NEAT +
Nexus Environmental Assessment Tool

January 2021

Guidance Note

What is the NEAT +?

Purpose and Use

Understanding environmental risk, especially in the wake of a disaster, is key to ensuring the effectiveness and sustainability of humanitarian action. The *Coordination of Assessments for Environment in Humanitarian Action* – the Joint Initiative – developed the **Nexus Environmental Assessment Tool (NEAT+)** to help humanitarian actors quickly identify issues of environmental concern before planning longer term emergency or recovery interventions..

The **NEAT+** is a simple project-level environmental assessment/screening tool specifically designed to address the needs of humanitarian practitioners and to provide a practical approach to integrating more sustainable environmental practices into humanitarian assistance. The tool gives organizations a snapshot of environmental vulnerabilities in their operations and highlights any underlying risks to the environment and affected communities associated with specific activities. This information not only indicates how potential risks can be mitigated but can also be used to raise interest in environmental issues for advocacy and fundraising purposes. The NEAT+ is designed to be used prior to project design and implementation, in the early stages of a humanitarian response and after lifesaving needs have been met.

A comprehensive library of risk statements, additional information and mitigation tips associated with environmental risks in humanitarian programming have been developed as part of the NEAT+ tool. The methodology used by the NEAT+ to assess environmental risk and potential environmental impacts has been endorsed by numerous technical experts and successfully pilot tested and applied in humanitarian operations worldwide.

NEAT+ is based on KoBoToolbox and Microsoft Excel software applications. KoboToolbox is a free and open-source field data collection tool for use in challenging environments, which allows both online (web-based) and offline (application-based) data collection. The use enters data about the local environment and affected area in the NEAT+, either via KoBo Toolbox or directly into Excel, and a summary report indicating key environmental sensitivity issues is automatically generated in Excel. Data collection should ideally be done at the project site but can be completed remotely if necessary. The tool can be used in camp/settlement, and peri-urban or rural non- or informal-camp settings. NEAT+ was not designed for accurately assessing environmental issues in urban settings (i.e. persons of concern integrated into urban host communities). If you or your organization is interested in developing an urban version of the NEAT+, please contact JEU (ochaunep@un.org).

Please refer to **Guidance Note 02: How to use the NEAT+ offline with MS Excel only** and **Guidance Note 03: How to use the NEAT+ with KoBoToolbox** for a thorough step-by-step guidance on how to use the tool or watch the full NEAT+ “how to” video here. The individual steps are also explained in detail in four separate short videos on the YouTube channel of the JEU here.

NEAT+ was designed as a complete freely available toolkit that allows organizations to use the NEAT+ approach and underlying information to develop their own screening tools and assessments. The underlying logic and questionnaires can be incorporated into organizational project management tools or quality management systems. The back-end of the tool is accessible allowing those confident in the software to review and modify the logic and process that determine the output. For further explanation on how to adapt the NEAT+ to your own organisational needs, please refer to **Guidance Note 05: How to adapt the NEAT + for specific organizational needs.**

The NEAT+ toolkit is available in English, Spanish and French.

Disclaimer: The NEAT+ is not intended to assess the environmental impacts of a whole disaster or crisis, only the area(s) being assessed. It is a first-step screening process that identifies key environmental issues for follow up. For full information on the NEAT+ process and how it links to environmental management, systems or procedures please refer to the NEAT+ reference document available on the NEAT+ homepage.

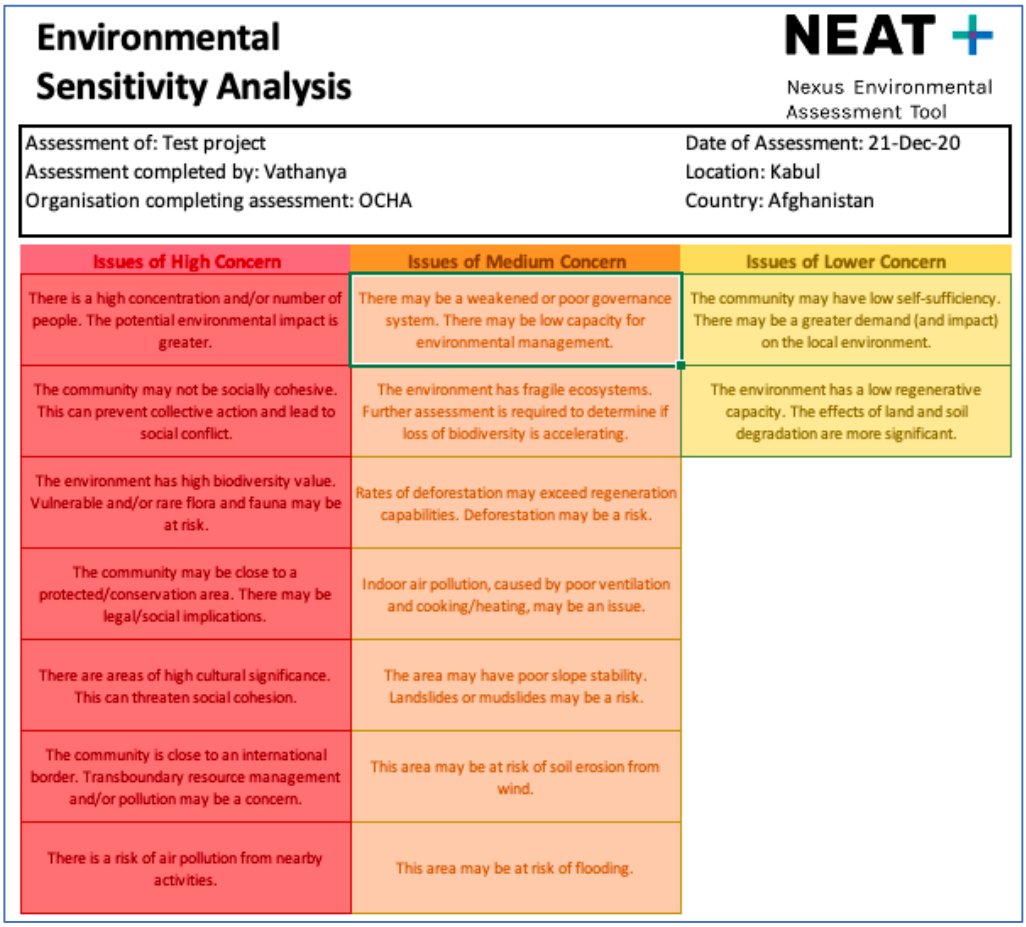
Tool Outline

The NEAT+ follows a typical environmental assessment process, examining both the underlying environmental sensitivity of a specific setting (such as the type of vegetation or soil) as well as the expected environmental impacts associated with specific activities (e.g. type of shelter or cookstove used). It consists of an environmental sensitivity module and three separate modules for the typical humanitarian activities of: (i) shelter; (ii) water, sanitation and hygiene (WASH); and (iii) livelihoods and food security. These modules are optional and assess potential environmental impacts associated with project activities. The environmental sensitivity module is compulsory and needs to be completed first.

- **Environmental Sensitivity Module**

  This module assesses the sensitivity of the crisis-affected environment, highlighting and categorizing any underlying risks and vulnerabilities to the environment and affected communities. The module consists of a set of simple questions about the local environment and affected area such as camp conditions, profile of displaced population, infrastructure and basic services, climate, natural environment and resources, and socio-economic settings of the affected community.

  The user enters the requested information and data about the local environment and affected area in the NEAT+, either directly into Excel or using KoBo, and a summary report indicating key environmental sensitivity issues will be automatically generated in Microsoft Excel, categorizing areas of risk into low, medium and high level of concern, as seen in Figure 1: Example of environmental sensitivity report, showing the potential environmental issues of concern of the assessed area.



Environmental Sensitivity Analysis

NEAT + Nexus Environmental Assessment Tool

Assessment of: Test project	Date of Assessment: 21-Dec-20
Assessment completed by: Vathanya	Location: Kabul
Organisation completing assessment: OCHA	Country: Afghanistan

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.	There may be a weakened or poor governance system. There may be low capacity for environmental management.	The community may have low self-sufficiency. There may be a greater demand (and impact) on the local environment.
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 environment has high biodiversity value. Vulnerable and/or rare flora and fauna may be at risk.	Rates of deforestation may exceed regeneration capabilities. Deforestation may be a risk.	
The community may be close to a protected/conservation area. There may be legal/social implications.	Indoor air pollution, caused by poor ventilation and cooking/heating, may be an issue.	
There are areas of high cultural significance. This can threaten social cohesion.	The area may have poor slope stability. Landslides or mudslides may be a risk.	
The community is close to an international border. Transboundary resource management and/or pollution may be a concern.	This area may be at risk of soil erosion from wind.	
There is a risk of air pollution from nearby activities.	This area may be at risk of flooding.	

Figure 1: Example of environmental sensitivity report, showing the potential environmental issues of concern of the assessed area

Additional information on the issue of concern and a set of mitigation measures is also provided in the report as seen in Figure 2, allowing users to effectively prioritize areas of concern.

Affected Community

Communities interact with the environment on multiple levels, with these interactions having environmental, as well as social and economic implications. Environmental impacts therefore also have socio-economic consequences. Vulnerable segments of society and the community are often disproportionately dependent and affected by the environment, and have unequal capacity for adaptation.

The following has been identified as a potential concern:

Large concentration and/or number of people.

Additional Information	Migitation Tips
A large and/or concentrated population can exceed the capacity of the local environment to absorb impact coming from the populations. This can lead to unsustainable pressure and potential permanent or long-term degradation of the surrounding environment and overconsumption of natural resources. Social issues are also created when there are high populations competing over limited resources.	• Explore alternative settlements and/or consider relocation of part of the camp/settlement occupants to another location • Plan for sustainable use of resources before setting up any temporary settlement, especially regarding shelter construction materials, water management and waste disposal • Plan for introduction and dissemination of fuel-efficient stoves • As soon as practical, establish resource user groups to promote sustainable and fair use of available natural resources • Plan for community green spaces such as tree covered areas or gardens that provide shade and a sense of community • Plan land use to reduce exposure to wild animals (e.g designate buffer zones or protected areas) • If possible, keep camp populations below 20,000 and locate sites at least 15km from ecologically sensitive areas and neighboring camps

Figure 2: Example of a NEAT+ sensitivity summary report and mitigation tips

These mitigation measures will depend on the identified environmental impacts (e.g. deforestation, water contamination, production of waste) and could include, for example, the

provision of alternative energy sources, the implementation of WASH activities or the establishment of waste collection and recycling. Environmental authorities and local NGOs can often provide advice on specific mitigation measures, where sometimes more detailed assessments must be carried out to design appropriate interventions.

- **Activity Modules**

  The tool contains three separate modules for the typical humanitarian activities of: (i) shelter; (ii) water, sanitation and hygiene (WASH); and (iii) livelihoods and food security. These modules are optional and assess potential environmental impacts associated with project activities. Within each of these modules, the user can select the sub-module(s) most relevant to planned activities. Based on these responses, specific sub-modules of questions are displayed. The potential environmental impacts of the planned activities are then overlayed against the environmental sensitivity results to evaluate residual environmental risk. The results are populated in a report, as seen in Figure 3.

Shelter (Siting)

Environmental Concern	Environmental Sensitivity	Potential Activity Impact	Potential Environmental Risk
Key environmental concerns			
The environment has high biodiversity value. Vulnerable and/or rare flora and fauna may be at risk.	Medium	Medium	High
Other environmental concerns			
Rates of deforestation may exceed regeneration capabilities. Deforestation may be a risk.	High	High	High
The environment has a low regenerative capacity. The effects of land and soil degradation are more significant.	High	Medium	High
The water sources may be vulnerable to contamination. Water quality may be an issue.	Low	High	Low
Mitigation Tips			
• Ensure the tenure security of inhabitants.Tenure security provides certainty and protection from eviction, encouraging long-term consideration for the local environment and thus improving the likelihood of sustainable behavior by future inhabitants. • Ensure that there is reliable access to a sustainable safe drinking water source. Ensure that human settlements do not have an adverse impacts on the quality and quantity of nearby water sources. • Ensure that energy consumption does not deplete already scarce non-renewable resources and work to minimise the negative localized environmental concerns of energy consumption such as deforestation and indoor air pollution. • The production of electricity, if from non-renewable sources, generates emissions and consumes natural resources. However, electricity provision decreases dependency on solid fuels for heating or cooking, and thus decreases the likelihood of local ecosystem degradation. Small-scale renewable energy systems should therefore be investigated. Siting in an area which facilitates renewable electricity plants could be considered. • Unmanaged wastewater or bodily waste can lead to long-term contamination of water sources or the ground near the site, and also act as host for vector-borne diseases. Put relevant measures in place to address these risks. • Unmanaged wastewater or bodily waste can lead to long-term contamination of water sources or the ground near the site, and also act as host for vector-borne diseases. Put relevant measures in place to address these risks. • Incorporating green areas can provide natural protection against various natural hazards such as landslides, erosions and/or flooding. Green areas also improve inhabitant satisfaction and can provide a natural cooling effect. Native flora is preferable; the biodiversity impacts of foreign flora should be properly considered and assessed. A strategy for maintaining green areas should be in place post-implementation. • Poorly planned and constructed access routes can lead to erosion, sedimentation and loss of biodiversity. Increased economic activity along access routes can also contribute to			
Additional Resources			
Quantifying Sustainability in the Aftermath of Natural Disasters (QSAND) - Settlements Chapter			Link
QSAND is a self-assessment tool to promote sustainable approaches to relief, recovery and reconstruction after a natural disaster. It consists of various checklists and benchmarks for achieving environmental sustainability. This resource covers many different types of humanitarian activities.			
Green Recovery and Reconstruction Toolkit (GRRT) - Strategic Site Planning and Development (Module 4)			Link
The GRRT is a toolkit that provides guidance and strategies for environmentally sustainable recovery efforts in a humanitarian context. It consists of numerous modules focused on different thematic areas of humanitarian programming.			
Sphere Handbook 2018 Shelter and Settlements Chapter			Link
Environment is mainstreamed through the chapter. Standard 7 is specifically on environmental sustainability.			

Figure 3: Example of NEAT+ activity module results with mitigation tips

Every question in the activity sub-modules has an associated “tip” that provides additional information to be aware of, as seen in Figure 3. When the user selects a response that may not reflect the environmental best practice, these tips are triggered. The tips provide information on potential environmental concerns associated with the design of an activity and signposts the user towards best practices and additional resources.

The NEAT+ is an innovative tool as it produces a customised report based on an automated analysis process - this process is outlined in Figure 4. This backend process enables the generation of a customised report without the need for environmental expertise.

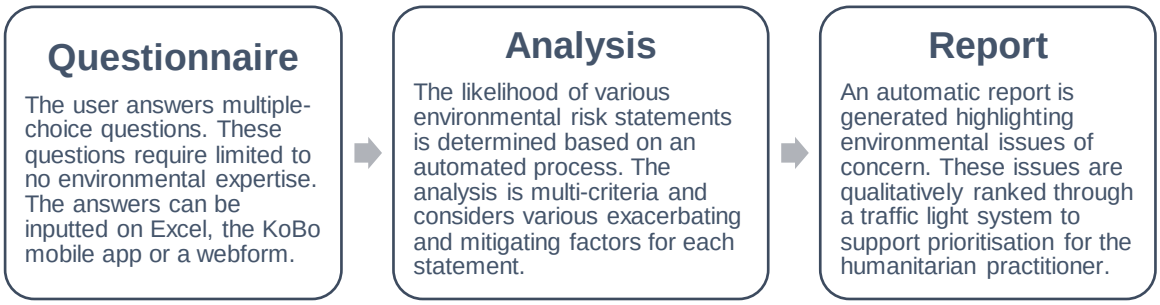


Figure 4: NEAT+ process for each module

The NEAT+ features several points of interaction with the user to increase environmental awareness. One of the advantages of NEAT+ is that it condenses several dense guidance resources into an interactive format to make the relevant environmental information more easily accessible. In addition to the sensitivity report indicating environmental issues of high, medium and low concern, the NEAT+ integrates the following:

- In the sensitivity report, key environmental concerns are elaborated with **text explainers** that provide additional details on the potential causes and implications of each issue. Here, cross-cutting issues such as gender and protection are mainstreamed.
- Once the relevant activity sub-modules are selected, **baseline warnings** are triggered based on the assessed environmental sensitivity. These warnings raise potential environmental-related programmatic concerns associated with the project area.
- Every question in the activity sub-modules has an associated “tip” that provides additional information to be aware of.
- A **mitigation tips section** is automatically generated based on the outcomes of the environmental sensitivity and activity modules. Mitigation tips are provided to support project managers to reduce environmental damage by lessening the impact of humanitarian activities.
- A **resources** section containing further reading is also automatically generated based on the responses to the environmental sensitivity and activity modules.

The tool was designed on Microsoft Excel to utilise Excel’s analytical functionality for the automated analysis. Data can be entered directly via Excel. The user interface on Excel for inputting form data, however, has limited functionality. Therefore, the KoBo Toolbox software was used as an alternative form of data collection. KoBo is increasingly used as a field data collection tool in the humanitarian sector, which allows both online (web-based) and offline (application-based) data collection on computer, phone or tablet. The data collected through KoBo is stored on a server, which allows remote access to any results or data. The use of KoBo requires the setup of a project on the online KoBo Toolbox platform (https://kobo.humanitarianresponse.info) and the downloading and copying of data from the KoBo server to the NEAT+ Excel file. For further information about KoBo, its functionalities and data security, please refer to the KoBo Toolbox webpage.

The analysis process is built on a quantitative calculation based on weightings and scores applied to different responses. The individual weightings and scores were assigned by the NEAT+ lead designer with inputs from technical experts. The output of the analysis, i.e. the colour ranking, was validated by numerous reviewers and through rigorous testing. Reviewers were asked to test the tool using scenarios they were familiar with. The outputs of the automated results were then cross-checked against the expected results of the environmental experts, and weightings or scores were adjusted if

necessary. The validity of the results was also tested through field pilots. Reports from field pilots can be found on the NEAT+ homepage: https://www.eecentre.org/resources/neat/.

Applying Geospatial Data in NEAT+ Assessments

Geospatial data can be used to integrate environmental considerations into humanitarian response and represents a broad data source for the NEAT+. Geographic (or Geospatial) Information Systems (GIS), can be useful for obtaining information to aid the user in completing the NEAT+ environmental sensitivity module, especially for answering questions about the natural environment of the area of interest (e.g. remote sensing imagery to get an idea of land cover and land use types).

MapX (https://www.mapx.org/) is an open source web mapping platform that can help NEAT+ users answer questions for the process of assessing the environmental sensitivity of a specific site. For further information about geospatial data in humanitarian operations and how to use geospatial data during the NEAT+ environmental sensitivity assessment process, please refer to the **Geospatial Guidance Note** provided in this guidance package or on the NEAT+ homepage.

Note: The use of geospatial data in NEAT+ assessments is not a requirement for applying the NEAT+. It can be a useful feature if the user is familiar with GIS or would like to learn how to use geospatial data for integrating environmental considerations into humanitarian response.