

Greening the Shelter Survey Analysis



Photo by Mohamed Reefi for CRS

These analyses were undertaken before the escalation of conflict in Gaza in October 2023.

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In parallel with the implementation of the Greening the Shelter pilot project in Gaza, Catholic Relief Services (CRS) engaged with the National Shelter Cluster through a survey that asked shelter actors about the most pressing environmental needs and most promising solutions for environmental challenges in Gaza. The survey consisted of five sections. This analysis outlines key findings and trends in survey responses across each of the sections.

Section 1: Demographic Information

Eleven Gaza-based Shelter Cluster member organizations responded to the survey, including three international non-governmental organizations (INGOs), three United Nations (U.N.) agencies and five non-governmental organizations (NGOs).

Section 2: Climate and Environmental Risks

This section of the survey asked respondents to identify the climate and environmental risks in Gaza and the ways in which their organizations identify and support people who are most at risk of the impacts of climate and environmental crises.

2.1. Risks identified

Respondents identified the climate and environmental risks in Gaza as follows:

Water-related risks:

- Scarcity of water
- Water pollution
- Saltwater intrusion and land erosion due to sea level rise
- Contamination of aquifers.

Extreme weather and natural disasters:

- Harsh weather conditions, including winter storms and flooding
- Hot weather and its effect on agriculture and crops
- Increased rainfall leading to drowning and damage to crops
- Coastal flooding and displacement due to storm surges.

Pollution and degradation:

- Air pollution
- Accumulation of solid waste and its self-ignition
- Land degradation, including overgrazing and deforestation
- Coastal degradation from pollution and overfishing.

Effects of climate change:

- Rising temperatures
- Changing rainfall patterns
- Sea level rise
- Reduced fish catch and impact on fishermen's livelihoods.

2.2. Support Strategies

To support people most at risk, organizations employ various strategies:

- Conducting needs assessments to identify vulnerable communities
- Providing education and awareness about climate and environmental risks
- Implementing adaptation measures, such as water harvesting and soil conservation
- Advocating for policy change to enhance resilience and reduce vulnerability
- Providing emergency shelter assistance and support for reconstruction
- Supporting marginalized households, farmers and women who have experienced domestic violence
- Implementing livelihood and shelter projects
- Conducting awareness training and implementing environmental best practices
- Implementing water, sanitation and hygiene (WASH) projects to improve wastewater management.

The analysis found that different organizations identified certain common environmental risks and support strategies. Table 1 summarizes the trend responses.

Table 1: Number of responses relating to the climate and environmental trends in Gaza.

Trend	Number of Responses
Water scarcity	4 (2 U.N. agencies and 2 NGOs)
Flooding and shelter support	2 (1 U.N. agency and 1 INGO)
Harsh weather conditions and its effects	2 NGOs
Pollution and environmental degradation	4 (1 U.N. agency and 3 NGOs)
Climate change effects	2 (1 U.N. agency and 1 NGO)
Supporting vulnerable populations	3 (1 U.N. agency and 2 NGOs)

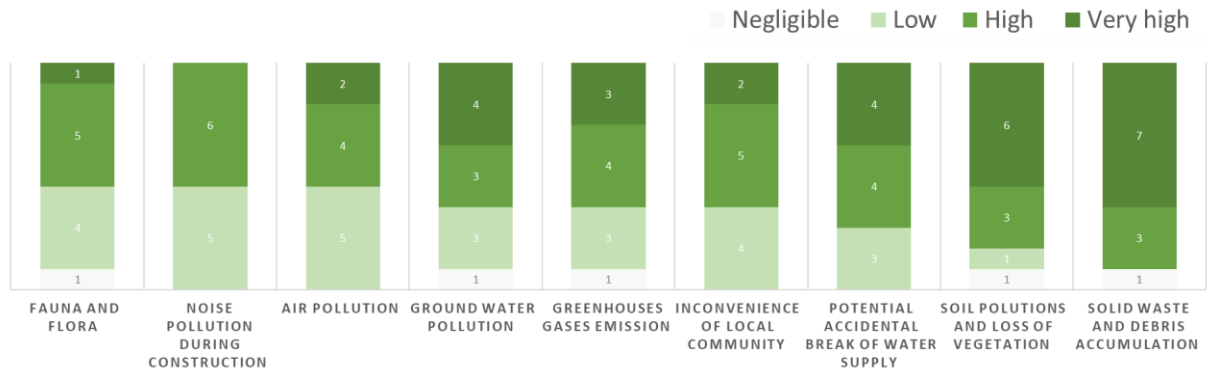
Section 3: Contributions to Environmental and Social Concerns

This section asked respondents to identify the degree to which shelter response in Gaza contributed negatively to environmental and social concerns. Multiple-choice questions invited respondents to rank each effect using a Likert scale with the following values:

- Very High to indicate a severe negative effect
- High to indicate a negative effect
- Low to indicate a low effect
- Negligible to indicate no perceived effect.

Shelter actors reported thinking that shelter responses have contributed to negative environmental and social effects. According to the respondents, the largest negative effects of shelter responses were the accumulation of solid waste and debris and contributions to soil pollution and loss of vegetation.

Figure 1: Summary of Gaza Shelter Cluster actors' categorization of the severity of the negative environmental and social effects of shelter response.

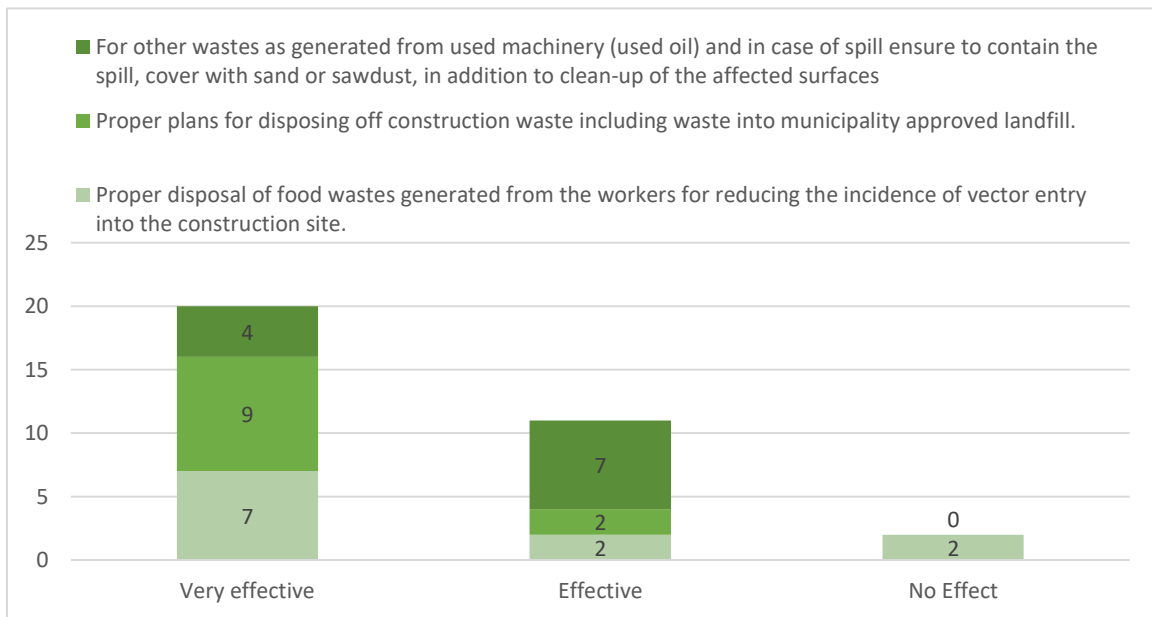


The figures below analyze the effectiveness of mitigation measures for the negative environmental and social effects of shelter response, as reported by shelter actors.

The sequence of the analysis is based on the highest to lowest perceived negative impact.

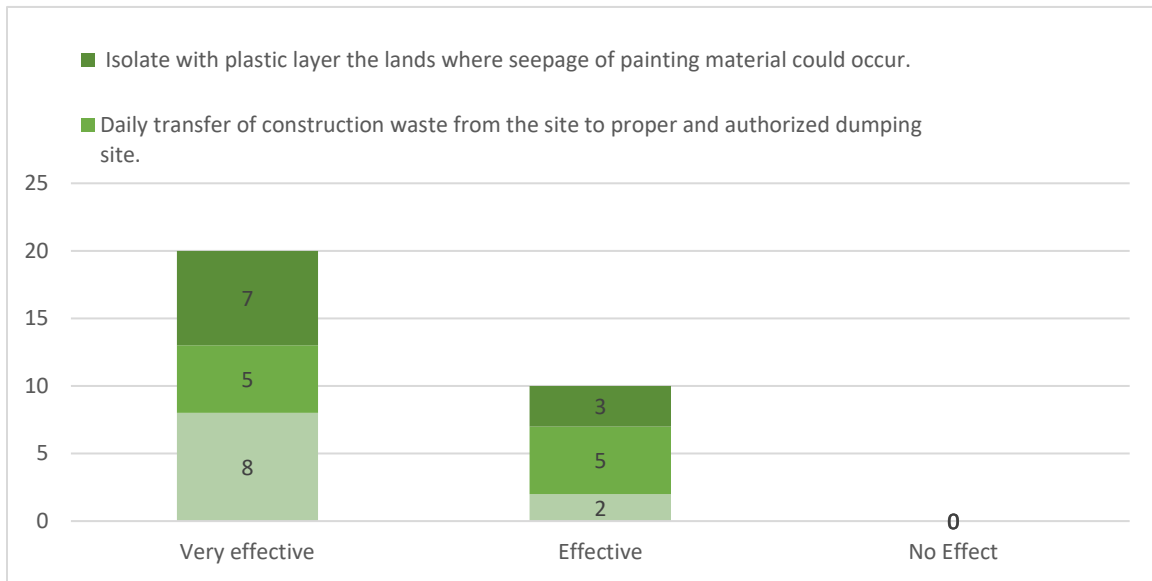
3.1. Solid Waste and Debris Accumulation

Figure 2: Analysis of Gaza Shelter Cluster actors' responses to mitigation measures for solid waste and debris accumulation.



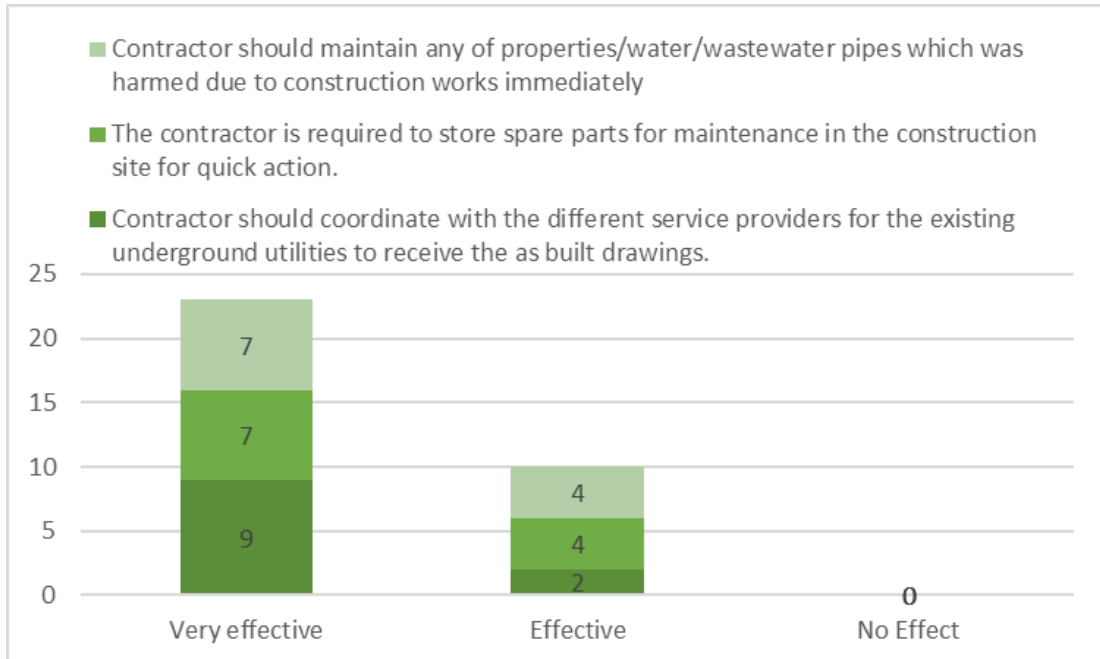
3.2. Soil Pollution and Loss of Vegetation

Figure 3: Analysis of Gaza Shelter Cluster actors' responses to mitigation measures for soil pollution and loss of vegetation.



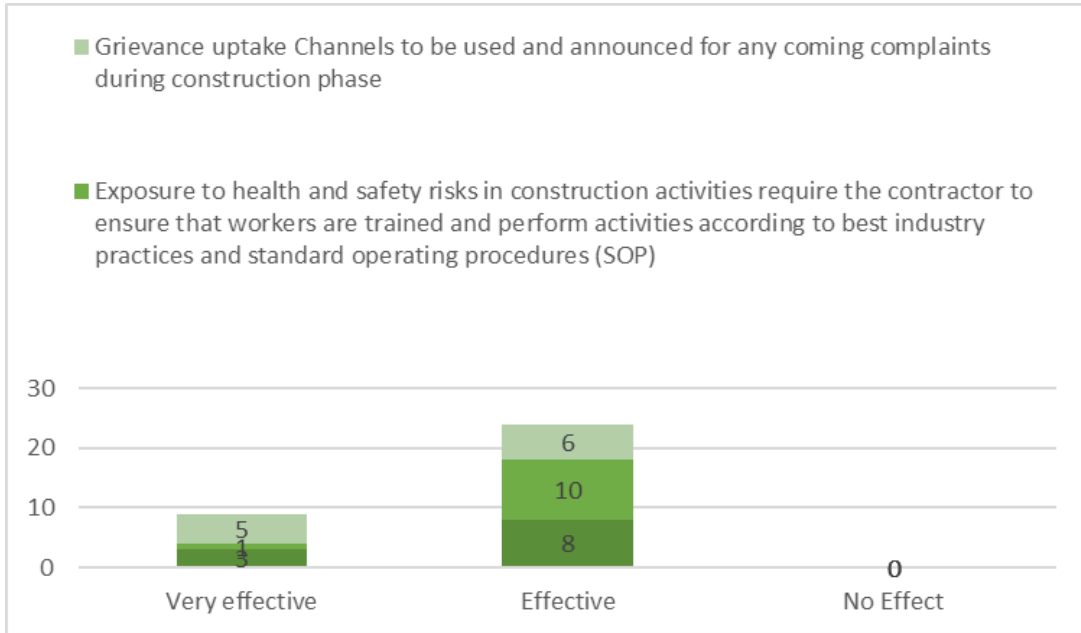
3.3. Potential Accidental Break of Water Supply

Figure 4: Analysis of Gaza Shelter Cluster actors' responses to mitigation measures for potential accidental break of water supply.



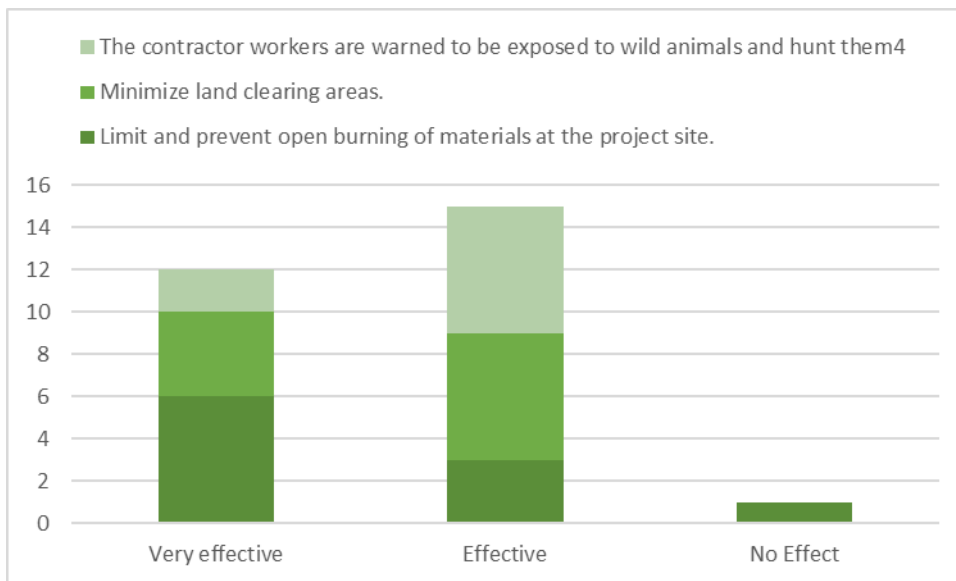
3.4. Inconvenience to Local Community

Figure 5: Analysis of Gaza Shelter Cluster actors' responses to the mitigation measures for inconveniences to the local community.



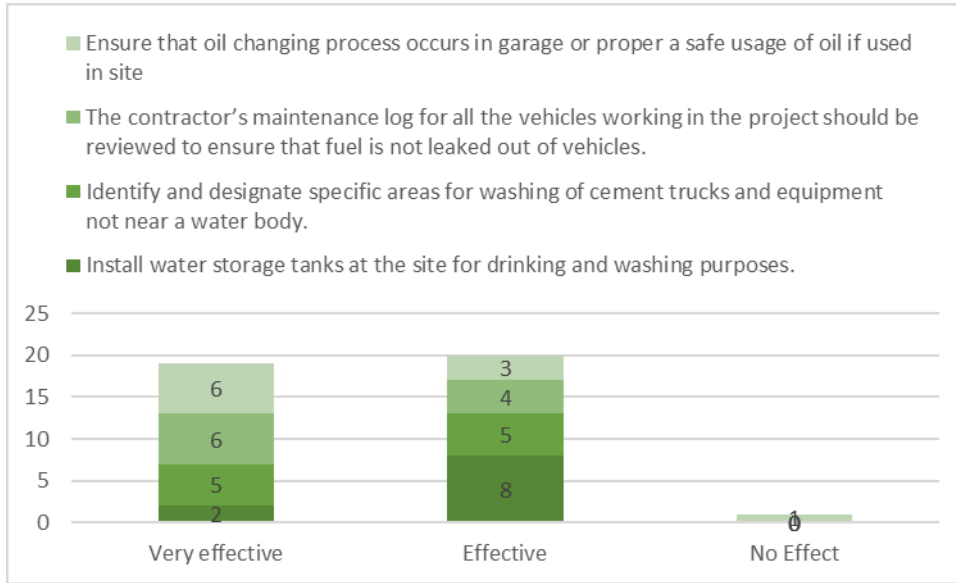
3.5. Greenhouse Gas Emissions

Figure 6: Analysis of Gaza Shelter Cluster actors' responses to the mitigation measures for greenhouse gas emissions.



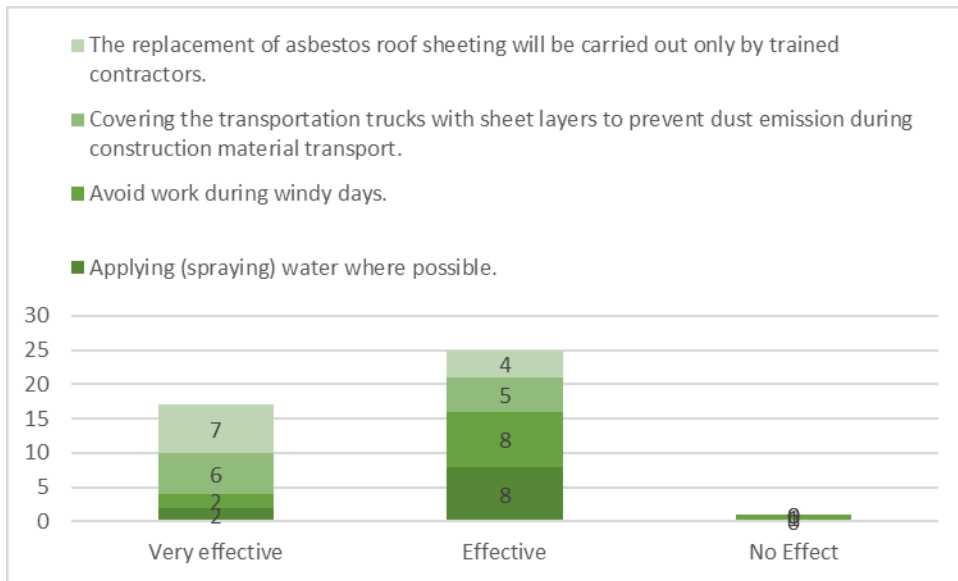
3.6. Groundwater Pollution

Figure 7: Analysis of Gaza Shelter Cluster actors' responses to the mitigation measures for groundwater pollution.



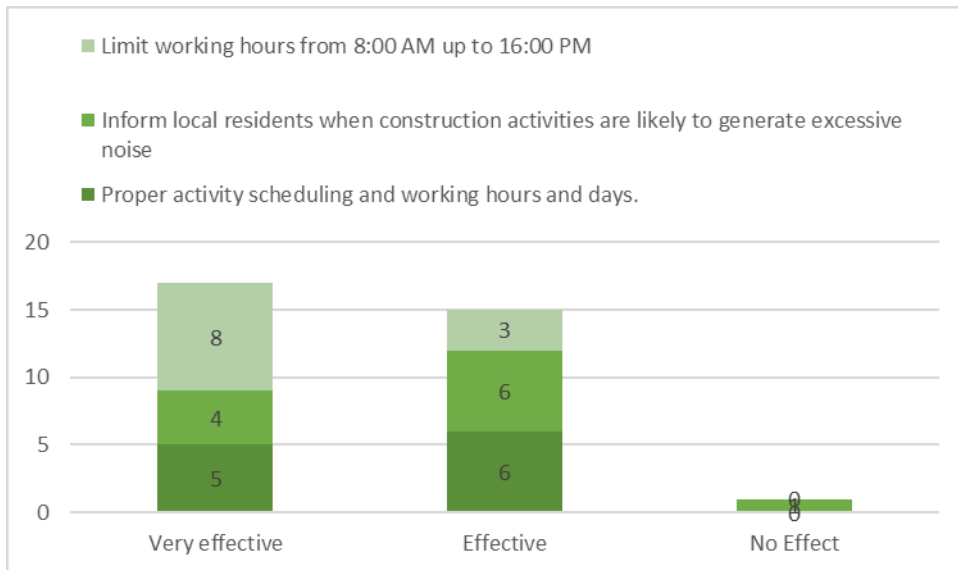
3.7. Air Pollution

Figure 8: Analysis of Gaza Shelter Cluster actors' responses to the mitigation measures for air pollution.



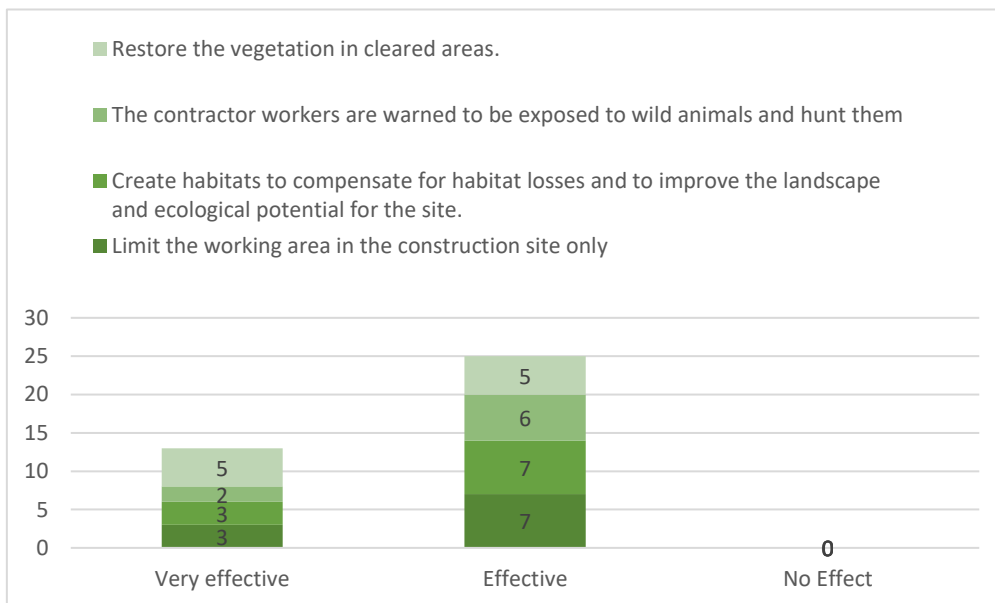
3.8. Noise Pollution During Construction

Figure 9: Analysis of Gaza Shelter Cluster actors' responses to the mitigation measures for noise pollution during construction.



3.9. Fauna and Flora

Figure 7: Analysis of Gaza Shelter Cluster actors' responses to the mitigation measures for effects on fauna and flora.



Section 4: Environmentally Friendly Solutions

This section of the survey asked respondents to recommend promising environmentally friendly solutions applicable within the Gaza context with a realistic budget.

4.1. Recommendations

Gaza Shelter Cluster actors responded with the following recommendations:

Energy-related solutions:

- Installing solar panels and promoting solar energy usage
- Replacing lighting with energy-saving lighting
- Investing in renewable energy systems
- Including photovoltaic (PV) solar systems for water heating and critical electrical needs.

Water conservation and management solutions:

- Conducting awareness seminars and workshops on water resource exploitation and waste recycling
- Reusing water from washing basins and kitchens for plant irrigation
- Implementing rainwater harvesting systems
- Promoting water conservation and efficient irrigation methods.

Waste management and recycling solutions:

- Sorting and recycling waste from households
- Using recycled materials in maintenance projects
- Implementing proper waste management practices, such as composting and waste segregation
- Investing in waste collection infrastructure and recycling facilities.

Sustainable agriculture and food systems:

- Promoting sustainable farming practices, such as organic farming and agroforestry
- Introducing urban agriculture, both vertical and horizontal
- Supporting local farmers with training and access to climate-resilient crop varieties.

Other solutions:

- Implementing smart solutions for environmental problems affecting climate change
- Improving governance and laws related to construction activities and environmental standards
- Introducing sustainability technology and green roofs
- Conducting awareness sessions and education on environmental conservation.

The analysis found that different organizations gave certain common recommendations. Table 2 summarizes the trend responses.

Table 1: Common recommendations given by the Gaza Shelter Cluster actors.

Trend	Number of Responses
Solar energy	5 (2 U.N. agencies, 1 INGO and 2 NGOs)
Rainwater harvesting	4 (1 U.N. agency, 1 INGO and 2 NGOs)
Waste management and recycling	3 (1 U.N. agency and 2 NGOs)
Sustainable agriculture	4 (1 U.N. agency, 1 INGO and 2 NGOs)
Awareness sessions and education	3 (1 U.N. agency and 2 NGO)

Section 5: Constraints

This section of the survey asked respondents to identify constraints Gaza Shelter Cluster actors face in supporting the Greener Solutions.

5.1. Constraints

Gaza Shelter Cluster actors responded with the following constraints:

Awareness and Cultural Constraints:

- Lack of full awareness and culture among the population in some matters, including waste sorting
- Limited knowledge and experience.

Political and Governance Constraints:

- Budget and technical resource limitations
- Governance challenges
- Restrictions imposed by external entities
- Division among different regions.

Resource Constraints:

- Funding limitations
- Lack of funds
- Knowledge and experience gaps
- Limited technical capacity and expertise
- Insufficient resources.

Other Constraints:

- Socio-cultural dynamics affecting acceptance and adoption of solutions
- Need for training and capacity building
- Limited access to materials and financing.

The analysis found that different organizations identified certain common restraints. Table 3 summarizes the trend responses.

Table 2: Common constraints identified by the Gaza Shelter Cluster actors.

Trend	Number of responses
Lack of resources or funding	6 (1 U.N., 2 INGOs and 3 NGOs)
Limited awareness and cultural constraints	3 (2 INGOs and 1 NGO)
Political instability and conflict	7 (1 U.N., 3 INGOs and 3 NGOs)
Limited technical resources or expertise	4 (1 INGO and 3 NGOs)
Limited infrastructure	4 (2 INGOs and 2 NGOs)

Conclusion

The "Greening the Shelter Survey Analysis" provides a comprehensive overview of the environmental challenges faced in Gaza and the potential solutions proposed by the Shelter Cluster actors. The survey underscores the pressing environmental risks, from water scarcity to the effects of climate change, and highlights the negative impacts of shelter responses on the environment.

The analysis also illuminates the proactive strategies and recommendations put forth by various organizations to mitigate these challenges. Notably, there's a strong emphasis on the adoption of renewable energy, water conservation, waste management and sustainable agriculture. Yet, while the solutions are promising, the survey brings to light significant constraints, particularly the lack of resources, political instability and limited technical expertise.

As the global community looks to support Gaza, it is imperative to consider these findings. Addressing the identified constraints, while leveraging the recommended solutions, will be crucial in ensuring a sustainable and resilient future for the region.