

Strengthening Environmental Screening Capacity of Humanitarian Organizations

Environmental Screening Report

NEAT +

Nexus Environmental
Assessment Tool

Bezabize Camp/Informal Settlement

Fallujah, Anber Governorate, Iraq



06-07 December 2022

Contents

INTRODUCTION	3
CONTEXT	4
METHODOLOGY	5
ANALYSIS OF THE RESULTS	6
SENSITIVITY ANALYSIS	6
SHELTER- Potential Environmental Impacts and Mitigation Measures	7
WASH- Potential Environmental Impacts and Mitigation Measures	8
RECOMMENDATIONS AND NEXT STEPS	10
REFERENCE MATERIALS	11
ANNEXES	11
ANNEX 1: LIST OF PARTICIPANTS	11

INTRODUCTION

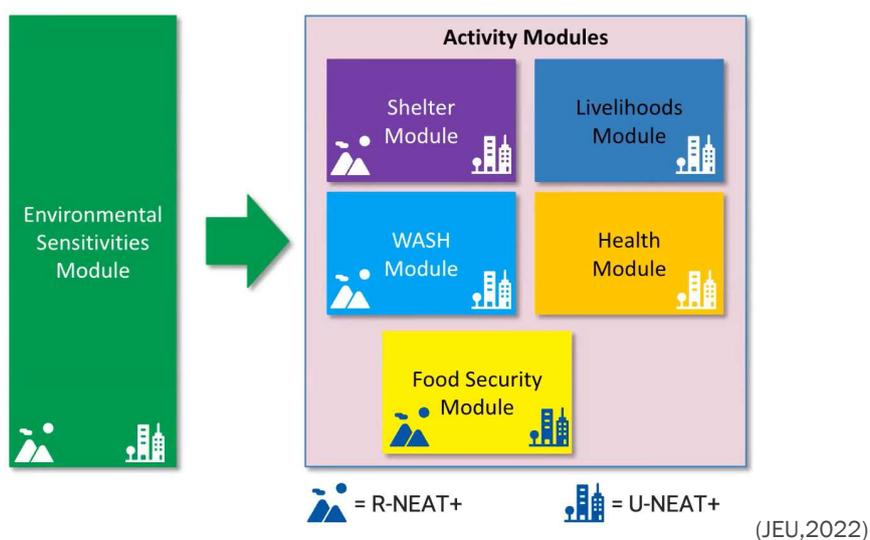
Humanitarian projects, although addressing protection needs and aiming for durable solutions for the crisis and conflict-affected communities, can result in adverse environmental externalities. These environmental externalities must be identified and addressed in the earliest stages of humanitarian response, which helps protect the environment and communities from any project-associated potential adverse impacts. Humanitarian organizations are increasingly working towards addressing environmental considerations in the program cycle; however, this practice is yet to be mainstreamed into project designs and implementations. The most practised exercise for mainstreaming environmental concerns into projects begins with an environmental screening. It evaluates projects' interventions against the sensitivities of the receiving environment to determine positive and negative environmental impacts. Environmental screening is usually a requirement by local environmental authorities and donors but can also be an internal organizational compliance requirement. Several environmental screening tools can be selected depending on the project's nature, scale, location, and organizations' implementation capacity.

This environmental screening has been conducted for Shelter and WASH projects in Bezbaze Camp/Informal settlement in Anber governorate of Iraq from 06 to 07 December 2022 as part of **Error! Reference source not found.**the ECHO-funded project on “*Strengthening the capacity of humanitarian actors to do environmental screenings*”.

NEAT+

The NEAT+ is an open-source, rapid, easy-to-use environmental screening tool¹ mainly designed for humanitarian contexts. A consortium of humanitarian organizations developed and officially launched this tool in 2019. The tool generates summary reports providing a snapshot of baseline environmental conditions, potential environmental impacts categorized as LOW, MEDIUM, and HIGH, and mitigation measures. There are currently two versions of the NEAT+ available, the Excel-based Rural-NEAT+ and the web-based Urban-NEAT+. The figure below shows that the NEAT+ consists of an Environment Sensitivity module and Activity Modules covering core humanitarian activities: Shelter and Settlement, WASH, Food Security, Livelihood, and Health.

Figure: Technical Structure of the NEAT+

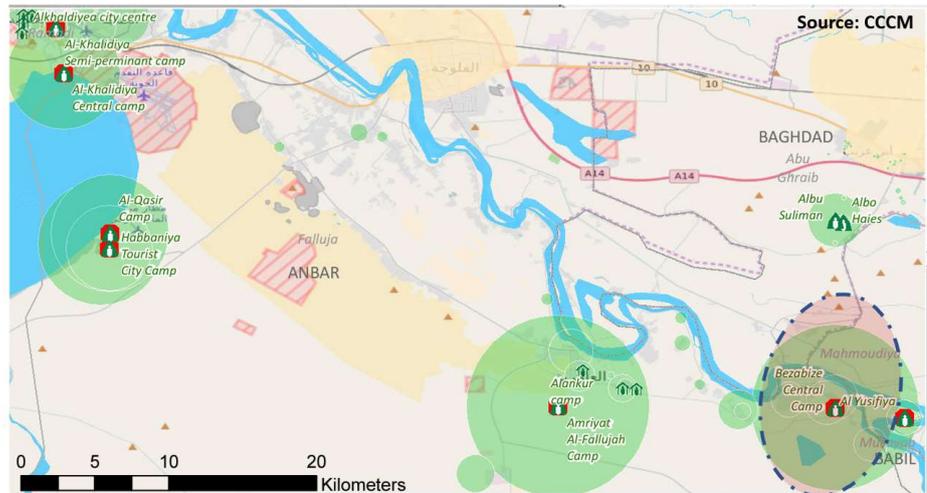


¹ <https://resources.eecentre.org/resources/neat/> or <https://neatplus.org/>

CONTEXT

Iraq witnessed one of the highest internal displacements due to armed conflict in 2014 and 2017. 5.8 million people have been displaced since 2017, and as of September 2022, 1,173,812 people remain internally displaced in the neighbouring governorates. Anber governorate in the west of Iraq borders Syria, Jordan, and Saudi Arabia and hosts around 69,000 internally displaced people. These displaced people reside in AAF, HTC, Bezabize, Al-Khalidiya and Kilo 18 camps, however, efforts are being made to repatriate people and close these camps. Many camps are closed or reclassified as informal settlements. Bezabize, which hosts most of the IDPs in the Fallujah district, is also classified as an informal settlement.

Bezabize informal settlement lies on the bank of the Euphrates River (figure 1) and is home to around 8,000 people with inadequate living conditions. Some 44% of families live in mud or block dwellings, 23% in tents or makeshift shelters, 15% in unfinished or abandoned buildings, and 6% in caravans or containers (Mercy Corp, 2022). The population has lived at risk of evacuation since the announcement of the Iraqi government to close all IDP camps. They have mostly taken refuge from Jurf Al-Sakhar and Owasat, about 80 Km from the Bezabize settlement. Due to low annual precipitation, the Bezabize settlement falls under the arid climatic region and has recently experienced prolonged droughts. The land cover is a predominantly desert plateau providing the country's main rangeland grazing and limited rainfed cultivation.



PROJECT BACKGROUND:

The Danish Refugee Council (DRC) and Mercy Corp support IDPs in the Bezabize informal settlement facing severe shelter and WASH challenges. Most of the population lives in deteriorated tents that are inadequate for cold winter and hot summer days. DRC's shelter and settlement team have designed a transitional shelter structure that is more durable than a tent, provides more convenient shelter, safer, and easy to dismantle and move in case of eviction. The structure is made from steel installed on a concrete base, with plywood walls and door, a sandwich panel for the roof, and PVC door and windows, as shown in the photo.

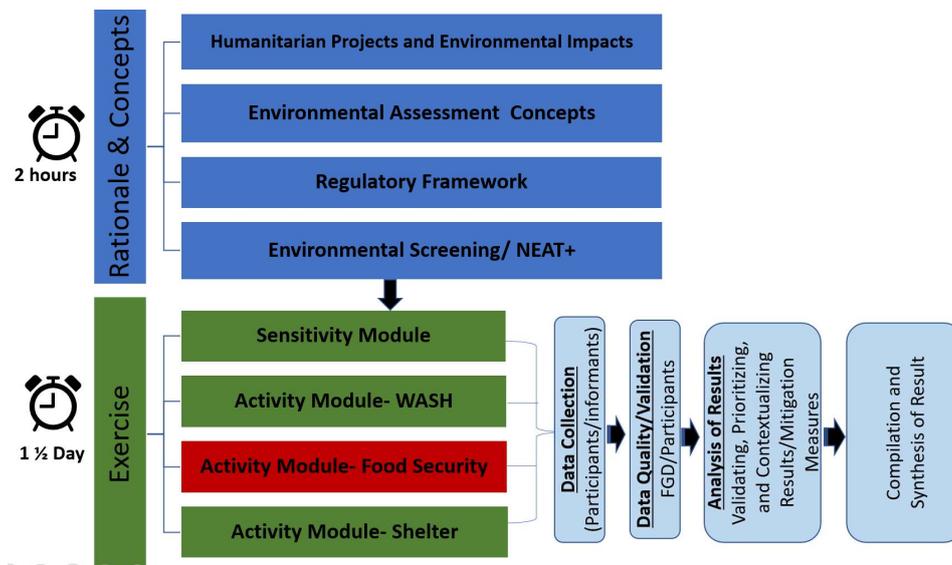
In partnership with DRC, Mercy Corp has WASH-focused interventions in Bezabize, including solid waste management and hygiene kits distribution and promotion campaigns. More specific interventions include providing solid waste management services based on the needs and hiring casual labourers on a rotation basis for garbage collection and conducting context-specific hygiene promotion activities, including pre and post-KAP (Knowledge-Attitude-Practice) surveys and distributing hygiene kits to IDPs.



METHODOLOGY

This NEAT+-based environmental screening is part of the two-day capacity-building training held in Erbil from 6-7 December, 2022, for humanitarian organizations in Erbil, Iraq. As shown in the figure below, a dual-purpose approach is used where participants are exposed to the concepts, environmental regulatory framework, and process of conducting an environmental screening, but also taking participants through the experience of conducting a NEAT+-based screening for an actual project. This included the sensitivity module of the NEAT+, followed by the activity modules on Shelter and WASH. The questionnaires were completed in a group exercise using the project information from Shelter and WASH interventions of Mercy Corp and DRC in the Bezabize informal settlement. This was followed by analysing the tool-generated result, using criteria to contextualize and prioritize impacts and mitigation measures. The main criteria used for prioritization included the likelihood of the impact to occur, the nature of impacts and their magnitude, and their importance to the crises-affected population. The mitigation measures against each impact are contextualized through group discussion and using the criteria such as financial viability, technical feasibility, within the organizational capacity and scope of the project, and alignment with the institutions' policies. The results after the analysis are compiled and synthesised, which should ideally be incorporated into the project planning. Ideally, there is a field visit for a focus group discussion with community representatives and a transect walk along the project site; however, the field visit from Erbil to Bezabize is skipped due to security and logistical reasons.

Figure1: Overview of the Approach Employed



Consistent with the scope of the projects, the following Shelter and WASH sub-activity modules are selected

SHELTER Module

- Sub-module on Siting
- Sub-module on Construction
- Sub-module on Household items
- Sub-module on Energy

WASH Module

- Sub-module on Operation and maintenance of the water distribution network
- Sub-module on Water infrastructure construction
- Sub-module on Solid waste management
- Sub-module on the provision of Hygiene kits
- Sub-module on Water Trucking

ANALYSIS OF THE RESULTS

SENSITIVITY ANALYSIS

The Environmental Sensitivity summary helps understand the environmental baseline of the project location. It informs the project team about site-specific potential environmental risks and vulnerabilities resulting from the interactions between communities and the carrying capacity of natural system against the proposed project activities.

The sensitivity analysis report below provides an overview of the baseline environmental conditions of Bezabize informal settlement and categorizes site-specific environmental issues into Low, Medium, and High concerns. These issues are structured around five broad categories, namely i) Affected communities, ii) Impacts on biodiversity, iii) Pressure on natural resources, iv) Pollution and environmental degradation, and v) Environmental hazard.

Environmental Sensitivity Analysis Report		
Issues of High Concern	Issues of Medium Concern	Issues of Lower Concern
There is a high concentration and/or number of people. The potential environmental impact is greater.	Rates of deforestation may exceed regeneration capabilities. Deforestation may be a risk.	The community may not be socially cohesive. This can prevent collective action and lead to social conflict.
The environment has fragile ecosystems. Further assessment is required to determine if loss of biodiversity is accelerating.	The environment has a low regenerative capacity. The effects of land and soil degradation are more significant.	The displaced population may have a poor understanding of local ecosystems. This makes it challenging to manage the environment effectively.
The water resources may have a low regenerative capacity. Water scarcity may be an issue.	There is a risk of air pollution from nearby activities.	There may be a weakened or poor governance system. There may be a low capacity for environmental management.
This area may be at risk of flooding.	There is low capacity to manage solid waste. Environmental sanitation and disease transmission may be an issue.	There is low capacity to manage sewerage and faecal sludge. Environmental sanitation and disease transmission may be an issue.
The area may have heightened exposure to climate-related risks and extreme weather events.	Waste management, including that generated by the crisis, may be an issue. Crisis waste can pose public health risks, and impede relief or recovery activities.	The area may be affected by (previous) conflict-related hazards or pollution.
	This area may be at risk of soil erosion from wind.	Natural resources may be scarce and in high demand. This can lead to social conflict.
	This area may be at risk of soil erosion from water.	There may be high and/or unsustainable rates of extraction of resources from the local environment.
	Natural resource availability/accessibility may be affected by changing climatic conditions.	

The main issues highlighted in the sensitivity report are **pressure on natural resources** due to the **high concentration of people** in the Bezabize informal settlement. The environment has a **fragile ecosystem**, and the **loss of Biodiversity** is a potential issue and requires further assessment. Bezabize is located near the Euphrates River, but prolonged droughts and arid climatic conditions combined with water abstraction activities upstream have significantly affected the river's quality and quantity. **Water scarcity** has been identified as an issue of high concern. Prolonged **droughts, low vegetation cover, and loose soil** can lead to **soil erosion from winds and flash flooding**, directly affecting **soil fertility** and people's livelihood. Insufficient capacity to manage **solid waste** is an issue of concern and directly poses a risk to public health. **Poor sewage** and **wastewater management** capacity in Bezabize is directly linked to disease transmission and can contaminate other scarce resources, such as water. The area has also been identified as highly exposed to climate-related risks and extreme weather events.

SHELTER- Potential Environmental Impacts and Mitigation Measures

The Shelter summary report outlines environmental risks associated with the planned project activities and combines them with the sensitivities of the project location. Based on its significance, environmental risks are categorized as low, medium, and high. The potential environmental risks identified include:

- **Deforestation** has been identified as a potential issue. Energy usage and deforestation are closely related due to the use of wood and charcoal. Although deforestation is an issue attributed to household energy use, in Bezabize, most households use LPG² for household energy consumption.
- **Erosion and land degradation** has been identified as potential concern in the Bezabize area. This is potentially linked to the minor clearing and excavation activities required for building shelters. Soil excavation can cause soil erosion affecting the drainage, soil fertility, and sedimentation of nearby water sources. However, the issue is due to environmental conditions such as prolonged drought, flash floods and loose soil characteristics in Bezabize. Erosion issues are directly and indirectly linked to other socioeconomic issues.
- **Solid waste management** has been identified as a potential issue of high concern in the Bezabize area. There are no adequate public services or infrastructure to manage construction waste. Project activities may also contribute to increased waste generation, with adverse health and environmental consequences. Unmanaged waste can also lead to water stagnation, increasing the risk of vector transmission.
- **Air pollution** has been identified as an issue of medium concern, Indoor air pollution, caused by poor ventilation and cooking/heating, can be an issue. In Bezabize, most households use LPG for cooking; however, the poor ventilation arrangement in the shelters could potentially lead to health and safety hazards.
- **Climate-related hazards**, such as flash floods, storms, and prolonged droughts, have been identified as a concern. Bezabize is near the Euphrates River, exposing it to natural hazards; the shelter siting and materials must consider the climate-related hazards to minimize vulnerability to these events, e.g., by avoiding sites near flood plains and rivers.

The table below lists contextualized mitigation measures against the selected³ anticipated impact extracted from the tool-generated Shelter result summary.

Potential Project Impacts	Mitigation Measures
Deforestation	<ul style="list-style-type: none"> ▪ Discourage any invasive species of trees ▪ Ensure that household energy consumption doesn't deplete already scarce resource ▪ Promote native tree plantations beside the water points and incorporate green areas in the planning. can provide natural protection against natural hazards such as landslides, erosions and/or flooding. Green areas also improve inhabitant satisfaction and can provide a natural cooling effect
Erosion & Land Degradation	<ul style="list-style-type: none"> ▪ Avoid excavating in areas near the surface or shallow sub-surface water flows. ▪ Excavated trenches should be reburied quickly in four days to avoid hosting vectors ▪ limit vegetation clearance to the project site only ▪ Plant indigenous trees as a revegetation measure ▪ If possible, promote agro-forestry practices through other projects
Solid Waste Management	<ul style="list-style-type: none"> ▪ Separate organic and inorganic waste and designate a waste dump site at an appropriate distance. ▪ Minimize the amount of packaging, substitute for paper or cardboard (biodegradable), and promote the principle of reducing, recycling, and reusing in all operations ▪ Provide items according to assessed household needs. ▪ Select items strategically and consider each household's specific needs; this can reduce resource consumption and waste generation. ▪ Consider the need for the items post-crisis and if multi-functional items are an option.

² Liquid Pressured Gas

³ Please refer to Methodology section for more information on criteria used for selection for impacts and mitigation measures

Potential Project Impacts	Mitigation Measures
	<ul style="list-style-type: none"> Set up waste livelihoods projects, if possible Where possible Reduce, Re-use and Recycle waste. Ensure the waste contains no hazardous chemicals, which could lead to cumulative impacts. Ensure storing such chemical waste in approved containers to avoid any spills or leakages Arrange waste collection and awareness campaigns, and educate the community on potential health risks and the direct impacts of environmental degradation on them
Air pollution	<ul style="list-style-type: none"> Consider proper ventilation system in the shelter design Construction activities should be planned to minimize dust exposure to nearby sensitive receptors. Water spraying can be used to minimize dust Vehicles used for the transportation of the construction materials should be well-maintained and should respect the speed limit Provide clean energy cooking materials, and discourage indoor cooking if there is a lack of a proper ventilation system
Climate-related Hazard	<ul style="list-style-type: none"> Consider Disaster Risk Reduction principles in the design of shelter to minimize the exposure of the settlements to potential climate hazards Include climate-smart and climate resilience practices, and create awareness of climate adaptation Consider gender-specific adaptation strategies, as climate change impacts are disproportionate among gender

WASH- Potential Environmental Impacts and Mitigation Measures

The WASH summary informs the project on site-specific potential environmental risks that must be considered during project selection, design, implementation, and operation. The Bezabize informal settlement site-specific environmental risks identified by the tool are listed in the table below.

- Water scarcity** due to low regenerative capacity of the natural system and the imbalance in the extraction rate versus the recharge has been identified as a high-risk issue in the Bezabize informal settlement. Water demand exceeds the supply and threatens the natural carrying of the system. Scarce water resources are in high need by refugees and host communities and can potentially lead to social tensions. Water balance should be assessed to avoid water depletion, water losses should be avoided, and alternative water sources for various uses could be explored.
- Water sources are vulnerable to contamination** due to poor drainage systems, lack of infrastructure, and livestock activities have been identified as high-risk issues. The Bezabize is also one of the conflict-affect areas, soil and water may likely be contaminated by war residue and hazardous substances. The risk of aquifer contamination from surface wastewater seepage, mainly due to poor sanitation infrastructure, is also a potential concern due to the porous soil in Bezabize.
- The project site has been identified as having enhanced exposure to **climate-related risks** such as **soil erosion, drought, and flash flooding**. Soil erosion has a direct impact on soil fertility and people's livelihood. This is primarily due to the porous nature of the soil, combined with winds, prolonged drought and flash floods.
- Parse vegetation land cover** has been identified as a potential medium-risk issue in the Bezabize informal settlement, which can lead to soil erosion and flooding. Unavailability of proper drainage management and overgrazing of livestock combined with dry climatic conditions are identified as the leading causes.
- Solid waste management** has been identified as an issue of medium risk. There is low capacity, supporting infrastructure and awareness to manage solid waste. Environmental sanitation and disease transmission may be an issue. The distribution of WASH kits may lead to waste generation without a proper solid waste management strategy.
- Wastewater management** has been identified as a medium-risk issue. There is low capacity to manage wastewater and fecal sludge. Environmental sanitation and waterborne diseases may be an issue. This could lead to disease transmission. Drainage management and, where possible, minimizing generating additional waste during the implementation and operation phases of the project.

The table below lists contextualized mitigation measures against the most relevant anticipated impact extracted from the WASH result summary.

Potential Project Impacts	Mitigation Measures
Water Scarcity	<ul style="list-style-type: none"> ▪ Include a hydrogeological survey in bore well projects, avoid confined aquifers ▪ Reduce water losses, and maximize water use efficiency (e.g. self-closing water points, regular pipe maintenance) ▪ Establish a rainwater harvesting system and promote kitchen gardening ▪ Consider water ponds for groundwater recharge ▪ Ensure that water abstraction does not exceed its replenishment. Conduct a water balance (supply/demand) study ▪ Ensure an exit strategy from water trucking ▪ Collect and safely dispose of oil residuals, including waste oil, lubricants, and used filters. ▪ Build capacity for water conservation practices ▪ Consider community green spaces to promote cohesion among the community and avoid potential conflicts over scarce resources
Water Contamination	<ul style="list-style-type: none"> ▪ Safeguard (fencing) drinking water sources against contamination ▪ Properly store oil, chemicals, and liquids, and prevent any leakages into soil or water ▪ Machinery and chemical storage should be monitored for any leakages or excessive emissions ▪ Keep an appropriate distance (minimum 15-20 meters) between septic tanks and water sources. ▪ Maintain distance and keep the water source at a higher elevation from the contamination source ▪ Ensure reduced stagnation of water through proper drainage systems ▪ Water quality should be checked and regularly monitored, and water sources/infrastructure should be appropriately protected.
Loss of Vegetation	<ul style="list-style-type: none"> ▪ limit vegetation clearance to the project site only ▪ Plant indigenous trees as a revegetation measure ▪ Encourage wastewater reuse in watering vegetable gardens, trees, etc ▪ If possible, promote agro-forestry practices will be intensively promoted through other projects
Solid Waste Management	<ul style="list-style-type: none"> ▪ Separate organic and inorganic waste and designate separate waste dump sites at an appropriate distance ▪ Minimize the amount of packaging, substitute for paper or cardboard (biodegradable), and promote the principle of reducing, recycling, and reusing. ▪ Provide items according to assessed household needs. ▪ Select items strategically and consider each household's specific needs, which can reduce resource consumption and waste generation. ▪ Consider multifunctional items and post-crisis use of the items. ▪ Set up waste livelihoods projects, if possible, and promote best practices ▪ Ensure the waste contains no hazardous chemicals, which could lead to cumulative impacts. Ensure storing such chemical waste in approved containers to avoid any spills or leakages ▪ Arrange waste collection and awareness campaigns, and educate the community on potential health risks
Wastewater management	<ul style="list-style-type: none"> ▪ Promote the use of wastewater for kitchen gardening ▪ Consider a proper drainage system ▪ Improve sanitation infrastructure ▪ Consider necessary arrangements for the safe disposal of fecal sludge and its reuse as manure or biogas. ▪ Support community awareness programs
Deforestation	<ul style="list-style-type: none"> ▪ Discourage any invasive species of trees ▪ If possible, Promote alternative clean sources of energy for household use ▪ Promote tree plantation next to the water points

RECOMMENDATIONS AND NEXT STEPS

Some key learning from the environmental screening exercise and recommendations are listed below.

- This environmental screening report is useful for organizations operating in Bezabize 's refugee camp of Anber governorate in Iraq. It assesses the baseline environmental conditions, lists the potential environmental impacts of Shelter and WASH projects implemented by DRC and Mercy Corp, respectively, and suggests contextualized mitigation measures for addressing environmental risks. This report could guide and provide a base for future environmental screenings in the area.
- A detailed Environmental Management Plan, with specific mitigation activities and clear implementation responsibilities, should follow this exercise. Developing an environmental management plan should be a collaborative effort and must be monitored and contractual terms can be used to enforce contractor and subcontractor compliance. For self-reconstruction, adequate monitoring mechanisms should be in place.
- Environmental assessment tools, including NEAT+, are more effective when applied during the project planning phase, where there is more room for any potential adjustments in the project design or implementation strategy; however, they can also be used for ongoing projects to avoid and mitigate negative environmental impacts through corrective actions.
- NEAT+ is a participatory tool, and it's more effective when input data and results are discussed among the project team and with stakeholders. The environmental data collection and the discussion process are as important as the outcome of the environmental screening process. This helps in the collective understanding of project-related environmental impacts, helps create awareness, and contributes to learning on environmental issues.
- The quality of environmental screening outputs depends on the reliability of the input data and analysis of the result summary. Minimizing data biases and giving considerable time to explore various data sources to validate and triangulate data is important. Merely relying on assumptions and completing the questionnaire without conducting field visits and consultation with important stakeholders should be discouraged. In that sense, NEAT+ is a flexible tool, and changes in the questionnaire can be made even later when more reliable information is available.
- Focus group discussion and community engagement are essential aspects of an environmental screening process, it helps in utilizing traditional knowledge of the local communities and understanding the community's challenges and priorities. It also gives them a sense of inclusion in the process and informs them about their responsibility in addressing environmental impacts.
- NEAT+ generates a list project associated impacts and suggests mitigation measures; however, it is important to analyse and contextualize these impacts and mitigation measures. It is also important to look beyond the tool-generated result summary and consider other important impacts and mitigation measures associated with the project activities. This might require some input from environmental experts and other stakeholders. As such, NEAT+ should be viewed as a guidance tool.
- It is important to consider mitigation measures within the project's duration and scope. Mitigation measures will not always mean doing new things or adding additional activities but doing things differently in a more environment-friendly manner. Options need to be explored if some mitigation measures could be done through other projects within the organization or in collaboration with other partner organizations active in the Bezabize informal settlement.
- Environmental screening may not be seen as a one-off or stand-alone exercise. Humanitarian organizations must systematically mainstream environmental screening as an embedded process within the program cycle or integrate it into existing project procedures, such as Situational Analysis or Rapid Assessments.

REFERENCE MATERIALS

- Access to NEAT+ Excel Sheet used in this environmental screening (attached in the folder)
- ECHO Environmental Guidance: https://civil-protection-humanitarian-aid.ec.europa.eu/what/humanitarian-aid/climate-change-and-environment_en.
- Environment and Humanitarian Action (EHA) Connect, a comprehensive online repository of tools and guidance spanning the humanitarian-environment nexus: <https://ehaconnect.org>.
- Environmental Emergency Centre - library of resources and tools for environmental emergency prevention, preparedness, and response Resources: <https://resources.eecentre.org/>.
- The International Federation of Red Cross and Red Crescent Societies (IFRC)- Green Response: Environmental Quick Guide (2022): <https://www.ifrc.org/document/green-response-environmental-quick-guide>.
- Nexus Environmental Assessment Tool: <https://neatplus.org/>.

ANNEXES

ANNEX 1: LIST OF PARTICIPANTS

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