

Sudan National Mine Action Standards – SNMAS 05.02

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Mine Action Non-Technical Survey

Sudan National Mine Action Centre (NMAC)
Block 21, Building 241, Mekka Street, Riyadh, Khartoum – Sudan
Website: www.su-mac.org

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1. Introduction

Non-Technical Survey (NTS) is an important activity as part of land release process and is typically the starting point for the assessment of possible mine and or ERW contamination in an area and categorization of the area either as suspected or confirmed hazardous areas (SHA or CHA). NTS involves a thorough investigation of new information about possible explosive hazards contamination, or previously recorded hazardous areas, without the use of demining tools and equipment inside the hazardous areas.

NTS is less costly comparing to technical survey and clearance; however, it can result in release of big areas without any technical survey and clearance interventions. NTS encompasses all activities, including desk reviews, analysis of historical records and a wide range of information gathering and analysis functions, as well as physical visits to field locations. All activities of NTS are focused on identifying, accessing, collecting, reporting and using information to help define where the explosive hazards are to be found and where they are not, and support land cancellation, reduction and clearance decision making processes. Undertaking NTS to highest standards is crucial in effectiveness and efficiency of land release process.

2. Scope

This SNMAS provides standard guidelines and covers minimum requirements for the management and application of Non-Technical Survey as part of land release process in Sudan. It also outlines the responsibilities and obligations of the NMAC and mine action organizations involved in land release operations in Sudan.

3. References

IMAS 08.10, SNMAS 05.01 and SNMAS 05.03

4. Terms and Definitions

For details about terms and definitions used in Non-Technical Survey as part of the land release process; refer to SNMAS 05.01 of Land Release.

5. Purpose of Non-Technical Survey

The main purpose of NTS is to use all appropriate means of information gather including visits of the hazardous areas to identify, collect, analyze and report information and evidence to:

- 1) To record mine and or ERW hazardous areas;
- 2) Categorize hazardous areas as SHAs or CHAs;
- 3) Make recommendations about cancellation of recorded or newly reported hazardous areas;
- 4) Make recommendations about subsequent reduction and or clearance of hazardous areas;
- 5) Support priority setting processes based on the impact of hazardous areas.

Aims of NTS:

- 1) To assess whether areas are contaminated with explosive hazards;

- 2) To define SHAs based on indirect evidence of hazards;
- 3) To define CHAs based on direct evidence of hazards;
- 4) To cancel a complete or parts of the SHAs and CHAs based on “no evidence of” mine and or ERW hazards contamination;
- 5) To identify socio-economic impact and threat factors to support decisions about prioritization of the hazardous area for land release operations;
- 6) To record, accurately and comprehensively, direct evidence of hazards;
- 7) To collect information accurately and reliably about the characteristics and distribution of contamination, that can assist in effective and efficient planning of technical survey as targeted investigation and follow on clearance;
- 8) To collect, accurately and reliably, information about accidents and incidents to people and animals within the hazardous areas;
- 9) To collect information about physical changes to the environment of hazardous area, due to seasonal floods and winds including deposition of soil and accumulation of extra soil, that may have modified the local situation and require specific assets to be used during technical interventions;
- 10) To collect information about the physical circumstances at the site including information about access routes, roads, vegetation in the site, topography, infrastructure, agriculture, security situation, and logistical facilities that may be relevant to decision-making processes.
- 11) To collect information about the about the terrain and profile of the hazardous areas, the density of vegetation and other obstacles that may affect the progress rate, and recommend the most suitable assets, procedures and methodology of technical interventions.

6. Requirements for Recording SHA and CHA

6.1. SHA and CHA Criteria

NMAC with technical support of UNMAS and consultation with mine action organizations shall develop criteria for defining SHA and CHA. NMAC and mine action organizations shall ensure that these criteria are understood by all involved activities. The criteria will help the Sudan mine action programme to:

- a) Promote and adopt consistent definition of SHAs and CHAs;
- b) Promote uniform application of land cancellation, reduction and clearance processes;
- c) Simplify management of cancellation, reduction and clearance activities;
- d) Provide a framework for Sudan that need to document and demonstrate compliance with APMBC; and
- e) Provide an auditable framework to assist with resolving questions relating to liability in the case of incidents.

SHAs shall be defined based on the analysis of Indirect Evidence of explosive hazards, and CHA shall be defined based on the analysis of Direct Evidence of mine and or ERW hazards in the area; within the context of Sudan and local circumstances.

Indirect Evidence includes, but not limited to:

- 1) Potentially productive land not in use;

- 2) Verbal reports from local population/former combatants;
- 3) Mine and or ERW hazards records, where the reliability of such records remains open to doubt or has not been assessed;
- 4) Analysis of other known contamination areas, tactics and historical sources;
- 5) Former combatant zones;
- 6) Evidence from previous surveys, not supported by direct evidence of the presence of contamination;
- 7) Mine or ERW accidents or incidents where the location of the event cannot be accurately determined.

Direct Evidences include, but are not limited to:

- 1) Mine and or ERW records, where the reliability of such records has been confirmed;
- 2) Accurate information from the reliable source of information about laying mines;
- 3) Visual observation of mine and or ERW, parts of them, fragmentation or craters;
- 4) Detonations during fires or by animals;
- 5) Hazards signs including fencing and marking (local or official) and ancillary equipment;
- 6) Mine and or ERW accidents or incidents where the location of the event can be accurately determined;
- 7) Visible evidence of explosive hazards.

SHAs and CHAs should also be sub classified or divided as required, to the parts within the internal zone of hazardous area; to reflect likely variations in hazard type and the confidence associated with different evidence; this will help mine action managers in planning and decision-making processes. Boundaries of SHA and CHA should also be assessed based on the available evidence.

6.2. Cancellation

The cancellation of previously reported and recorded hazardous area through NTS shall take place based on the application of “all reasonable effort” that it can be demonstrated with high confidence that there is no evidence of mine and or ERW contamination in the area.

6.3. All Reasonable Effort

“All reasonable effort” in NTS refers to the level of effort required to be expended to achieve a high level of confidence in the output of NTS. Non-technical survey may be the only activity applied to an area, or it may be one amongst a number of activities within a wider process of land release.

All reasonable efforts as part of NTS include, but are not limited to:

- a) Identifying and access to all relevant sources of information, including available historical records, former combatants, affected populations including men, women and children;
- b) Demonstrating that the collection of information was planned and conducted by competent and accredited NTS teams, with the capability to reach all relevant information sources including men, women and children;
- c) Making efforts to understand the nature and characteristics of contamination within the hazardous area;

- d) Analyzing information using all appropriate means to support decision-making;
- e) Demonstrating that the decisions are made by competent and authorized staff of the mine action organizations based on the analysis and review of all available information; and
- f) Applying appropriate external and internal monitoring and quality management efforts to the staff, procedures and equipment applied and used in NTS process;
- g) Analysis of NTS, TS and clearance historical data that had been undertaken in the vicinity of the area.

The application of “all reasonable effort” relies upon an integrated process that addresses all aspects of the planning, operational, review and decision making stages.

6.4. Evidence-Based Decision Making Process

As an important principle of quality, all the decisions including decisions as part of NTS operations shall be based on available evidence and facts. Available evidence shall be considered when defining SHAs and CHAs and taking further technical actions in land release process, to ensure effective and efficient land release operations. The quality and quantity of evidence with required and sufficient details determine the quality and reliability of decisions in land release process.

NMAC and mine action organizations involved in land release operations in Sudan shall consider and understand about all sources of information which include, but are not limited to:

- a) Evidence relating to types of contamination present in the context of land release operations in Sudan, tactics associated with their use, and the effect of time on their condition, distribution and detectability;
- b) Evidence collected during NTS activity from the hazardous area and from the review of IMSMA records including the records of accidents and incidents;
- c) Evidence discovered during survey and clearance operations at other sites in the same or neighboring communities and locality;
- d) Evidence about the reliability of different information sources;
- e) Evidence about the relationship between findings and recommendations arising from previous survey and what was subsequently discovered during technical interventions;
- f) Evidence relating to accidents and incidents on previously cancelled, reduced or cleared land;
- g) Evidence arising from monitoring of processes and their products associated with land release activities, including long term monitoring or Post Land Release Assessments.

The use of all appropriate evidence in support of decision-making shall be documented in order to establish and maintain confidence in NTS and overall land release process.

7. Non-Technical Survey Methodology

NTS shall be considered as a dynamic activity of information gathering and analysis about the hazardous areas including data and information about the type, nature and characteristics of contamination. Analysis of contamination information, and the effectiveness and efficiency of responses to it, should be dynamic process. It is the responsibility of NMAC to ensure that NTS data

is updated, properly analyzed and made available to mine action organizations conducting NTS in Sudan.

It is important to consider all relevant sources of information, including historical records, police, military, hospitals, provincial authorities, landowners and if possible GIS information during the desk review activities. Identifying, accessing and making use of such information constitutes part of the application of “all reasonable effort” in NTS. As minimum the following should be considered by mine action organizations when planning NTS:

- 1) Review of contracts, national standards, criteria, policies and procedures relevant to NTS, as approved by the NMAC;
- 2) Review of all available information relating to the area, including the results of desk assessments;
- 3) Confirmation of information collection requirements, as defined in this standard, as well as any additional requirements specific to the site or circumstances;
- 4) Consideration of the requirements of the survey and the need for specific resources, skills and or capabilities, including the ability to access all relevant sources of information, including men, women and children;
- 5) Identification of any aspects of the survey requiring additional safety measures; and
- 6) Development of an appropriate and effective methodology for NTS to be undertaken.

Mine action organizations shall develop their NTS procedures based on the requirements of this SNMAS to avoid subjective statements by surveyors, identify the requirements of objective collection of evidence, and to satisfy specified safety, information and quality requirements.

Any new information and evidence shall be collected, recorded and reported by NTS teams, this will help in analysis of information and proper decision making about the land release process. When operations managers of the mine action organizations and or sub offices of NMAC realizes that the collected information by NTS teams is not sufficient to support decision making, they should consider whether additional NTS or technical activities are likely to discover additional information. SHAs shall not be defined on the basis of a lack of information, but instead on the basis of indirect evidence. Recommendations to reject new information, or cancel existing areas, should only be made on the basis that “all reasonable effort” has been applied to identifying, defining and removing suspicion of the presence of explosive hazards.

Data and information shall be collected, reported and recorded, using reporting IMSMA standard formats specified in SNMAS 10.01 of Information Management. NMAC shall ensure that there are required quality management processes both internal by mine action organizations and external by NMAC to NTS activity including collection, reporting and recording of data and information.

Marking as part of NTS activities shall be carried out based on the requirements of SNMAS 05.04 for marking.

8. Sources of Information

8.1. General

All mine action organizations accredited for land release operations in Sudan shall identify sources of information, and collect and record data and evidence from these sources. Mine action organizations should also ensure that both male and female informants who have specific information are accessed and interviewed and the findings are recorded and reported. The access to information source, interview and information gathering should be comprehensive and in such a detail that avoid frequent approach to the informants which may result in survey fatigue.

8.2. Assessment and Classification of Sources

NMAC should ensure that the mine action organizations have the following capabilities when conducting NTS operations in Sudan:

- 1) Relevant experience NTS operations in Sudan;
- 2) An understanding of historical, social, economic, political and cultural factors relating to the retention and reporting of information by different information sources;
- 3) Comparisons between different information sources;
- 4) Comparisons between information received and evidence discovered during subsequent technical interventions;
- 5) Review of information sources in light of the results of monitoring of land following cancellation, reduction or clearance; and
- 6) Other relevant information specific to local circumstances and conditions.

Objective evidence should be considered by NMAC and mine action organizations when classifying information sources. The classification system should be reviewed at appropriate intervals to ensure that they reflect the up to date results of analysis of evidence from all relevant sources.

The following minimum requirements shall be considered for the classification of source of information:

- a) Direct physical evidence of the presence of mine and or ERW hazards, observed and recorded by NTS team;
- b) Indirect physical evidence of the presence of mine and or ERW hazards observed and recorded by NTS team;
- c) Information from historical sources and records shown to be reliable and accurate through comparison with direct evidence obtained at other sites and areas;
- d) Information from people and institutions offering first hand sources of information. Such sources of information may include men, women and children from the affected communities, military, police, mine or ERW victims and relevant witnesses of the accidents, observed ERW and or laying mines in the area;
- e) Information from people and institutions offering second hand sources of information, that they did not observe ERW or laying mines or taken part in laying mines, but may have been told about the hazard by first hand sources;
- f) Information from historical sources and records, the reliability and accuracy of which have not been assessed, or where assessment indicates unreliability or inaccuracy; and

- g) Information from other people and institutions that did not observe or take part in the laying of explosive hazards, but have been told by other parties that cannot be confidently identified as first hand sources.

NMAC and mine action organizations working in Sudan and are involved in land release operations, should identify and make use of every opportunity to check the quality of information through comparisons with direct evidence resulting from technical survey and clearance, and the monitoring results of land release process and outputs. The results of such checks should be taken into account during reviews of classification systems.

8.3. Land and Road Use

If a recorded hazardous area or road is in use by local communities, this needs to be considered as a factor when assessing new information about the area or deciding to cancel the complete or part of the area. To assess the confidence in such information, the followings shall be considered by mine action organizations:

- 1) Understanding of the type, nature and distribution of contamination present elsewhere within the locality, especially within the immediate vicinity;
- 2) Clear and accurate definition of which land use;
- 3) How the land and or road have been used, including the depth of intrusive activities, and the density and intensity of human and mechanical traffic;
- 4) For how long the land and or road have been used, with different densities and intensities of activity have taken place at different times;
- 5) The results of monitoring of other areas that had been similarly assessed.

It will be useful to divide the area based on different use and different usage histories.

8.4. Sub-Division of Hazardous Areas

Hazardous areas including SHA and CHA should be in order to identify, define and describe:

- 1) The presence of different contamination types;
- 2) Different confidence levels associated with sources of evidence, and the analysis of that evidence;
- 3) Areas suitable for different technical assets types and methodologies.

There should be enough details about divided parts of the hazardous areas to assist in efficient and effective subsequent deployment of resources for further NTS or technical survey and clearance. This will help in reliable and confident cancellation, reduction and/or clearance of the land.

9. Non-Technical Survey Output

The outputs of the NTS process shall be based on the analysis of findings and information about the type, nature and distribution of contamination, and should include:

9.1. Documented Information

a) Reports:

Detailing what NTS activity was conducted, where, forming inputs to subsequent planning processes and as evidence demonstrating the application of “all reasonable effort” in identifying, defining and removing all presence and suspicion of mine and or ERW hazards.

The reports shall include detailed information in related IMSMA format as per the requirements of SNMAS 10.01, the map of area with enough details including coordinates of control markers.

b) Recommendations:

Recommendation for defining the area as SHA or CHAs and or cancellation of the area or parts of it as justified based on the application of “all reasonable effort”. Recommendations for further NTS, or Technical Survey and clearance including details of recommended assets and methodologies.

c) Information for analysis:

NTS shall include enough recorded information that is needed for analysis by NMAC, mine action organizations and other stakeholders as appropriate.

9.2. Cancelled Area

One of the important outputs of NTS is cancelled area based on the application of all reasonable effort that results in “no evidence of” hazards. Cancelled area shall be properly documented in a standard format as per the requirements of SNMAS 10.01.

10. Survey Team Requirements

The followings requirements shall be considered by mine action organizations to equip NTS teams before conducting NTS activities, and ensured by NMAC:

- 1) Competent, skillful and accredited NTS teams, to be able to engage in communication with local authority, stakeholders and all sources of information.
- 2) Suitable equipment including at minimum, GPS, camera, measuring tools, marking materials;
- 3) Stationery including drawing tools;
- 4) Transportation and medical support;
- 5) Communication tools.

NTS activities shall be monitored internally by the mine action organizations and externally by NMAC. Refer to SNMAS 07.03.

11. Documentation Requirements

NTS information is essential component of land release process, effective and efficient land release process depends on high quality of information. It is paramount to ensure the quality of data collected and reported and the quality of data entry to IMSMA.

NMAC and mine action organizations shall ensure that the NTS documentation satisfies the quality requirements as outlined in this SNMAS and reflects the needs of all information users.

Appropriate quality management processes shall be established and implemented in relation to the collection, recording, reporting, and analysis of NTS information. The QM processes shall include management of shortfalls in quality of NTS data, information and documentation including investigation and taking appropriate corrective and preventive action.

The format of reports used during NTS shall be based on the requirements of this SNMAS and SNMAS 10.01 of information management. NTS reports should include decisions made during the survey, as well as the evidence that was the basis for the decisions.

Location maps should be used to indicate the extent of recommended SHA and CHA boundaries, and to locate and identify control markers and the hazard marking used during NTS operations. NTS information shall be recorded as hardcopy and electronically and may be marked on a topographical map as appropriate within the context of Sudan. NTS maps should show the location of any direct evidence of mine and or ERW hazards and other specific features of significance.

The information recorded during NTS should form part of the documentation required for handover to organizations conducting further technical survey or clearance and for the final release of land. Complete details about the local information sources including name, age, gender, address, contact details and signatures should be recorded.

NMAC operations department and mine action organizations undertaken NTS, should compare the results of NTS with the findings of subsequent TS and or clearance, to review the effectiveness of NTS activities objectively and to use the opportunity to improve NTS process.

12. Community Involvement

People in affected communities can provide firsthand information about the presence or suspicion of mine and or ERW contamination and can be considered as reliable source of information. Their involvement in all stages of the land release process, including NTS will ensure that the land is being used after it has been released from mine and or ERW hazards. Community involvement should include men, women and children living in or working near to the hazardous area and where appropriate, owners of land. NTS teams shall ensure that the people are consulted and their priorities reflected in NTS reports for subsequent technical interventions. Local community can provide sufficient information about the impact on their livelihood and socio-economic aspects which will also be used as reference for prioritization.

All the areas which have been released including cancelled, reduced and cleared, shall be subject to monitoring as per the requirements of SNMAS 07.03. Monitoring should be properly planned and agreed between all parties including communities to help measure the impact of cancelled land on local life and to clarify issues related to liability and land status in case of any subsequent mine or ERW accidents.

13. Liability Issues

For details about liability, refer to SNMAS 05.01 for Land Release.

14. Responsibilities and Obligations

14.1. Sudan National Mine Action Centre (NMAC)

As coordination and regulating body for the mine action programme of Sudan, NMAC shall:

- 1) Develop, manage and maintain national mine action standards for NTS, consistent with national land release policy;
- 2) Accredite mine action organizations to carry out NTS activity;
- 3) Monitor the performance and NTS outputs of mine action organizations;
- 4) Ensure compliance of mine action organizations procedures and competence in NTS operations;
- 5) Establish QM process for ensuring the quality of NTS documented information;
- 6) Utilize and analyze NTS documented information to understand better the nature, extent and distribution of contamination for annual operational plans;
- 7) Define liability issues relating to land release process in Sudan.

NMAC shall also set out specific criteria for the cancellation of previously recorded suspect hazardous areas and acceptance or rejection of new information by NTS. Such criteria should be agreed between NMAC, mine action organizations and key stakeholders, and the local community responsible for receiving the released land, and government authority.

14.2. Mine Action Organizations Involved in Land Release Process

All mine action organizations accredited for undertaking of survey and land release operations in Sudan, shall:

- 1) Obtain accreditation from NMAC to conduct NTS;
- 2) Apply and meet the requirements of this standard in NTS process;
- 3) Develop procedure for the implementation of NTS;
- 4) Collect the necessary information as required by the NTS documentation;
- 5) Handover the surveyed area to the organization undertake follow on technical activities;
- 6) Maintain and make available documentation as specified by the NMAC;
- 7) Involve community people including men and women in the affected communities, as required, with regards to all decisions made by NTS team;
- 8) Seek feedback from NMAC in terms of quality, timeliness and content of the reports;
- 9) Establish internal monitoring as part of QMS to monitor and measure NTS activities and their outputs.