63%), and Ibb (61%) (Figure 20). At the district level, notable instances were reported in Al-Ta'iziyah (96%), Al-Shamaytayn (92%), and Al-Mudhaffar (73%) in Taiz, Al-Khawkhah (93%) in Al-Hodeidah, Al-Wadi (90%) and Harib (82%) in Marib, Madiyah (85%) and Zinjibar (83%) in Abyan, Sana'a City (73%), and Ibb City (72%). Conflict prevention and resolution efforts and environmental initiatives in these areas should put particular emphasis on assessing environment-related conflict risks to ensure responsive and sensitive programme design.

Figure 19
Perceived tensions or conflicts related to environmental or natural resource issues at the community level, aggregated data

n = 3415

Over half of respondents claimed that they are aware of existing tensions over environmental issues in their area.

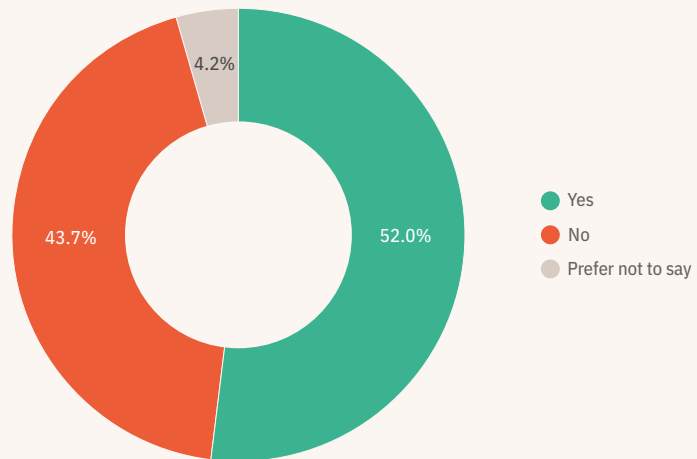
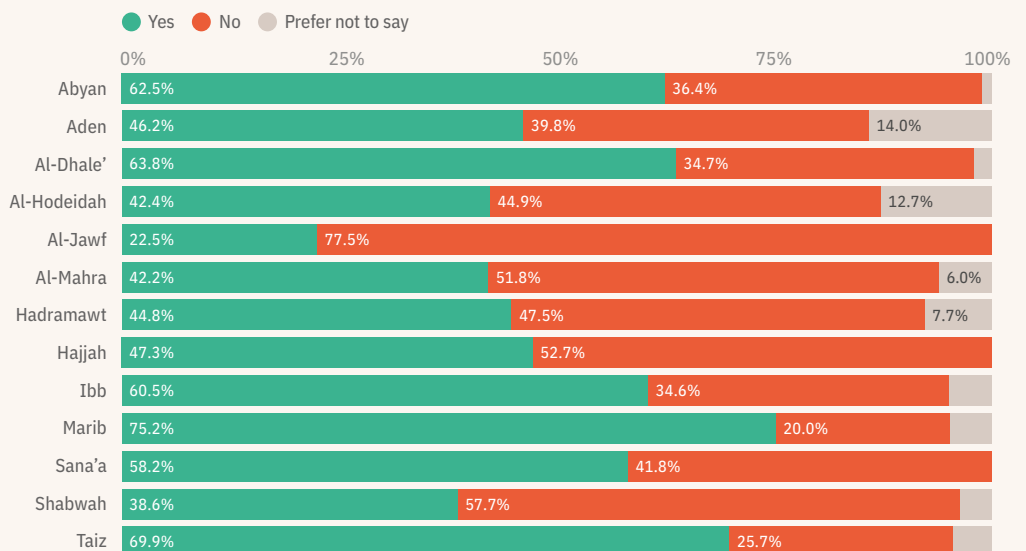


Figure 20
Perceived conflicts in relation to the environment and natural resources, disaggregated by governorate

n = 3415

Taiz, Marib, and Al-Dhale' emerge as areas where such conflicts are particularly recognized.



Perceptions on tensions driven by environmental issues vary between different demographic groups. Gender differences are notable in the reporting of tensions over environmental issues, with women (55.5%) reporting slightly more tensions than men (49.2%) (Figure 21). This disparity in perceptions may reflect different roles, responsibilities, or experiences with environmental resources. As shown in Figure 22, there

also appears to be a correlation between higher education levels and increased reporting of tensions, with the percentage of "Yes" responses generally increasing from illiterate (41.3%) to higher education (56%). This pattern may reflect greater awareness, different exposure to conflict, or varying levels of comfort in discussing tensions among different educational groups.

Figure 21

Perception of environmental factors as leading to tensions, disaggregated by gender

n = 3389

The presence of environment-related tensions was reported more often by female survey respondents (55%) than by men (49%).

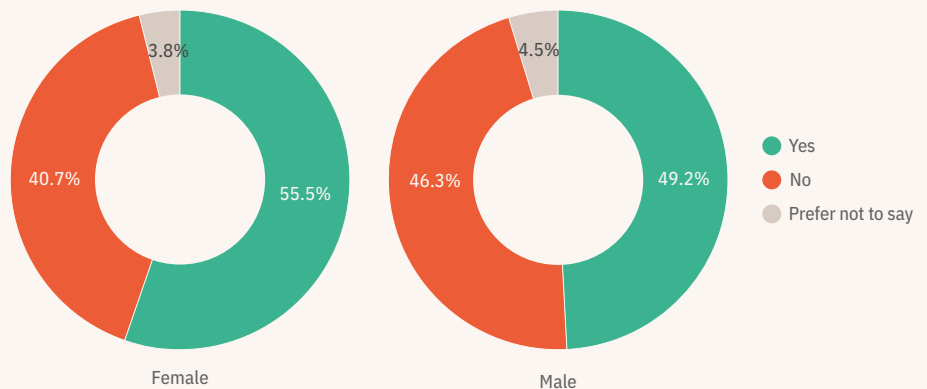
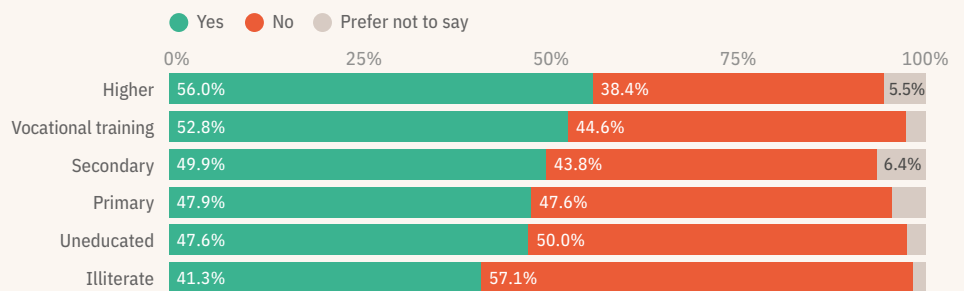


Figure 22

Perception of environmental factors as leading to tension, disaggregated by level of education

n = 3409

Individuals with higher levels of formal education show more frequent reporting of tensions over environmental issues than those who consider themselves less educated and illiterate respondents.



“One of the causes of the conflict in Yemen is resource scarcity, which has led some regions to reject regional mechanisms. Some regions have natural resources such as agricultural lands, oil, or gas, while other governorates lack these resources. This has created tensions and prevented agreement on a peace process.”

Participant in Focus Group Discussion in Mukalla, Hadramawt, 2024⁴⁹

49. Focus group discussion with women in Hadramawt conducted in March 2024.

Tensions over environmental issues do not always remain limited to individual hostilities but, where unaddressed, show potential to escalate into violence. Strikingly, one in four respondents indicated being negatively affected by environment-related conflicts becoming violent. The governorates of Abyan, Marib, and Taiz emerged as hotspots, especially Zinjibar, Harib,

Al-Jubah, and Al-Ta'iziyah districts, where over 75% reported violent conflicts linked to environmental factors. This distribution suggests that similar environmental stresses may have dramatically different conflict outcomes depending on local governance structures, population pressures, and existing tensions.

3.2.1 | Typology of environmental drivers of conflict

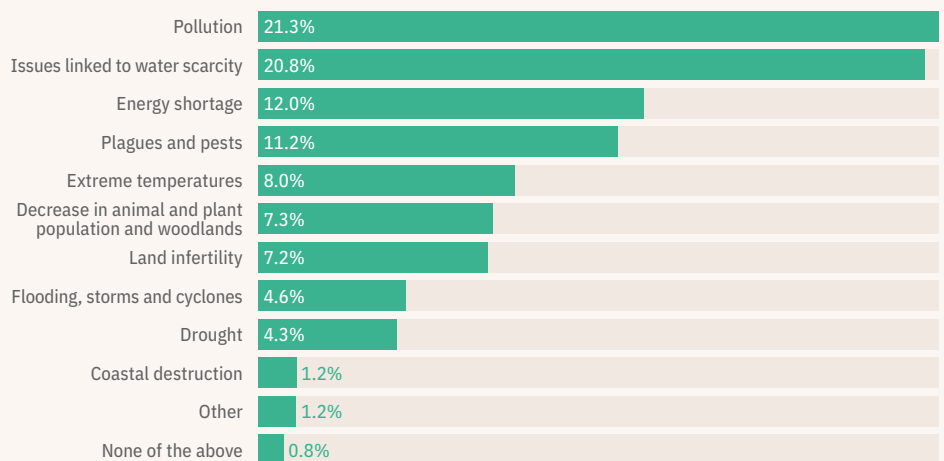
The relationship between environmental risks, climate, and conflict manifests through different pathways. Pollution and issues linked to water scarcity are the main environmental issues that respondents perceived as leading to conflict and tensions, representing almost half of the total responses (Figure 23). Unsurprisingly, with most of Yemen's population reliant on natural resources to secure their livelihoods, the most essential natural resources, particularly water and energy, are experiencing significant competition. Close to 62% of respondents reported competition in their communities for water

resources, followed by oil, gas, and other energy sources (61%), firewood (44%), farming and grazing lands (45%), crops, livestock, or fish (39%) (Figure 17 above). Moreover, the combined impact of water, land, and air pollution emerges as a significant environmental driver of conflict, reported by over 20% of respondents. An interviewee from Al-Jawf reported, "In the city of Al-Hazm, for example, there is a major problem whenever it rains—conflicts break out among residents due to the absence of proper drainage for rainwater and sewage. This situation also leads to the spread of many diseases."⁵⁰

Figure 23
Perception of environmental issues driving tension and conflict across thirteen target governorates, aggregated data

responses: 7229

Pollution and water scarcity were found as the two main environmental risks related to conflicts.⁵¹



50. Key informant interview in Al-Jawf conducted in March 2024.

51. Pollution includes water pollution (5.98%), air pollution (8.26%), and land pollution (7.00%). Issues linked to water scarcity involve lack of access to water (9.61%) and lack of rainfall/water shortages (8.85%). Flooding corresponds to 3.78% and storms and cyclones 1.64%. Decreases in animal or plant population account for 5.19% and loss of woodlands for 1.58%.

Qualitative insights across all thirteen governorates highlight disputes and conflicts over the exploitation of natural resources, including land and water.

Fishermen in Taiz and Al-Hodeidah, for instance, reported conflicts linked to the practice of overfishing attributed to scarce natural resources and marine pollution, framing it as a competition for power and wealth.⁵² Similarly, conflicts over water resources were reported in Marib, Taiz, Aden, and Al-Hodeidah, including an armed conflict between the villages of Qarabeh and Marzuh in Taiz revolving around the ownership of a water well. The conflict persisted for almost four years and led to numerous cases

of displacement, injury, and death.⁵³ In Abyan, land ownership conflicts over agricultural and residential lands frequently escalate into armed disputes.⁵⁴ Ibb faces similar challenges, with tensions between villages of Madar and Qadham over water projects,⁵⁵ compounded by population growth and the influx of IDPs increasing water demand for both human consumption and livestock.⁵⁶ Unaddressed climate risks can further fuel such tensions, for instance where floods wash away farmland and create ownership conflicts over remaining areas. At instances, such disputes over agricultural land have escalated to fatal violence.⁵⁷

“In 2014, strong winds, a cyclone, and sea flooding struck the Sheikh Abdullah area, making it unsafe and hazardous. This led to the displacement of the entire village population to safer areas, following an intervention by the local authorities who provided vehicles to transport residents. However, tensions arose among the families who relocated, as no camps were provided for the affected population, nor were the necessary relief materials available in the safe areas.”⁵⁸

In Al-Jawf, disputes over large land areas have led to social fragmentation, displacement, and tribal vendettas, forcing many farmers to abandon their lands.⁵⁹ Interviewees also report that frequent revenge killings and tribal conflicts drive continuous internal displacement within the governorate.⁶⁰ In other cases, such as in Hadramawt, water disputes over valley outlets have been resolved through legal court action rather than armed confrontation,⁶¹ although conflicts persist in relation to pollution, for instance between homeowners and individuals accused of dumping waste, as was reported in Mukalla.⁶²

With the armed conflict having disrupted governance structures and institutional capacities to address environmental issues, **grievances over natural resources seem to be largely driven by weak governance and resource exploitation.** Issues relating to the access, control, and capture of natural resources are perceived as the greatest drivers of conflict, as reported by over 40% of respondents. This was followed by poor resource management practices, such as insufficient waste management, the use of fertilisers, overfishing, and poaching, which represented over 25% of identified practice-related drivers that might lead to disputes and conflicts. In addition,

52. Focus group discussion with workers in the fisheries and agricultural sectors from different governorates conducted in February 2023.

53. Mixed focus group discussions conducted in February 2023.

54. Key informant interview with respondent in Mudya, Abyan, conducted in March 2024.

55. Key informant interview with respondent in Al-Sada'a, Ibb, conducted in March 2024.

56. Key informant interview with respondent in Ibb City conducted in March 2024.

57. Key informant interview with respondent in Al-Sada'a, Ibb, conducted in March 2024.

58. Key informant interview with respondent in Zinjibar, Abyan, conducted in March 2024.

59. Key informant interview with respondent in Al-Hazm, Al-Jawf, conducted in March 2024.

60. Key informant interview with respondent in Al-Hazm, Al-Jawf, conducted in March 2024.

61. Key informant interview with respondent in Dawa'an, Hadramawt, conducted in March 2024.

62. Key informant interview with respondent in Mukalla, Hadramawt, conducted in March 2024.

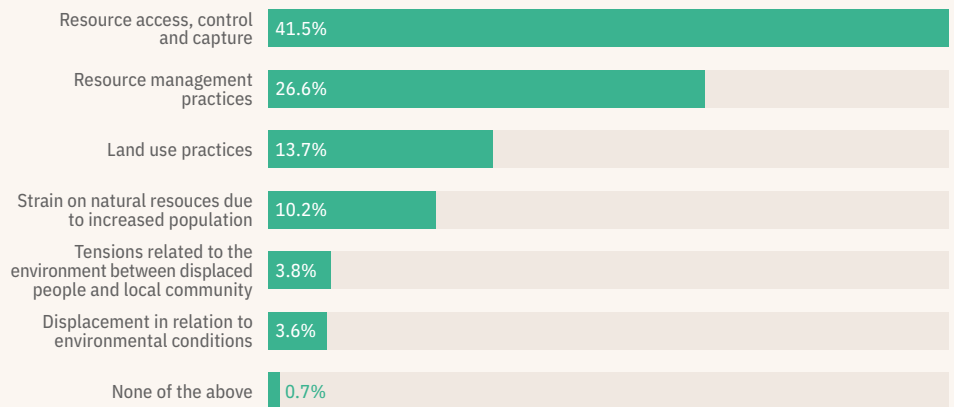
14% of respondents mentioned poor land use practices as a driver of conflicts, mainly due to deforestation, unsustainable farming and grazing practices, and construction. This aligns with the qualitative insights from focus groups, who emphasised that weak governance, associated with elite monopolisation of natural resources, has increased grievances for many vulnerable groups and ignited tensions over natural resources across the country.⁶³ Other societal drivers that contribute to environmental tensions included population growth (10.2%) and displacement due to environmental issues (3.6%) (Figure 24).

Other issues appear to be more contentious, notably competition over minerals, which only 11% of respondents acknowledged as a problem leading to tensions, but 32% expressing uncertainty. Uncertainty levels are equally high about conflicts driven by migration, with 26% acknowledging problems but 23.5% uncertain. This uncertainty might reflect information gaps or a reluctance to report on them due to heightened sensitivity.

Figure 24
Perceived drivers of conflict-related to environmental and natural resources governance⁶⁴

responses: 7313

Issues relating to the access to and distribution of natural resources, including elite capture and control, scored as the most important systemic and societal factor fuelling disputes over environmental issues, reported by 41% of respondents.



63. Mixed focus group discussions conducted in February 2023.

64. Resource access, control and capture: Resource access (5.82%), Resource capture by elites (6.43%), Resource capture by others (9.33%), Resource control (11.5%), Resource sharing (7.09%). Resource Management Practices: Fertilizers (4.88%), Industrial activities (2.08%), Oil drilling (1.63%), Overfishing (1.9%), Poaching (1.68%), Waste management (8.57%) and Water management (5.01%). Land use practices: Construction (3.13%) Deforestation (5.61%), Farming and grazing (4.51%).

3.2.2 | Governorate-level results

The results presented in this section point to the manifold ways in which environmental circumstances practices contribute to driving disputes in Yemen. A look at the governorate and district level demonstrates how existing pressures affect each region differently. With a view to **environmental and natural resources governance**, **Shabwah** (55.4%), **Al-Dhale'** (47.3%), **Sana'a** (47.0%), and **Taiz** (45.9%) stand out as areas where many respondents identified bad governance as a driver of conflict (Figure 25). At

the district level, Al-Mudhaffar in Taiz (65.1%), Al-Tuhayta in Al-Hodeidah (60.9%) and Ma'in in Sana'a (60.5%) show the highest rates. Meanwhile, issues relating to **access, control, and capture of natural resources** were reported most frequently in **Al-Mahra** (41.1%), **Al-Jawf** (38.3%) and **Hadramawt** (36.7%) (Figure 26). At district level, Dhubab (Taiz) stands out with 48.8% identifying resource access or control as drivers of conflict, followed by Lawdar (Abyan) and Qishn (Al-Mahra) with roughly 44% each.

Figure 25
Perceived resource management practices leading to conflict, disaggregated by district
 responses: 7539

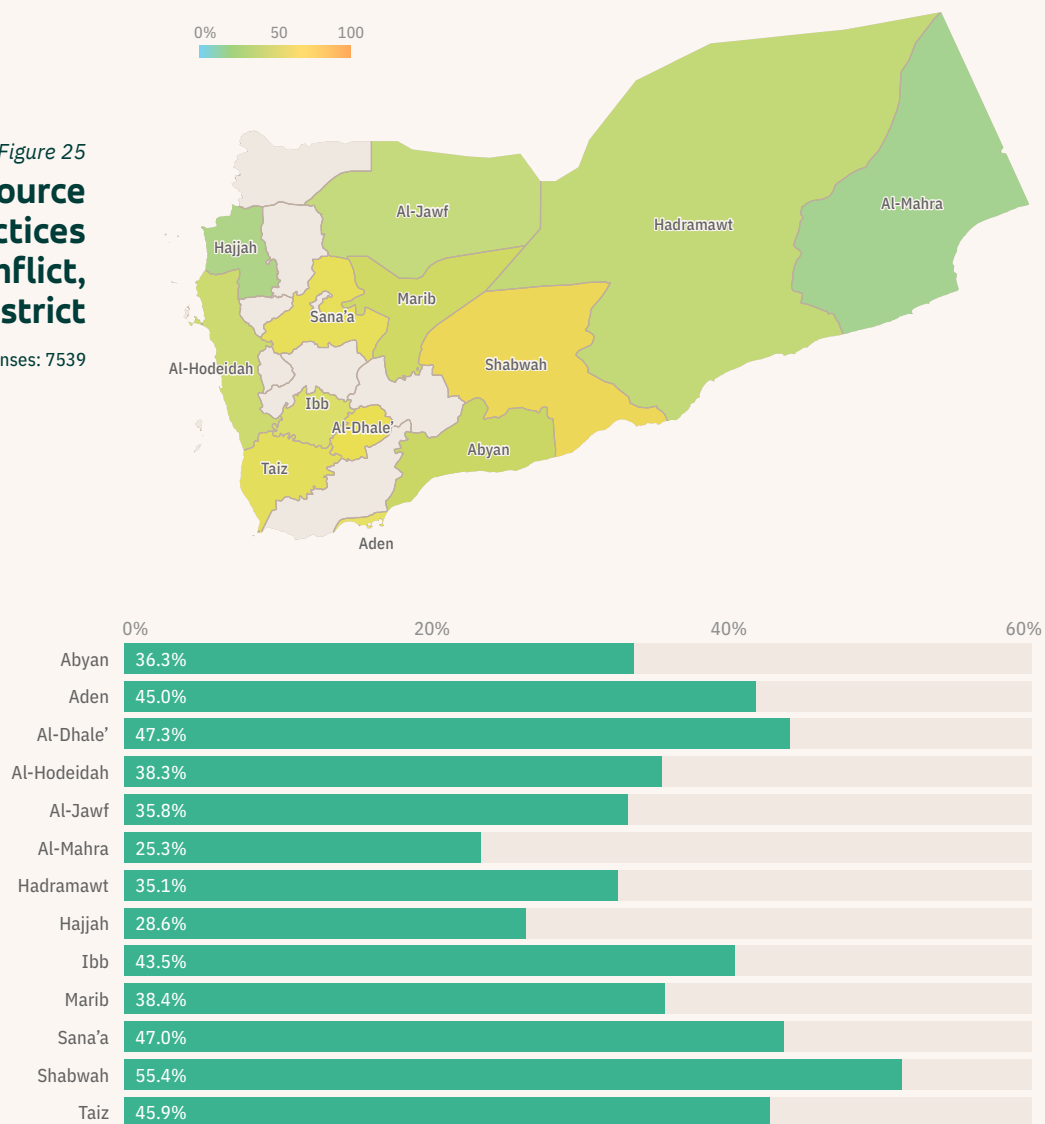
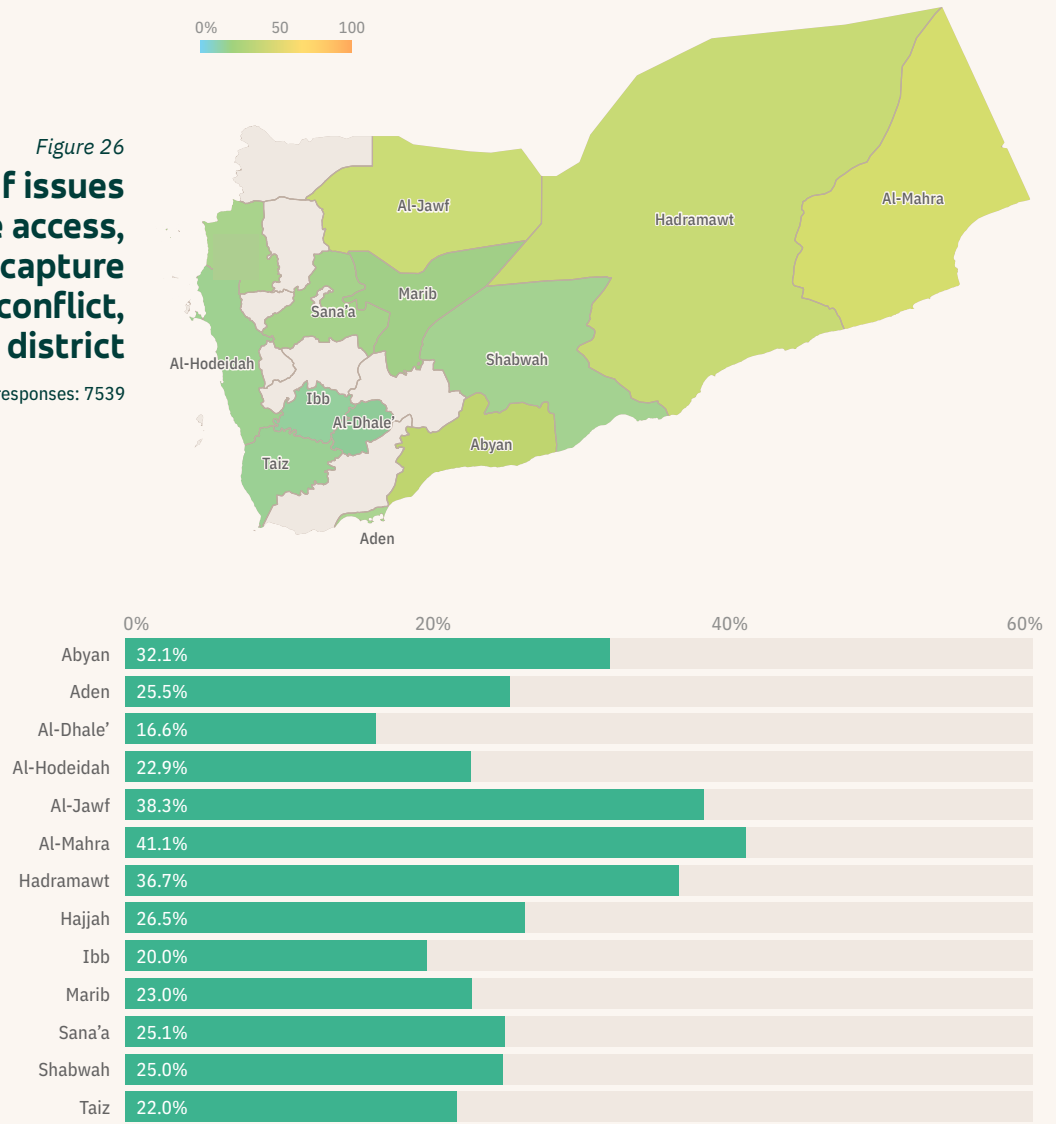


Figure 26
Perception of issues relating to resource access, control, and capture as leading to conflict, disaggregated by district

responses: 7539



Concerning natural resource availability, **Aden** emerges as a hotspot governorate for **competition over both water** (reported by 93.2% of local respondents) **and energy** (90.4%), while **Sana'a** struggles particularly with **competition over water resources** (85.1%) (*Figures 28 and 29*). These urban centres experience acute competition over essential resources. Water competition levels also appear high in Al-Dhale' (83.7%), Taiz (75.3%), and Hajjah (68.9%). At the district level, the situation appears even more acute in specific localities. For instance, within Khur Maksar in

Aden, 98.2% of respondents reported competition over water and 92.6% over energy. In Taiz governorate, Al-Ta'iziyah district demonstrates similarly severe conditions, with 98.2% noting competition over water and 94.4% over energy, underscoring the intense resource constraints affecting these urban districts. This distribution suggests that energy access problems and water scarcity disproportionately affect urban centres, potentially stemming from damaged infrastructure, fuel shortages, electricity grid failures, and governance breakdowns in these areas.

Figure 27

Perceived competition for water in the thirteen target governorates, disaggregated by district

n = 3418

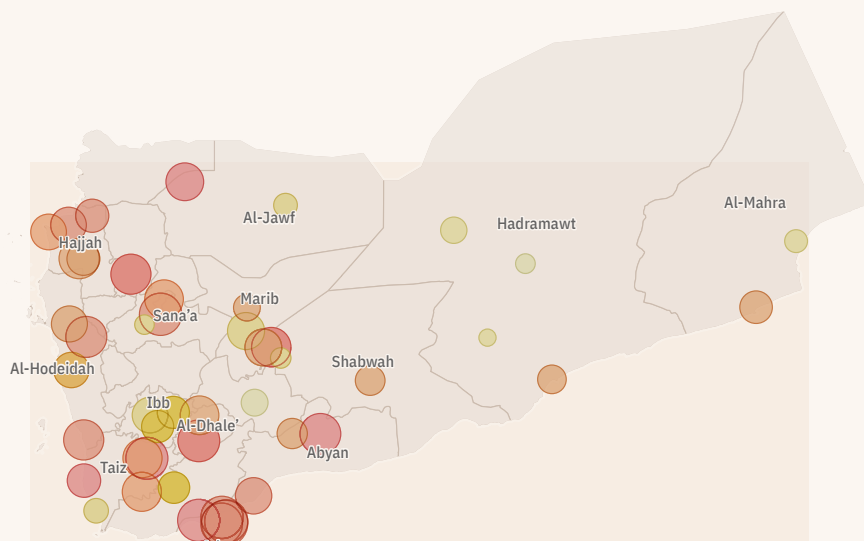
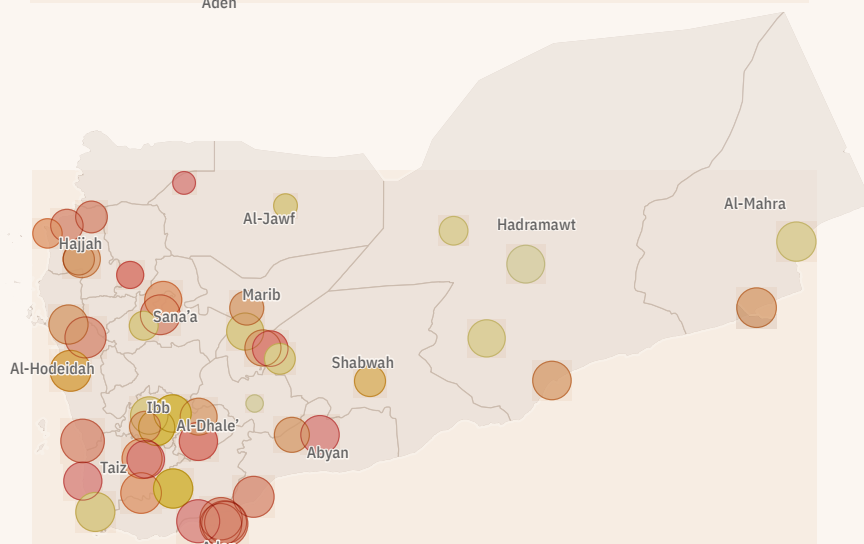


Figure 28

Perceived competition for energy resources in the thirteen target governorates, disaggregated by district

n = 3241



Key takeaways

The data presented in this section illustrates the interconnected environmental, economic, and social challenges affecting Yemen, all of which contribute to explaining the security context. It demonstrates the conflict potential of insufficiently addressed environmental issues, with more than half (52%) of the respondents claiming the presence of conflicts or tensions in their district due to environmental factors, particularly in Marib, Taiz, and Al-Dhale'. Over 60% of respondents experience competition over water and energy sources, an issue that seems particularly urgent in urban areas such as Aden. Strikingly, issues related to land, air, or water pollution, for instance due to the lack of functional sewage infrastructure, arose as a relevant environmental driver of conflict. Correspondingly, governance and common practices of managing natural resources along other environmental issues, are acknowledged in their role in contributing to conflict. Particularly gaps in regulating the access to and extraction of natural resources are perceived to drive tensions, as reported by over 40% of respondents, often in relation to the perceived elite capture of essential resources such as water. These findings suggest that environmental factors play a crucial role in Yemen's broader security landscape, with implications for policy interventions aimed at sustainable peace and development.

ENTRY POINTS FOR ENVIRONMENTAL PEACEMAKING

The previous sections have assessed the multifaceted risks arising from climate and environmental issues in Yemen that profoundly impact the lives of its people. With natural resources dwindling and competition for them escalating, the country is experiencing ever increasing potential for tensions, conflicts, and violence. Environmental peacemaking can provide legitimate entry points for dialogue and cooperation that will contribute to sustainable peace in the long run. A vision of sustainable peace in Yemen inevitably needs widespread agreement to a settlement that will improve the current situation. This will include identifying ways to provide a meaningful peace dividend to a critical mass of the population.

There appear to be ample ways to leverage aspects around natural resource management and related tensions, as well as concerns about climate change, to foster collaboration, engage citizens, and identify solutions to the ongoing conflict with increased popular support. This section explores the potential of environmental peacemaking and reconciliation by delving into local perspectives and priorities for addressing environment-related grievances, tensions, and security risks. The first part of this chapter explores the need to protect the environment and respond to climate change, while the second part looks at initiatives and mechanisms designated to address community conflicts and disputes that can be linked to environmental issues.

4.1

RECONCILIATION WITH AN ENVIRONMENTAL PERSPECTIVE

Understanding the meaning of reconciliation at the local level in Yemen was a core objective of the previous consultation facilitated by the Institute in nine Yemeni governorates in 2020-2021. It revealed nuanced and sophisticated notions of reconciliation ranging from ending the violence, to building trust in state institutions, to restitution. In the context of this consultation, the environment emerged as a priority in eight out of nine governorates, on a par with “ending the war.”⁶⁵ This indicates that the environment plays a fundamental role in the population’s sense of safety and security, and that its restoration and protection is an important and urgent demand. Reconciliation efforts that aim to meaningfully address local Yemeni perspectives therefore should consider environmental factors as integral elements. The Environmental Peacemaking Consultation informing this report put emphasis on questions around the need to respond to climate change and protect the environment, especially in relation to peace efforts.

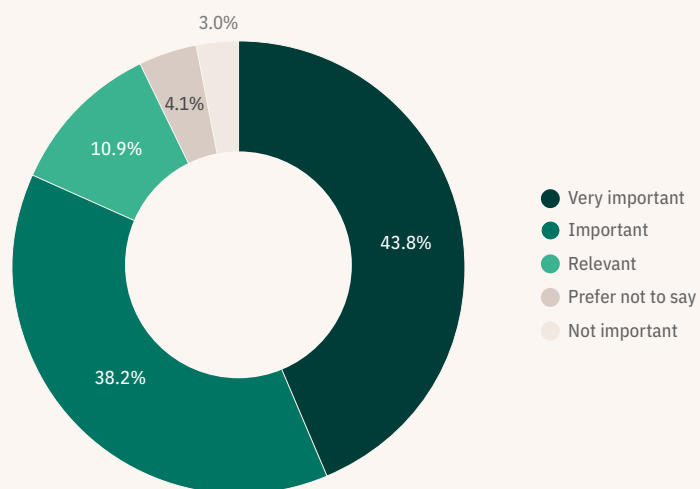
When asked about the relevance of climate and environment in the context of the conflict, **most Yemenis agreed that responding to climate change and protecting the environment in the short-term is essential**, with 82% considering it important or very important (*Figure 29*). Regional variations are of note, with Hajjah, a governorate extremely impacted by the war and where a large proportion of its population is in immense need of humanitarian assistance, showing the highest support rates (63% considering it essential). At the district level, respondents in Kushar (Hajjah), Midi (Hajjah), Harad (Hajjah), Serah (Aden), Bani Al-Harith (Sana’a), and Al-Shamaytayn (Taiz) allocated particular importance to responding to climate change and protecting the environment. Conversely, Sana’a City and Al-Saddah (Ibb) showed the least concern, with 16% and 12.5% of respondents in these districts, respectively, not considering it important.

Figure 29

Importance of responding to climate change risks and protecting the environment in Yemen in the short-term

n = 3408

Despite the humanitarian and economic urgencies posed by the war, over 80% perceive enhanced climate resilience and environmental preservation as important in Yemen.



65. European Institute of Peace (2021). Pathways for Reconciliation in Yemen. Available at: <https://www.eip.org/publication/pathways-for-reconciliation-in-yemen/>

The consulted Yemenis acknowledged that conflict resolution, in Yemen, must account for environmental issues in order to address critical drivers of conflict. Approximately 57% of respondents asserted that environmental challenges should be addressed as part of peace negotiations, with 29% considering it essential to achieving peace (Figure 30). Respondents in the governorates of Al-Hodeidah (43% fully agree) and Taiz (41% fully agree) showed the highest support for an integration of environmental considerations into peace negotiations, while in Ibb (33% 'completely disagree'), Marib (33%) and Hajjah (27%), opposition rates were highest.

The responsibility to address environmental and climate change issues as a contribution to peace was understood to be shared between individuals, communities, as well as local and national authorities. Local and national level public authorities were attributed a pivotal role as primary agents, with 23% and 24.5% responses respectively, together with individuals (15.9%) and community initiatives (7.5%) (Figure 31). Some participants in the focus group discussions questioned the effectiveness of public agencies when addressing environmental challenges, while others highlighted their importance as key partners in driving change and addressing these challenges.⁶⁶

Figure 30
Perceived need to include environmental considerations in peace negotiations

n = 3410

A majority of 56.5% agree that peace negotiations should be sensitive to environmental risks.

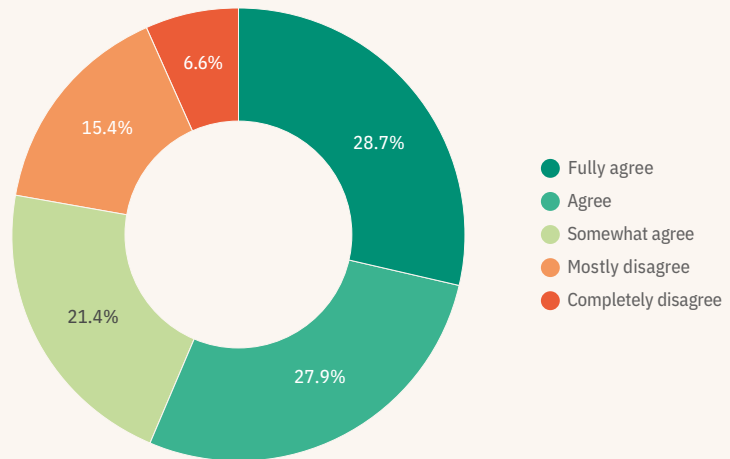
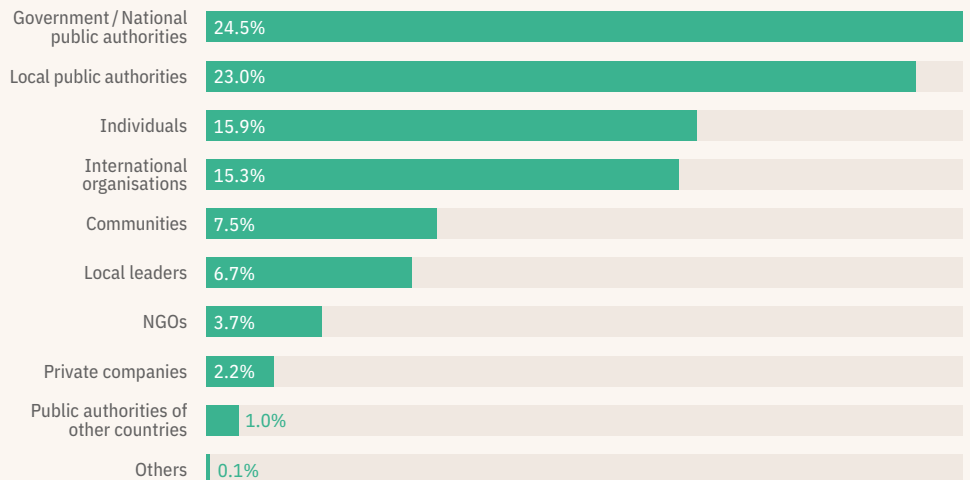


Figure 31
Perceived responsibility for addressing environmental and climate change issues

responses: 7377

Local and national authorities are seen as primary agents to address environmental issues and related risks to peace and security.



66 . Focus group discussions conducted in 2023 and 2024.

This trend encountered **notable matters at the governorate level (Figure 32)**. In the governorates of Hadramawt, Shabwah, Sana'a, and Abyan, a significant majority of respondents preferred national public authorities as the primary agents for tackling environmental and climate change issues, whereas in Al-Mahra, Aden, Taiz, and Al-Hodeidah, community initiatives were attributed a bigger role. Notably, certain areas show significantly less enthusiasm about the role of communities in this context, such as Shabwah or Al-Jawf, where only few respondents con-

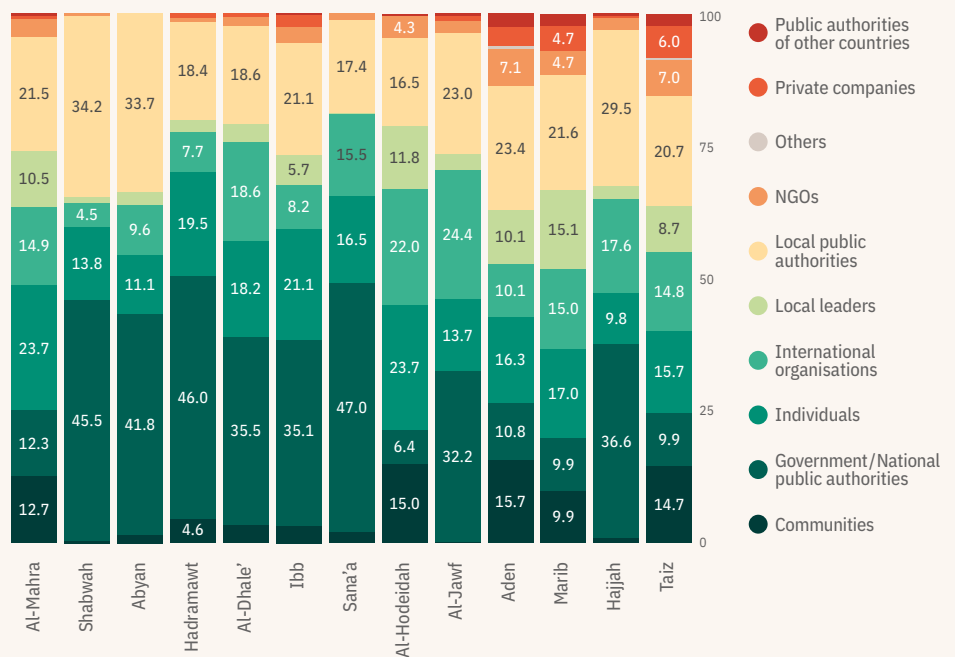
sidered them as crucial actors. These results indicate the need for a nuanced perspective on the most effective entities in addressing environmental and climate security risks that accounts for varying degrees of capacity and trust towards authorities and other actors. They also denote the **potential for local and national government institutions to leverage environmental action for peacemaking**, which could in turn, contribute to the legitimisation of their role and buy-in to political settlements.

Perceived responsibility for addressing environmental and climate change issues, disaggregated by target governorates

responses: 7377

Responses show significant variation along geographies, indicating the need for contextualised design of programmes and policies implemented in these geographies.

Figure 32



Within the protracted conflict, Yemenis face heightened exposure to severe environmental hardships, including extreme temperatures and droughts. This leads to increased scarcity of natural resources, particularly water and energy, and heightened competition regarding their control, access, and capture. The lack of trust in local authorities to resolve security risks has further diminished their ability to address environmental and climate-related perils. While individuals

and communities act by leading and participating in initiatives, this is not enough to mitigate Yemen's manifold environmental challenges. The insights from this consultation reveal that **integrating environmental lenses into reconciliation, peace processes and potential agreements, and strengthening the local governance of environmental issues and related disputes, are essential considerations for achieving sustainable peace.**

4.2

ADDRESSING ENVIRONMENTAL AND CLIMATE-RELATED DISPUTES AT THE LOCAL LEVEL

Despite the role attributed to local and national public authorities in addressing environmental challenges, the responses point to gaps in public management and responses to environmental risks. Approximately 70% of the Yemenis consulted indicated that they are not aware of any formal environmental policies or laws in their governorate. Al-Hodeidah, Ibb, Al-Jawf, Hadramawt, Al-Dhale', Shabwah, Taiz, Al-Mahra, and Aden showed the lowest rates, with more than 70% of people perceiving a lack of environmental policies and laws (*Figure 33*). The answers indicate that regardless of which faction is in control of a governorate or the intensity of armed conflict there, Yemeni citizens generally perceive that there is a lack of formal frameworks to govern environmental matters or are not sufficiently aware of such.

The consultation also highlighted a gap between public entities and Yemen's broader population, with over 64% of respondents affirming that they do not know who to approach in their district or governorate when it comes to environmental concerns or issues. This issue was particularly evident in the Ibb, Al Jawf, Al-Dhale', and Shabwah governorates, where over 70% of respondents noted a lack of knowledge regarding who to approach to raise any environment-related issues that they might be facing (*Figure 34*).

Even where an entity or person to address issues with may have been identified, results point to

a gap in representation and accessibility. More than 60% of the respondents did not feel enabled to approach local authorities on questions, concerns, or disputes relating to the environment. This feeling of not being positioned to address relevant authorities appears particularly prominent in Al-Jawf (91.4%), followed by Ibb (73.3%), Al-Dhale' (73.3%), and Shabwah (70.3%) (*Figure 35*). These findings reveal substantial gaps in efforts to mitigate the ecological fallout resulting from regional disputes that require a more comprehensive and environmentally sensitive approach as well as enhanced enforcement of existing policies.

The data also underlines that women face particularly high hurdles in reaching to responsible authorities and accessing relevant information on existing legal and institutional frameworks to address environmental concerns. Across the survey, women considered themselves less aware of formal environmental policies or laws, with 72.8% of female respondents indicating "no" compared to 67.6% of male respondents. The same applies to knowledge about environmental authorities, where 70.8% of female respondents reported that they do not know who to approach, compared to 59.1% of male respondents. In addition, women felt less enabled to approach local authorities on environmental matters, with 67.8% indicating they do not feel empowered to do so compared to 58.6% of male respondents.

Figure 33

Perceived existence of formal environmental policies or laws disaggregated by governorate

n = 3422

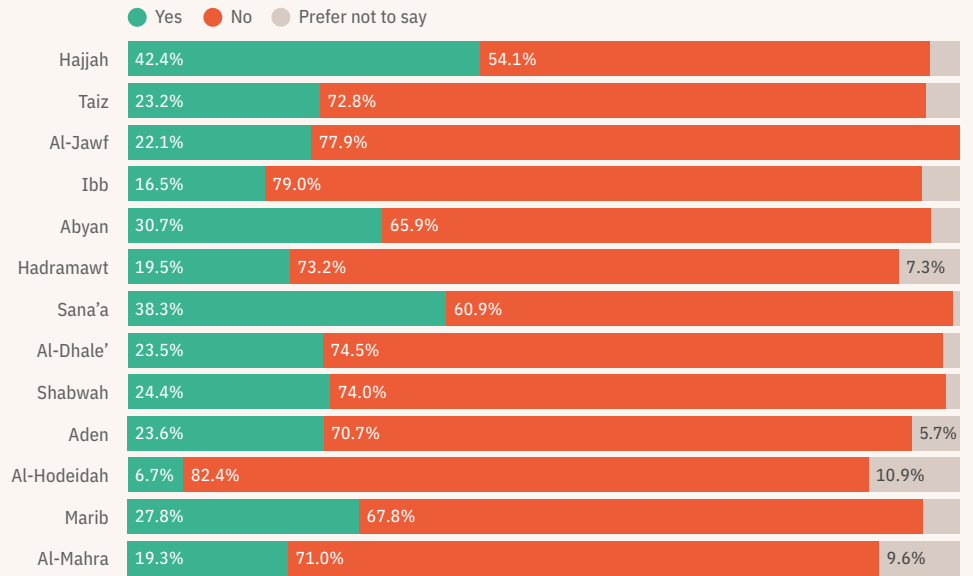


Figure 34

Perception of entities available at a local level to approach about environmental issues, disaggregated by governorate

n = 3421

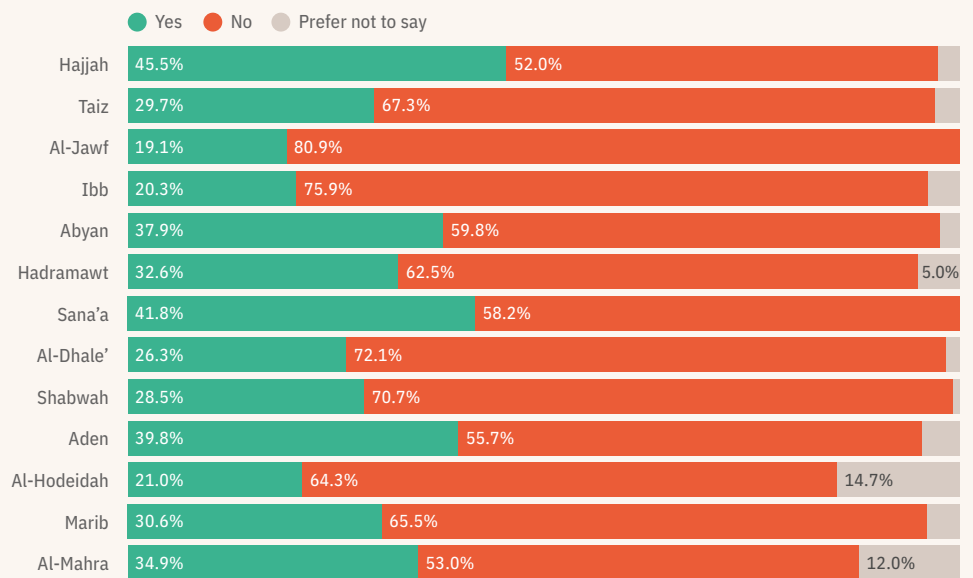
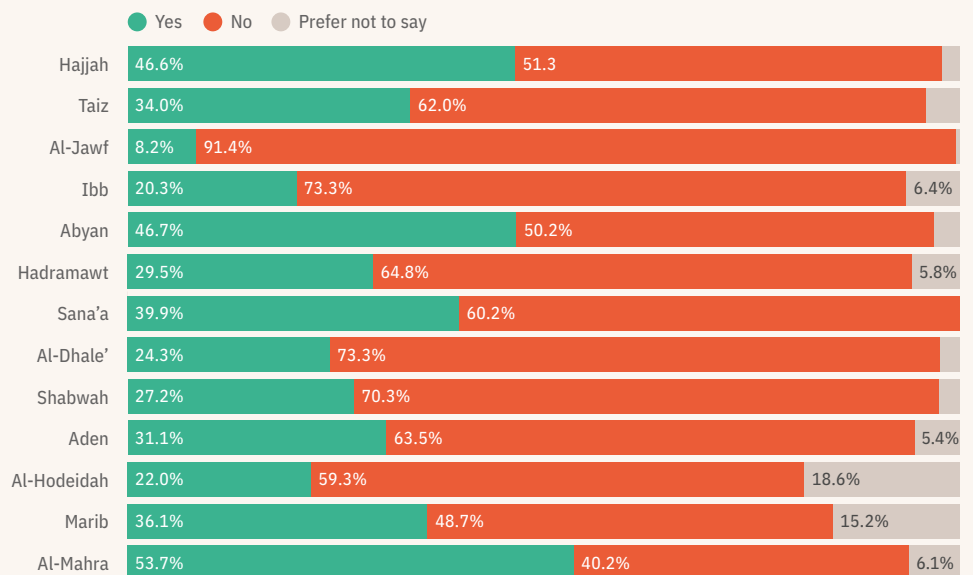


Figure 35

Perception of entities available at a local level to approach about environmental issues, disaggregated by governorate

n = 3412



Prior research indicates that the most often reported mechanisms employed to resolve disputes linked to environmental and natural resource issues, particularly land and water conflicts, are mediation at the community level and tribal structures. For example, water conflicts are often resolved in local arbitration systems, since Yemeni citizens tend to favour tribal dispute resolution mechanisms and dismiss formal courts due to their disconnection from the local context, corruption, and slow processes.⁶⁷ In tribal areas, water conflicts were found to be dealt with first by traditional leaders and, if not, the conflict would be taken to the sheikh heading the tribe. Only when a dispute is not addressed at these levels, would it be referred to the courts. In nontribal areas, dedicated associations of water management are active in settling disputes over water resources.

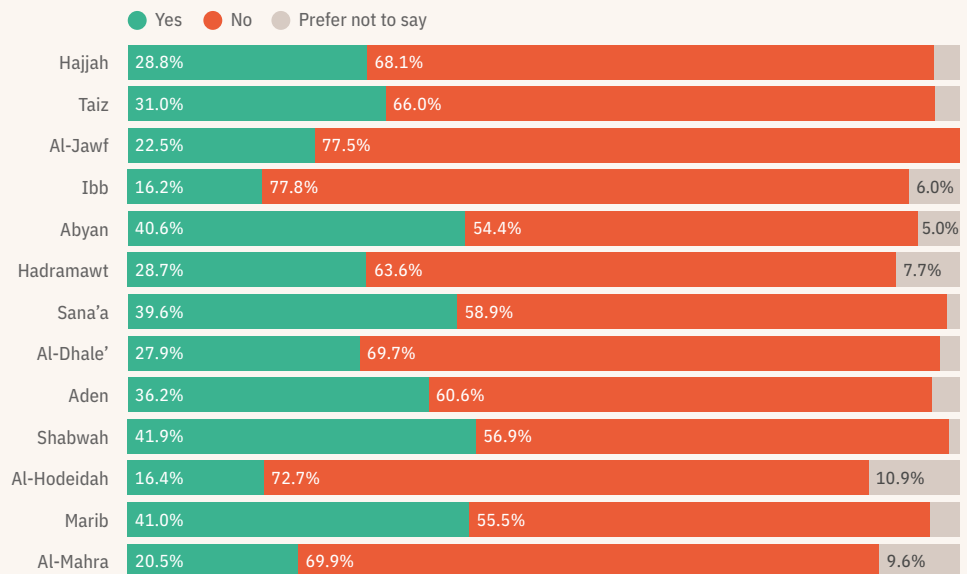
Considering the gaps identified in public governance, **local-level initiatives appear to be an important instrument in tackling environment-related disputes and grievances.** Three out of ten respondents reported that they were aware of initiatives in their districts aimed at resolving community conflicts or tensions related to environmental issues, indicating a high potential for locally informed environmental peacemaking.

Examples mentioned in focus groups and interviews include a training course on resolving land disputes organised in Ibb, creative projects such as *Art for Peace* in Al-Mahra, community-based projects to improve water management or support flood-affected families, peacebuilding dialogues in Taiz, or environmental organisations and collectives such as *Eco-youth* in Aden. The percentage was particularly high in Marib, Shabwah and Abyan, where over 40% affirmed knowing of such initiatives in their area. The lowest awareness of environmental peacemaking initiatives was reported in Ibb and Al-Hodeidah (16% respectively). The findings highlight a significant gap in perceived environmental peacebuilding at the community level in these areas, pointing to the need for greater visibility and outreach of localised initiatives to address environmental and climate-related tensions.

To better respond to climate and environmental challenges at a district level, respondents indicated that **financial support, capacity-building, and raising awareness** were deemed essential, even more so than strengthening policy frameworks and networking (*Figure 37*). Financial support emerged as the highest priority in nine out of thirteen governorates, reflecting widespread economic challenges across the country.

Perceived existence of initiatives resolving tensions or conflicts related to environment and climate change at the community level, disaggregated by target governorates

Figure 36
n = 3422

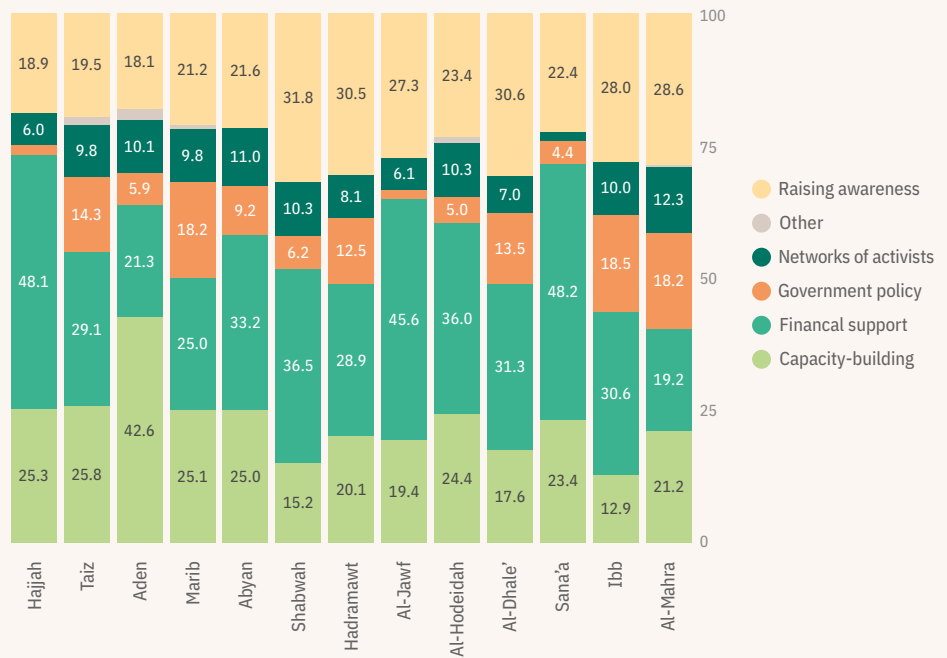


67. Ward, C. (2009). Water conflict in Yemen: the case for strengthening local resolution mechanisms. In Jagannathan, Mohamed and Kremer (Eds.). *Water in the Arab World. Management Perspectives and Innovations*, pp.233–267.

Particularly habitants of Al-Jawf (45.6%), Hajjah (48.1%), and Sana'a (48.2%) prioritised the need for financial support. Raising awareness represents a substantial portion of priorities across all governorates, particularly in Aden (42.6%), Hadramawt (30.5%), and Al-Dhale' (30.6%), while the emphasis on government policy interventions

varies significantly but remains comparatively low across governorates. These results highlight the importance of **tailored, regionally specific approaches that address the complex interplay between economic, institutional, and informational challenges across Yemen's diverse governorates.**

Figure 37
Perceived needs to better respond to environmental and climate issues at the governorate level
 responses: 7689



Key takeaways

The results indicate a clear necessity to address environmental risks and related conflicts more comprehensively, including as part of conflict resolution efforts. 82% of the Yemenis consulted considered it important to address climate change, and a majority expressed their support for integrating environmental considerations into conflict resolution in Yemen. Local and national public authorities are attributed a pivotal role as primary agents for addressing environment-related issues but largely remain opaque and unreachable to the local population. Approximately 70% of Yemenis consulted reported being unaware of formal environmental policies or laws in their governorate and over 64% do not know whom to approach regarding environmental concerns. Consequentially, most respondents did not feel enabled to approach existing authorities on questions, concerns or disputes relating to the environment. Al-Jawf, Ibb, Al-Dhale', and Shabwah emerge as the governorates most affected by this disconnect, while women consider themselves less positioned than men in accessing existing institutions.

Filling this institutional gap, local community initiatives emerge for their important role in tackling environment-related challenges and disputes. One-third of respondents indicated awareness of initiatives in their districts aimed at resolving community conflicts related to environmental issues. These findings highlight the need for financial support, capacity-building, and awareness-raising to better respond to environmental challenges and leverage the capacities of local actors in conflict resolution over environmental issues.

CONCLUSION



This consultation, conducted through an environmental peacemaking lens, brought nuance to the understanding, perception, and awareness of environmental and climate risks in Yemen as well as the related impact on daily lives, local disputes, and the national conflict. Most importantly, the consultation uncovered local gaps and priorities for resolving environmental risks and related disputes and identified potential entry points for peacemaking.

The results show that Yemenis are highly aware of climate change and are severely affected by its impacts, primarily due to the reduced availability and quality of essential natural resources, unaddressed pollution, and extreme weather events. Environmental concerns play a significant role in aggravating citizen's grievances related to a lack of basic services, displacement and threatened livelihoods, often stemming from weak governance and institutional capacity. With major environmental risks remaining largely unaddressed, tensions and disputes over environmental matters at the community level are prominent across the country, mainly due to competition for water and gas as well as issues relating to the access, capture, and unsustainable exploitation of natural resources.

There is an overwhelming agreement among Yemenis that responding to climate change and protecting the environment is essential, including the integration of such environmental considerations into conflict resolution and peace efforts. However, despite prevalent disputes over environmental risks and the growing recognition that considering these risks in peacemaking practice is essential, conflict resolution and reconciliation processes are not perceived as sensitive to the changing environment and climate. Yemenis do not feel enabled to approach local authorities to discuss environmental matters on their own behalf, nor in the context of the national conflict. The large support for an integrated approach emerging from the consultation, paired with the gaps identified in the governance and accessibility of local institutions, indicate a need to elevate civic participation in national policymaking and conflict resolution efforts.

In addressing climate, environmental and natural resource-related drivers of conflicts, environmental peacemaking, as an integrated conflict resolution and prevention approach, can contribute to achieving sustainable peace. In Yemen, such an approach would allow vulnerable groups to become engaged and foster community-led solutions actively and meaningfully on local environmental risks. And, at the same time, tackle the underlying social, economic, and political consequences of the national armed conflict.

The role of local and community-led action based on inclusion and meaningful participation cannot be understated. While omnipresent across the country, most environmental issues and disputes are found locally, together with other consequences of the armed conflict. Instead of reaching to national authorities, many Yemenis favour traditional leaders, communities, and individuals to resolve disputes related to environmental issues. This is influenced by the widespread perception that national authorities lack the capacity to enforce environmental regulations, foster sustainable resource management practices, and promote climate adaptation.

Local environmental peacemaking solutions that strengthen the inclusion, agency, and leadership of local citizens and institutions in the resolution of environmental disputes, could also open avenues for trust-building and reconciliation at the national level and contribute to fostering a constituency that supports a sustainable settlement process. The potential of local approaches is in line with the findings of the Institute’s previous consultation on reconciliation in Yemen, which highlighted that local context and needs must be properly understood and that local networks hold enormous potential for contributing to reconciliation and strengthening social cohesion, which could in turn promote essential buy-in to a national peace process.

Given the severity of the environmental and climate crisis in Yemen and the impact of the national conflict in governance and provision of basic services, it is no surprise that local institutions are weak and almost non-existent in some places, accessibility to those that exist is identified as limited, and local customary and community actors fill the role for dispute resolution. In this context, rather than a demand for improved environmental governance as a precursor to sustainable peace, the issues identified in this report provide an opportunity to build an approach to environmental peacemaking that engages the agency of those most directly affected by the conflict and the environmental crises. The report provides a basis to inform action that helps build, rather than wait for, accountable governance structures. The core of that structure lies in three areas:

- 1. Engagement with the environmental concerns of the affected population,*
- 2. Encouragement and facilitation of their participation in identifying plausible strategies to address the environmental and climate risks in relation to the ongoing conflict, and*
- 3. Around these processes, build effective institutions that can both implement and be held accountable.*

Going forward, data collection, analysis, and sharing are essential to nurture inclusive, environmentally informed approaches to peace in Yemen as well as to support coordination across sectors. This report, and the data of the consultation, hopes to be an invitation for communities, practitioners, policymakers, and researchers to build upon its insights and expand knowledge and practice on how environmental matters can be meaningfully integrated into peacemaking approaches, with the shared goal to achieve inclusive and sustainable peace in Yemen.



Photo: Unaddressed accumulation of garbage in grazing lands near Taiz City. ©Nazeh Mohammed (EIP, 2023).

ANNEXES



ANNEX 1

CONSULTATION METHODOLOGY

The methodology employed for the Environmental Peacemaking Consultation informing this report involved a comprehensive approach, utilising a mixed-methods design that combined quantitative and qualitative data collection techniques.

The primary aim was to assess Yemenis' awareness, perceptions, and experiences across different governorates on environment- and climate-related security issues.

Sampling Strategy

The sampling strategy aimed at achieving a representative and diverse sample of the Yemeni population. The questionnaire was administered across 49 districts in the thirteen governorates of Marib, Al-Hodeidah, Taiz, Aden, Al-Mahra, Shabwah, Sana'a, Al-Dhale', Hajjah, Al-Jawf, Ibb, Hadramawt, and Abyan. Participants were selected randomly on the streets to ensure a broad representation of society. The governorates were selected based on the following criteria:

- Severity and diversity of conflict dynamics
- Local polarisation and contentions linked to the presence of conflict parties
- Balanced representation of northern and southern governorates as well as local groups
- Availability of potential local partners and feasibility of carrying out consultative activities
- Lack of similar assessments on rights-based issues
- Trust deficits between local communities and local leaders

Within those governorates, districts were selected based on the density of the population and operational accessibility.

Data Collection Instruments

The primary data collection instrument was a structured questionnaire consisting of seven parts:

- A. Personal information: Gathered demographic details such as age, education level.
- B. Awareness of climate change: Assessed participants' understanding of climate change and environmental concepts.
- C. Impacts on livelihoods: Explored the perceived effects of climate change and environmental degradation on livelihoods, peace, and security.
- D. Conflict and tensions: Investigated the connections between environmental challenges and conflict based on respondents' experiences.
- E. Engagement and policy: Inquired about attitudes toward initiatives addressing environmental and climate security.
- F. Needs and rights: Explored urgent needs and priorities related to the environment.
- G. Final questions: Provided space for additional comments and follow-ups.

Survey Rounds

Three rounds of consultations were conducted, the first in February 2023 across 21 districts and the second in October 2023, covering 15 districts, and a third round in March 2024 in 13 districts. This approach allowed for a comprehensive and temporally sensitive understanding of the participants' perspectives.

Data Types

The dataset consisted of three types of questions: (a) Open-ended questions, which were used in the first consultation round to add qualitative insights; (b) Single-selection questions, and (c) Multiple-choice questions.

Data Analysis

The initial focus of the analysis lay on quantifying and cross-referencing the answers to single- and multiple-choice questions. Open-ended responses were be considered with qualitative data from interviews and focus group discussions. Quantitative data was disaggregated by governorate, district, and socio-demographic categories.

Integration of Quantitative and Qualitative data

The quantitative data collected through the questionnaire was complemented through semi-structured focus group discussions and key informant interviews. The analysis aims for a comprehensive report integrating insights from the questionnaire, focus group discussions, and interviews. This comprehensive methodology ensures a robust and nuanced analysis of the Environmental Pathways for Reconciliation project, combining quantitative rigour with qualitative depth to provide a holistic understanding of the issues at hand.

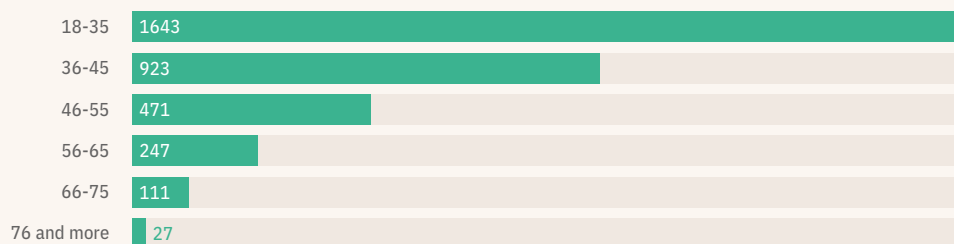
Challenges

The consultation was employed in a logistically challenging and politically complex environment, which imposed a set of limitations to data collection. While the consultation reached 13 out of 22 Yemeni governorates selected to be geographically, politically, and demographically representative, limitations arising from the sampling need to be considered as they do not cover the entire country. Another limitation refers to the representation of socio-demographic groups across the sample. While the quantitative data retrieved from the survey captures perspectives from participants of a wide range of educational backgrounds, professional categories, and age groups, harder-to-reach, and marginalised groups such as women are slightly less represented. While women made up the survey respondents over 40%, male voices were more dominant across the FGDs and KIIs, which targeted people of higher influence in their communities and hence showed an underrepresentation of women.

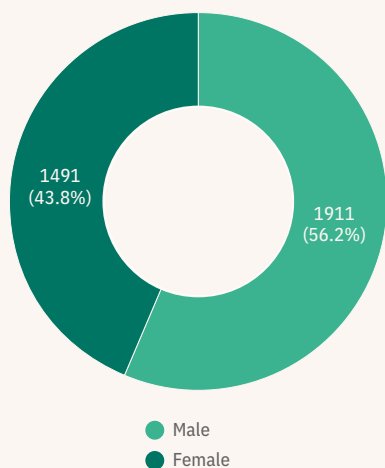
ANNEX 2 | SAMPLE DATA

Quantitative data

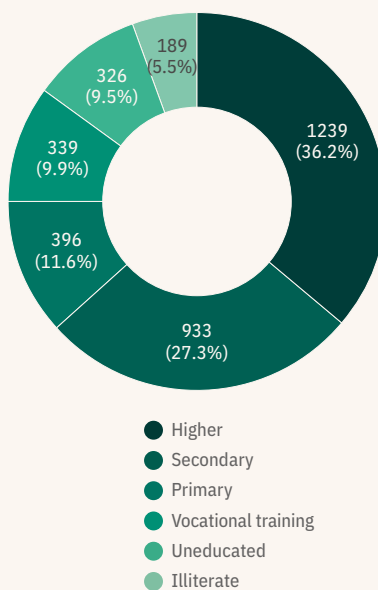
Age group of respondents



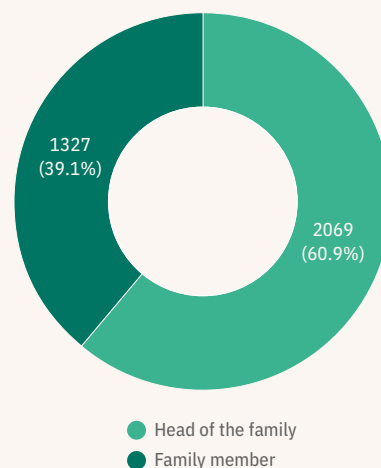
Responses by sex



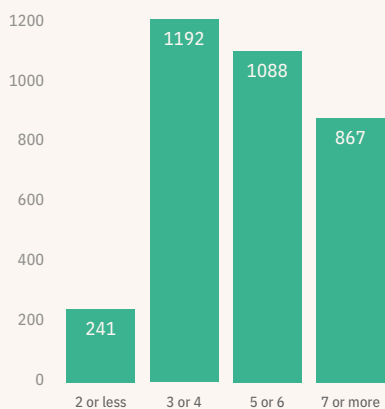
Respondents' level of education



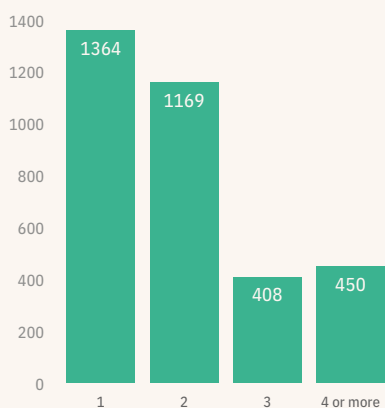
Respondents' role in family



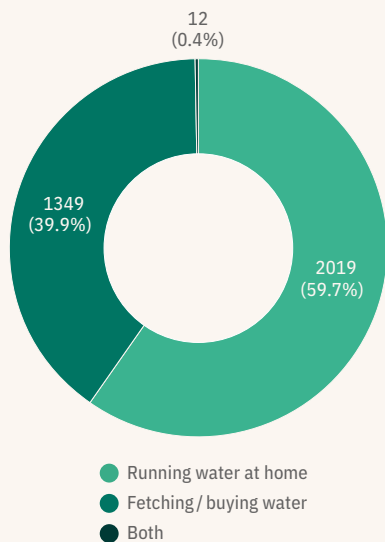
Number of members living in respondents' household



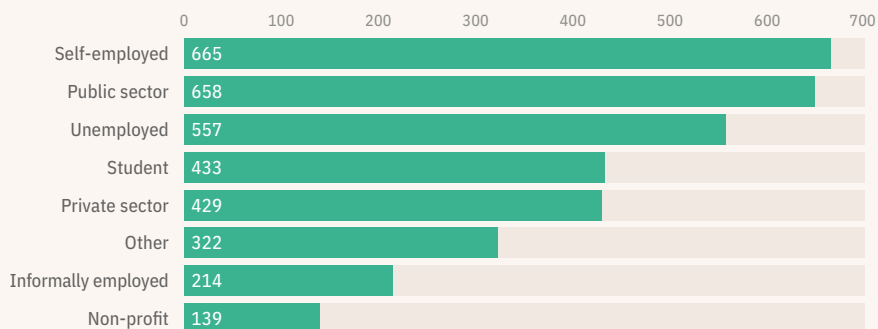
Number of families living in respondents' household



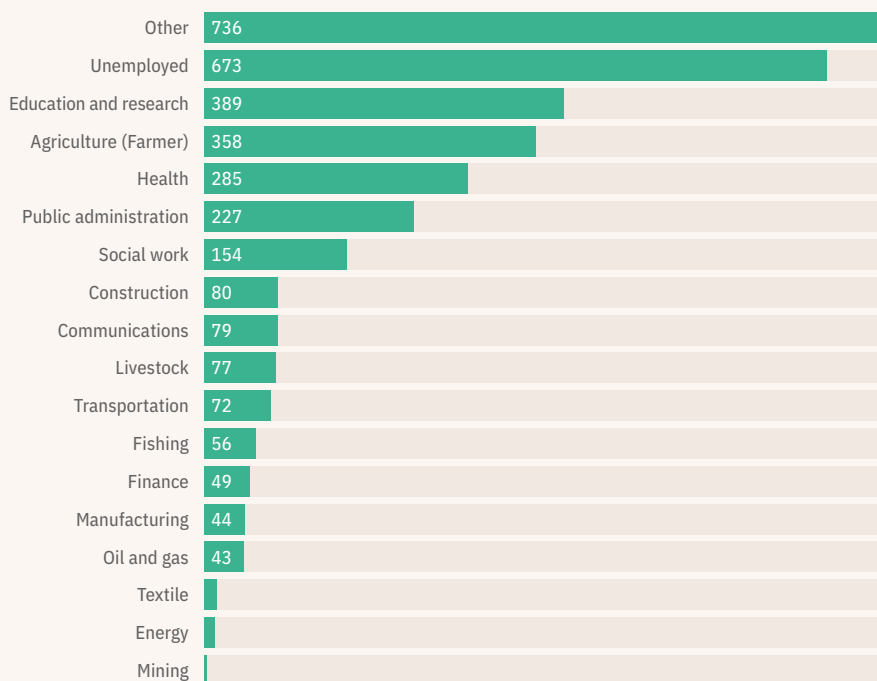
Water availability in respondents' household



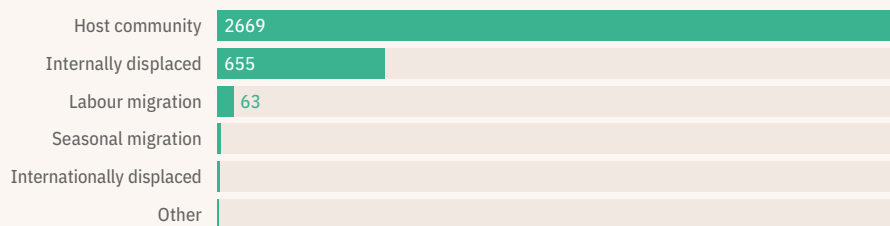
Respondents' employment status



Respondents' employment sector



Respondents' displacement status



Responses by governorate

Hajjah	514
Taiz	300
Al-Jawf	267
Ibb	266
Abyan	261
Hadramawt	261
Sana'a	261
Al-Dhale'	251
Aden	250
Shabwah	246
Al-Hodeidah	238
Marib	230
Al-Mahra	83
Total	3428

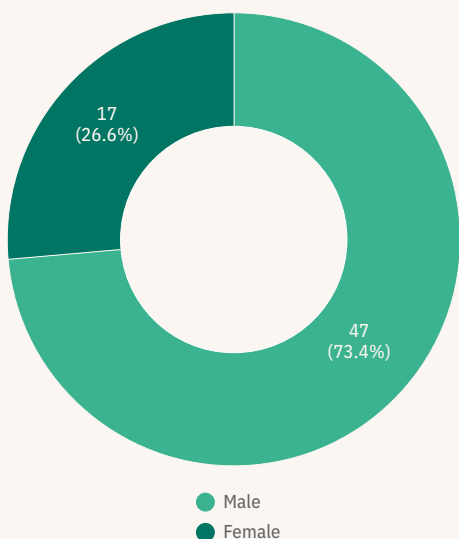
Responses by district

Al-Wadi	90	Sana'a City	87	Bajil	49
Al-Zaher	90	Seiyun	87	Al-Jubah	48
Bart Al-Anan	90	Zinjibar	87	Al-Mansura	48
Hubaish	90	Hajjah	84	Al-Tuhayta	48
Al-Saddah	88	Harad	84	Salh	48
Ibb City	88	Kushar	84	Serah	48
Midi	88	Al-Dhale'	82	Marib City	47
Abs	87	Ataq	82	Al-Dhahi	45
Bakil Al-Mir	87	Bayhan	82	Al-Tawani	45
Bani Al-Harith	87	Mayfa'ah	82	Harib	45
Damt	87	Qu'Atabah	82	Al-Makha	44
Dawaan	87	Al-Mudhaffar	62	Al-Khawkhah	43
Khab Walshaaf	87	Al-Tai'ziyah	55	Qishn	43
Lawder	87	Al-Buraiqeh	55	Al-Ghaydah	40
Ma'een	87	Khur Maksar	54	Dhubab	40
Modya	87	Al-Durayhimi	53	Total	3428
Mukalla	87	Al-Shamaytayn	51		

Qualitative data

Key informant interviews, disaggregated by gender

n = 64



Focus group discussions, disaggregated by gender

n = 202

