

10 HAZARD IDENTIFICATION TOOL

10.1 BACKGROUND & OVERVIEW

"Disasters and conflicts can impact the environment in ways that threaten human life, health, livelihoods and security.

Disaster managers and humanitarian workers must therefore identify and address acute environmental risks quickly and consistently as an integral part of effective emergency response."

John Holmes
Under-Secretary-General for Humanitarian Affairs and
Emergency Relief Coordinator



A volcano eruption led to the explosion of a petrol station killing approximately fifty people (Goma, DRC, 2002)

Natural disasters and conflicts often have secondary impacts, including damage to infrastructure and industrial installations. These so-called environmental emergencies may pose a threat to the health, security and welfare of the affected population and emergency responders. Too often, these risks are neglected, resulting in preventable deaths and injuries. It is therefore essential that information on the location of the hazardous facilities and the potential impacts is made available to relevant authorities and emergency responders at a very early stage of the disaster response or even prior to the onset of a disaster. This information will then contribute to targeted mitigation measures and requests for further specialized assistance.

In order to address the need to identify potential environment impacts as early as possible, the Joint UNEP/OCHA Environment Unit (Joint Environment Unit/JEU) has developed the Hazard Identification Tool (HIT). Based on the FEAT methodology, the HIT provides a list of big and obvious potential secondary risks in the affected area, such as large infrastructure, including dams, nuclear facilities, hazardous waste storage sites and industrial facilities.

This list is compiled by the JEU and then made available to actors in the field, such as the UN Resident Coordinator (RC), the UN Country team and UNEP and OCHA Regional Offices and other relevant colleagues, in particular the UNDAC team and environmental experts. In addition to raising awareness of the need to identify and address secondary environmental risks as early as possible, the HIT is intended to serve as a basis for on-site investigations and field assessments.

10.2 THE HIT

Users in the field receive the HIT as a pdf-document that consists of three sections: a cover page, the HIT table and an annex that contains a list of sources and an explanation of the impact types used. The following sections provide an overview of the HIT and should be read in conjunction with the annexed HIT template and HIT samples.

10.2.1 HIT – Section 1

The cover page provides the user with the name of the natural disaster, the country, the date and the Glide number of the disaster (globally common Unique ID code for disasters; <http://www.glide-number.net/glide/public/search/search.jsp>). The cover page also contains a brief overview of the objective and methodology of the HIT, of the disaster situation, and of the Joint Environment Unit.

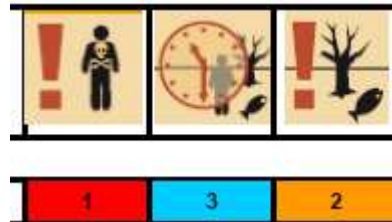
10.2.2 HIT – Section 2

Section 2 of the HIT is the core of the HIT: The HIT Table. It contains the following information on the facilities located (or assumed to be located) in the disaster affected area:

Location (and name) of facility	Facility or process	Hazard (substance)	Hazard type			
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1. The location (and names) of the facilities that can pose secondary risks, if available (1st column);
2. The facilities or processes that can pose secondary risks that have been identified to be present in the disaster affected area (2nd column);
3. The hazards that can be expected to be present in facilities, mostly chemical substances, but also natural and physical hazards (3rd column);
4. The hazard types associated with the hazardous substances. These hazard types are the same as the ones used in the Flash Environmental Assessment Tool (FEAT) (4th column);
5. The expected impacts of the identified secondary risks (5th column). The impact types are the same as the those used in the FEAT.

The HIT table thus not only provides the user with information on where facilities that may pose a secondary risk are located, but also translates this information into ‘humanitarian language’ by indicating the related hazards and possible impacts. The impacts are presented by using a color code that indicates the priority that should be given to them in the emergency response. Usually, it would be a priority to address hazards that have a potential direct impact on human life in comparison to hazards that can be expected to have direct impact on the life-support functions and nature or a more long-term impact on humans, life-support functions and nature.



10.2.3 HIT – Section 3

The last section of the HIT provides the user with an explanation of the (FEAT) impact types and a list of information sources that are used to compile the HIT table, i.e. a list of public websites and databases used for the desk research.

10.3 HIT – DESK RESEARCH

The compilation of the HIT is carried out by the staff of the JEU in Geneva. The trigger for conducting the desk research can be, among others, the United Nations Disaster Assessment and Coordination (UNDAC) M1 alert, which puts the UNDAC team on stand-by, or the first OCHA Situation Report for the disaster in question.

By searching public websites, broad information on the affected (area of the) country and its economy and industrial production is collected. As a second step, specific databases are used in order to find more detailed information on facilities with potential environmental impacts that are present in the area. These databases include, but are not limited to, the database of the International Atomic Energy Agency, the Survey of Energy Resources of the World Energy Council, and the World Register of Large Dams issued by the International Commission on Large Dams (ICOLD).

Information sources

- **World Energy Council: Survey of Energy Resources 2007**
http://www.worldenergy.org/publications/survey_of_energy_resources_2007/default.asp
- **UNEP/GRID Arendal – Maps and Graphics Library**
<http://maps.grida.no/>
- **Official Energy Statistics**
<http://www.eia.doe.gov/emeu/cabs/index.html>
- **IAEA Country profiles and databases on Nuclear Power Plants and Research Reactors**
http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2003/CNPP_Webpage/pages/countryprofiles.htm
<http://www.iaea.org/programmes/a2/index.html>
<http://www.iaea.org/worldatom/rrdb/>
- **ICOLD World Register of Large Dams**
<http://www.icold-cigb.net/recherche/identification.aspx?typrech=rg>
- **Stockholm Convention on Persistent Organic Pollutants (POPs) - National Implementation Plans**
<http://www.pops.int/documents/implementation/nips/submissions/default.htm>
- **UNEP PCDD/PCDF Inventories**
http://www.chem.unep.ch/pops/podd_activities/inventories/default.htm
- **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal**
<http://www.basel.int/natreporting/compilations.html>
- **Maps of Oil and Gas infrastructure**
http://www.lib.utexas.edu/maps/map_sites/oil_and_gas_sites.html
- **International Minerals Statistics and Information**
<http://minerals.usgs.gov/minerals/pubs/country/>
- **MineSite – Information on World Mining Operations**
<http://www.infomine.com/minesite/>

By using these databases, some of which are have restricted access, efforts are made to locate the facilities and objects with potential impacts as precisely as possible. The results depend on the information that is available on these sites, which can sometimes be rather limited for several reasons, including sensitivity of data. Another limitation is due to the fact that the desk research focuses on websites in the English language.

10.4 THE HIT AS PART OF EMERGENCY RESPONSE

In addition to the limits of desk research, (staff) resource and time constraints also affect what information can be made available through the HIT. Given that the HIT is primarily intended to support the emergency response efforts of actors in the field, it needs to be compiled and made available to these actors as quickly as possible after the onset of a natural disaster. In fact, users from the field have provided the feedback that it is more important to have information available as early as possible, rather than trying to provide GPS data for each and every facility or object identified.

The following provides an overview of how the HIT fits into the cycle of disaster response in general and identification and assessment of environmental impacts in particular:

- The HIT is compiled immediately after the onset of a natural disaster (given a certain scale), making international assistance necessary, including the mobilization of an UNDAC team.
- The JEU makes the HIT available by emailing it to the relevant actors in the field (UN RC, UN CT, Regional Offices, UNDAC team) and by publishing it on ReliefWeb, the Virtual OSOCC and GDACS.
- The HIT is then used by emergency responders such as the UNDAC team, including environmental experts, to identify facilities and objects with a potential impact. This includes verifying the information provided by the HIT and identifying additional sites by obtaining additional information from national and local authorities as well as on-site assessments.
- Such on-site assessments should be conducted using the FEAT (see chapters 9 and 20 of this course document and the FEAT User Guide). The HIT is closely linked to the FEAT in the sense that it uses a similar terminology (hazards, impacts, etc.) and the information compiled in the HIT can feed directly into the first assessments made when using the FEAT.
- These assessments will then lead to defining needs for specialized expertise (if any) to conduct more detailed assessments of actual environmental impacts.

10.5 SUMMARY

The HIT is a tool that raises awareness of the need to identify and address secondary impacts as quickly as possible after the onset of a natural disaster. It provides the emergency responder with a list of facilities with potential secondary environmental impacts after a natural disaster and thus serves as a basis for on-site verification and further assessments. It must be pointed out that the HIT can only identify big and obvious objects and related secondary risks. It is thus never an exhaustive list and it does NOT replace on-site investigations or detailed environmental assessments.

10.6 ANNEX

HIT Cyclone Nargis, Myanmar, May 2008

HIT, Floods and Landslides, Indonesia, December 2007