

Sudan National Mine Action Standards – SNMAS 07.01

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Quality Management System in Mine Action

Contents

1.	Introduction	3
1.1.	Relationships to other Management Systems	3
1.2.	Quality Management and Result Based Management	4
1.3.	Risk Management and Quality Management.....	5
2.	Reference.....	5
3.	Terms and Definitions.....	5
4.	Principles of Quality Management (QM).....	6
4.1.	Customer Focus	6
4.2.	Leadership	7
4.3.	Involvement of People	8
4.3.1.	Gender and Diversity.....	8
4.4.	Process Approach	8
4.5.	Improvement.....	9
4.6.	Evidence Based Decision Making	10
4.7.	Relationship Management	10
5.	Scope	11
6.	Purpose	11
7.	Context	11
8.	Needs and Expectations	11
9.	Scope of the QMS in Mine Action.....	12
10.	Mine Action Processes.....	12
11.	Leadership and Commitment	13
11.1.	Quality Policy.....	13
12.	Planning of the QMS.....	14
12.1.	Objective Setting	14
13.	Mine Action Resources	14
13.1.	People	15
13.2.	Equipment	15
13.3.	Information.....	15
13.4.	Infrastructure and Working Environment.....	16
14.	Mine action Operations.....	17
14.1.	Requirements for Mine Action Products and Services.....	17
14.2.	Planning of Mine Action Processes, Products and Services	17
14.3.	Control of Mine Action Processes, Products and Services	17
14.4.	Identification and Traceability of Mine Action Products and Processes.....	18
14.5.	Process Controls	19
14.6.	Release of Product and Services.....	19
14.7.	Control of Nonconforming Mine Action Products and Services	20
14.8.	Activities Required after the Delivery of Mine Action Services and Products	20
15.	Communication and Participation.....	20
16.	Documentation.....	21

17.	Performance	22
17.1.	Monitoring, Analysis and Evaluation.....	22
17.2.	Quality Audit.....	23
18.	Improvement	23
18.1.	Management Review.....	23
19.	Responsibilities	24
19.1.	National Mine Action Centre (NMAC)	24
19.2.	Mine Action Organizations	25

1. Introduction

This standard covers the requirements of Quality Management System (QMS) in mine action including activities associated with all pillars of mine action in Sudan. Application of QMS in mine action can help the Sudan National Mine Action Centre (NMAC) and mine action organizations to improve the overall performance of the programme to achieve the goals and objectives of the Government of Sudan (GoS) with regard to its international obligations of ratified Anti-Personnel Mine Ban Convention (APMBC) and national mine action strategies and plans. Application of QMS can also help the programme to provide a safe living environment for the people of Sudan, and to establish a sound basis for the sustainable development initiatives within the country. The potential benefits of implementing QMS for mine action organizations are:

- a) The ability to consistently provide mine action products and services that meet customers, stakeholders and applicable statutory and regulatory requirements including the requirements of international conventions;
- b) Facilitating opportunities to enhance customers' and stakeholders' satisfaction;
- c) Addressing the risks and opportunities associated with mine action context in Sudan and the overall goals and specific objectives to be achieved;
- d) The ability to demonstrate conformity to specified quality management system requirements.

This standard sets out principles of quality management, and the minimum requirements for a mine action QMS, and draws on the principles and requirements set out in ISO 9001:2015, but does not replace ISO 9001 within the mine action context. Mine action organizations are encouraged to consider the adoption of formally certified systems such as ISO 9001 as part of their own management systems.

It also follows the process approach, which incorporates the Plan-Do-Check-Act (PDCA) cycle and risk-based thinking. The quality management relies upon the availability of information; to inform the planning process, direct implementation, check the performance against requirements and to take action to improve the quality and safety of processes, services and products. As principle of quality management; there is an increased emphasis on the use of information as evidence to support decision making.

In the ISO series, the quality is defined as "the degree to which a set of inherent characteristics fulfills requirements". In the context of mine action quality is defined as "the degree to which a mine action service, product or output fulfills requirements". In order for a mine action organizations to be able to achieve quality, and release high quality mine action products and services; it is necessary that the requirements are specified and clearly stated in mine action standards, contract documents, statement of work and memorandum of understanding. The operating procedures shall detail how to achieve those specified requirements.

1.1. Relationships to other Management Systems

Environmental and safety management are closely associated with quality, particularly in relation to technical mine action activities such as survey and clearance, EOD and stockpile destruction. Existing

occupational health and safety management systems, such as ISO 18001, and environmental management systems, such as ISO 14001, exhibit many of the same features as QM systems. Mine action organizations can gain and obtain certification against safety and environmental management standards to make extensive use of tools (such as management review, response to nonconformity, control of documents) found within the QMS. Mine action organizations shall address safety and occupational (S&OH) and environmental management requirements within their SOPs. SOPs constitute a key part of the mine action QMS. SNMASs 08 series detail the requirements for mine action safety and occupational health (S&OH) and the requirements in relation to protection of the environment.

It is important that the QMS is consistent with the higher level goals and objectives of the Sudan mine action programme and the goals and objectives of the individual organizations. At the same time, principles of QM are applicable when developing a strategic plan. Whether using the PDCA cycle to drive the development, implementation, evaluation and improvement of a strategic plan or in ensuring that strategic documentation satisfies stakeholders' requirements, QM is an important feature of a good strategic management process.

1.2. Quality Management and Result Based Management

In addition to customers and stakeholders' satisfaction about the quality of mine action services, the outcomes and impacts arising from mine action processes, products and services form an important part of the mine action context. The results, outcomes and impacts of previous mine action products and services should inform current and future requirements and directly influence the improvement of mine action processes, products and services. The expected results should be assigned as requirements to be achieved. The findings of Post Demining Impact Assessment (PDIA) and other Result Based Monitoring and Evaluation can be used to specify and assign certain requirements.

QM and RBM are mainly treated as separate; however, they are closely associated functions within the mine action context. The two approaches to management are closely related and rely upon each other, the management team of mine action organizations should remain constantly aware of the implication of decisions in one system upon the other.

Quality is often defined as the satisfaction of customers' requirements, but it is also important to be confident that the requirements fit into the wider strategic goals, policy and direction of the Sudan mine action programme. Satisfying as a given and stated requirement may meet a definition of quality, but it has little merit in the wider context if that requirement is not associated with a result, outcome or impact. One of the characteristics of quality products and services is that they are 'fit for purpose'. RBM focuses on questions of purpose and how top management knows that a purpose has been effectively fulfilled and the customers are satisfied. It is through the interactions between RBM and QM that mine action top management ensures that both 'purpose' and 'fitness for purpose' are well understood and reflected in every aspect of a mine action organization's processes, products and services.

1.3. Risk Management and Quality Management

The mine action sector is making more use of structured risk management principles and tools across all activities, at all levels within the programme and at organizational level. The ISO 9001:2015 QMS makes more explicit use of risk management approaches and terminology and expects organizations seeking certification and or applying ISO 9001 requirements to follow the risk management approach. Quality management like environmental and safety management is a risk management process. It involves identifying aspects of an organization's processes and products that could fail to satisfy requirements and then developing procedures, checks and monitoring systems to reduce the chances of failure.

Risk and opportunity are closely associated. Mine action organizations encounter opportunities to improve the services and products they offer, and to improve the extent to which they satisfy stakeholders' requirements. Principle of continual improvement helps mine action organizations respond to opportunities to improve at every level.

Risk is defined as 'the effect of uncertainty on objectives' (ISO Guide 73:2009). It is typically expressed through reference to the 'combination of the probability of occurrence of harm and the severity of that harm' (IMAS 04.10 and ISO Guide 51:1999). The primary means of reducing uncertainty, in any situation or circumstance, is the systematic collection and analysis of sufficient, relevant information.

2. Reference

IMAS 07.12 and ISO 9001:2015

3. Terms and Definitions

A mine action organization is "any organization (government, military, commercial or NGO/civil society) responsible for implementing mine action projects and conducting mine action activities.

Quality in Mine Action is 'the degree to which a mine action service, product or output fulfills requirements.

Quality management is "Management with regard to quality". Quality management can include establishing quality policies, quality objectives, and processes to achieve these quality objectives through quality planning, quality assurance, quality control and quality improvement." (ISO 9000:2015)

Quality Assurance is "part of quality management focused on providing confidence that quality requirements will be fulfilled" (ISO 9000:2015). QA is a confidence-building process, based on evidence, that the quality requirements are likely be met. QA encompasses all proactive processes and activity undertaken by an organization to increase confidence in the likelihood that requirements will be met.

Quality Control is "part of quality management focused on fulfilling quality requirements" (ISO9000:2015). QC addresses the question "did we get what we wanted?"

Competence is the “ability to apply knowledge and skills to achieve intended results” (ISO 9000:2015).

The term improvement is “activity to enhance performance”. (ISO 9000:2015)

Conformity is “fulfillment of a requirement”. (ISO 9000:2015)

The term "conformity" refers to fulfillment of a requirement, in terms of mine action; it refers to fulfillment of a mine action requirement that stated in standards and or other documents including terms of contracts, statement of work and MoU.

The term "Nonconformity" refers to non-fulfillment of a **requirement**.

The term "Observation" refers to a situation or performance that is felt to be a weakness in a process or procedure to improve upon, but not strong enough and have no reference to warrant nonconformity. An observation is not nonconformity at the time identified, but may become or give raise to nonconformance, if no action is taken.

The term "Verification" refers to confirmation, through the provision of **objective evidence**, that specified **requirements** have been fulfilled.

The term interested party refers to “a person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity” (ISO9000:2015). In mine action an interested party is often called a *stakeholder*. The term stakeholder is used in this standard.

The term "Product" refers to output of an organization that can be produced without any transaction taking place between the organization and the customer. Products of processes may consist of matter, information and/or energy. Mine action products include, but are not limited to:

- a) Information including all documentary products;
- b) Released land;
- c) Hardware including training aid materials, mechanical ancillaries, hazardous items models and artificial limbs as part of victim assistance.
- d) Qualified and competent people.

4. Principles of Quality Management (QM)

QM is based on seven principles which are closely interrelated to each other and shall be applied consistently across an organization's activities. QM principles that are important to the management of mine action quality are described below:

4.1. Customer Focus

Sustained success is achieved when a mine action organization understands, builds and retains the confidence of customers and interested parties. Every aspect of customers’ interaction provides an

opportunity to create more value for the beneficiaries, customers and stakeholders. Understanding current and future needs of customers and interested parties contributes to sustained success of mine action organizations.

In the context of mine action, the term 'customer' includes a range of organizations, groups and individuals that pay for, receive, use or have an interest in mine action products, outputs and outcomes. They include:

- a) Organizations, groups and individuals and their families that receive and use mine action services, products and outputs; including beneficiaries, land users and land owners, and local, regional and national governmental bodies.
- b) Entities responsible for the coordination, programming, oversight and management of mine action activities, projects and programmes; including NMAC and UNMAS.
- c) Organizations that pay for mine action services including donors, government ministries and commercial clients.

The aim of QM in mine action is to build the confidence of different customers, stakeholders and interested parties about the mine action services, products and outputs; through fulfillment and or exceeding their requirements. The actions that Mine Action Organization can take and implement to improve Customers' Focus include but not limited to:

- a) Identifying and taking into consideration the direct and indirect customers who receive value from the organization.
- b) Understanding customers' current and future needs and expectations, and plan, design, develop, produce and deliver products and services to meet customers' needs and expectations;
- c) Linking its objectives to customers' needs and expectations, and communicate those needs and expectations throughout the organization;
- d) Assessing and monitoring customers' satisfaction and taking appropriate actions;
- e) Determining and taking actions on relevant interested parties' needs and expectations that can enhance customers' satisfaction;
- f) Properly managing relationships with customers to achieve sustained success.

4.2. Leadership

Leaders at all levels establish unity of purpose and direction and create conditions in which people are engaged in achieving the quality objectives of the organization. Creation of unity of purpose, direction and engagement enable an organization to align its strategies, policies, processes and resources to achieve its objectives.

A mine action QMS only succeeds if there is a commitment to quality from the highest level of the

programme management, and within the mine action organizations. Mine action senior management and leaders formally communicate their focus on customers' needs and expectations through the Quality Policy, Quality Objectives, QMS documentation including the scope of quality, related operating procedures, and through continual improvement reviews.

4.3. Involvement of People

In addition to the top management commitment, effective QMS also requires involvement of people in all levels of mine action programme and organizations. People within mine action organizations are the essential assets; they are managing processes, implementing mine action projects through following standard procedures, and conducting activities to achieve the goals and objectives. Involvement of employees makes them able to understand their roles and responsibilities, and acquire the capacity, skills and knowledge necessary to fulfill their functions effectively and consistently. Recognition, empowerment, and improvement of skills and knowledge facilitate the engagement of people in achieving quality objectives of the mine action organizations.

The QMS makes use of the experience, knowledge and skills of the people who implement the system in identifying key processes, developing procedures and setting objectives. Involvement of people in the design, development, implementation and review of the QMS encourages a sense of collective ownership and helps maintain staff confidence in the suitability and value of the QM system.

4.3.1. Gender and Diversity

Gender and diversity consideration is one of the main requirements of the mine action sector. In order to provide more inclusive, effective, and efficient programming, the mine action sector should have sufficient inputs from gender and all diverse groups of its customers and stakeholders. A lack of gender and diversity awareness and capacity across the sector can compromise the quality of mine action services.

The gender and diversity consideration can help mine action organizations in their decision-making processes and programme development, so that the needs and expectations of gender and diverse groups of people are taken into account. This includes considering the priorities and needs of women, girls, boys, and men, their mobility patterns, different roles and responsibilities.

In addition to considering the needs and expectation of men, women, boys and girls within affected communities, mine action QMS also emphasizes on their involvement in different stages of the management of mine action operations including planning, prioritization, implementation, release and delivery of mine action services and during the impact assessment and evaluation after the release of mine action services. Gender and diversity consideration in mine action also covers employment opportunities for persons of all genders and diversity groups.

4.4. Process Approach

The process approach is based on recognition that, in order to have confidence in the quality of a product or output from a process, it is necessary to have confidence in the inputs and the series of activities within that process. The quality management system is composed of interrelated processes. Understanding how the results are produced by this system or interrelated processes,

resources, controls and interactions, allows the organization to optimize and continually improve its performance. As minimum the following actions can be taken by the mine action organizations:

- a) Define objectives of the processes that are necessary to be achieved;
- b) Establish and assign authority, responsibility and accountability for managing processes;
- c) Understand the organization's capabilities, determine and allocate resources to each process;
- d) Determine interactions between processes and analyze the effects of changes to individual process in the system.

When considering process approach as part of the QMS in mine action, the following are necessary:

- a) Assessment of suppliers, service providers and implementing partners; *Mine action accreditation is crucial and shall be considered.*
- b) Quality control of inputs to a process; test and trial of the mine action tools and equipment are important and shall be considered;
- c) Monitoring of mine action processes and activities;
- d) Quality control of outputs prior to release; including control of land release completion process; and
- e) Post release assessment and survey of mine action customers, which includes Post Demining Impact Assessment and other related assessments.

4.5. Improvement

The concept of continual improvement is at the center of effective QMS. It also reflects basic principles of professional commitment and an underlying desire to perform a proper and a right job. Improvement does not only relate to identifying existing problems within a system and applying required solutions, but also to identify opportunities and make use of them for further better steps to be taken in a continual basis. The driver behind continual improvement processes is the PDCA cycle (Plan Do Check Act). PDCA cycle occurs at every level and within every mine action activity continually. The most important for mine action organizations is to undertake periodic and systematic review planned and performed activities, identify areas for improvement and implement required actions.

All the suggestions, recommendations, feedbacks and observations about aspects of the management system that can bring improvement, should be accepted. The top management and leaders shall motivate, encourage and listen to those who identify areas for improvement; top management should also recognize the professionalism of the staff, and other stakeholders.

Improvement takes place every time when a PDCA cycle is closed, when the loop is left open mostly due to lack of follow up to ensure required action are taken, an opportunity to improve is missed and a shortcoming in the management system is left unaddressed. Mine action organizations shall ensure that those aspects that justify an active response are identified, captured within the system and appropriate actions are taken.

4.6. Evidence Based Decision Making

Using evidence to support decision-making is fundamental to QMS in mine action. The same principles apply to all mine action activities such as Survey and Land Release, Risk Education and Victim Assistance. Land Release, a process that collects data and evidence to support an iterative and dynamic process of decision-making based on which the land that is potentially hazardous, can be safely released.

SNMAS 05 series of Survey and Land Release require a constant focus on the collection and analysis of data and evidence to support valid and efficient land release decision-making. The concept of ‘all reasonable effort’ is based upon the use of evidence to show that further actions at a land release site are not reasonably and logically justified.

Whether mine action managers are deciding how best to target and deliver risk education, are identifying appropriate actions to reduce casualties, or are engaged in planning and implementing other mine action activities, they should be using available evidence to inform their decisions. Where there is no evidence, the managers shall take steps and seek to obtain them.

Monitoring of Mine Action Organizations focuses on the collection and analysis of evidence to support decision-making in relation to the performance of mine action organizations, and the continual improvement of mine action activities, processes and products.

Recording and utilization of data and evidence to support mine action decisions is not only a good practice in QMS. It also plays an important role in management of liability, by providing objective evidence to demonstrate compliance with related legislations, policies, standards and SOPs.

4.7. Relationship Management

Mine action involves people and organizations as customers, stakeholders and other interested parties¹. They influence the performance of an organization, and sustained success is more likely to be achieved when an organization manages relationships with its interested parties to optimize their impact on its performance. Relationship management with its suppliers and partners is often of particular importance especially to mine action sector. Quality is best managed when people and organizations communicate their expectations and requirements, and understand those expectations.

Relationships may be managed through formal means, such as contracts and agreements, and informally during normal working interactions. Stakeholders who have the opportunity to participate, at an appropriate level, in mine action planning, implementation, monitoring and decision-making, tend to be motivated and supportive in realization of the mine action goals.

¹ *Interested Parties: Person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity (ISO 9000:2015). In context of mine action the customers and different stakeholders can be counted as interested parties.*

5. Scope

This standard provides guidelines and requirements for establishing and implementation of a Quality Management System (QMS) in mine action in Sudan mine action programme. It is applicable to NMAC as mine action coordination and regulating body in Sudan, and all mine action organization accredited by NMAC. The decision, by NMAC to adopt and apply a QMS for the mine action programme of Sudan, does not remove from mine action organizations the responsibility and requirements to manage the quality of their own services and products. The internal QMS of mine action organizations shall be consistent with the QMS of the NMAC that is established and implemented. This standard should be used in conjunction with SNMAS 07.02 Accreditation, SNMAS 07.03 Monitoring and Quality Control.

6. Purpose

The overall aim of Quality Management System (QMS) in mine action is to provide confidence to the customers and beneficiaries, the mine action organizations, NMAC and UNMAS, donors, GoS and other stakeholders that the quality requirements have been met or exceeded, and that mine action activities and products are 'fit for purpose.

7. Context

NMAC with technical support of UNMAS, and mine action organizations working in Sudan under the auspice of NMAC, shall identify and assess internal and external contexts that are relevant to the Sudan strategic direction that may influence the activities, outputs and intended outcomes of mine action activities, products and services:

- a) The internal mine action context relates to the activities, resources, structure, values, culture, knowledge and performance of the mine action organization. This also includes the strategic directions of the Sudan National Mine Action Strategic Plan (NMASP).
- b) The external mine action context relates to political, economic, social, technical, environmental and legal aspects relevant to the mine action programme and organization at local, regional, national and international levels, including international convention's obligations that GoS has ratified.

Analysis of the mine action context should include an assessment of key trends of significance to the organization and the programme as a whole.

8. Needs and Expectations

The needs and expectations of customers, stakeholders and interested parties shall be identified, analyzed, assessed and appropriately reflected in the QMS; the mine action customers, stakeholders and interested parties included, but not limited to:

- a) The government of republic of Sudan;
- b) Ministry of Defense;
- c) Sudan National Mine Action Centre (NMAC);
- d) United Nations Mine Action Services (UNMAS) Sudan;

- e) United Nations Agencies working in Sudan;
- f) Donors of the Sudan mine action programme;
- g) Mine and ERW affected communities, and the beneficiaries of mine action services;
- h) Mine action organizations working in Sudan;
- i) Government ministries and agencies;
- j) International institutions, including Geneva International Centre for Humanitarian Demining (GICHD);
- k) Development and commercial investors;
- l) Mine and ERW victims;
- m) Local communities, society and the general public including men, women and children.

9. Scope of the QMS in Mine Action

The scope of the QMS in mine action shall be determined and documented in light of:

- a) The context of the mine action in Sudan, context of mine action organizations;
- b) The needs and expectations of customers, stakeholders and interested parties; and
- c) The products, services and outputs of the mine action organization.

In determining the scope of QMS, the leadership and senior management of NMAC and mine action organizations should take into account the need for connectivity between the QMS and Results Based Management (RBM) including intended results, outcomes and impacts arising from mine action activities and services. The scope of the NMAC and mine action organization QMS shall be documented, readily available and be maintained as documented information.

10. Mine Action Processes

The mine action organizations shall identify, define and document processes relevant to their operations. As a minimum the QMS shall include processes relating to:

- 1) Delivery of mine action products and services including:
 - a) Management of mine action operations;
 - b) Land release including non-technical and technical survey and clearance;
 - c) Monitoring of mine action activities and operations;
 - d) Quality control sampling of mine action products and services;
 - e) Risk education including development of related materials;
 - f) Victim assistance including its components.
- 2) Direct support to processes that deliver product and services including:
 - a) Planning and prioritization;
 - b) Recruitment, training and capacity development;
 - c) Procurement and equipment management;
 - d) Management of operations;
 - e) Information management;
 - f) Management reviews and improvement.
- 3) Other significant aspects of the organizations' operations, activities, outputs and objectives as determined by the mine action organizations.

Each process within the QMS shall be documented including:

- 1) An identifying title/reference for the process;
- 2) The inputs and outputs associated with the process;
- 3) Sequence of activities within the process and decision points;
- 4) Interaction between processes;
- 5) Associated effectiveness and efficiency performance indicators; and
- 6) Identification and assigning responsibility and authority for implementation of the process.

Each process should be documented as SOP and properly mapped for easy tracking and understanding.

11. Leadership and Commitment

Successful development, adoption, implementation and continual improvement of QMS are depending upon leadership and their continued commitment within the mine action organizations.

The leadership and senior management of mine action organizations shall:

- a) Establish, document and maintain a quality policy, and ensure that the policy is properly communicated within organization.
- b) Establish, document and maintain quality objectives;
- c) Monitor and review the progress and performance of the QMS and take action as necessary to ensure that quality objectives are achieved;
- d) Integrate the QMS into the organization's and program's wider strategic goals and objectives; and
- e) Ensure that adequate resources are available to maintain the QMS.

The senior management shall ensure that the organization is focused on identifying, understanding and satisfying the needs and expectations of customers, beneficiaries and the stakeholders.

11.1. Quality Policy

A mine action quality policy shall be established, documented and communicated by each mine action organization. The mine action quality policy shall:

- 1) Be appropriate to the purpose, functions and strategic objectives of the mine action organization and the programme;
- 2) Include a commitment to satisfying applicable requirements including:
 - a) Sudan National Mine Action Standards (SNMAS), which are in compliance with International Mine Action Standards (IMAS);
 - b) International Ammunition Technical Guidelines (IATGs), where applicable;
 - c) Anti-Personnel Mine Ban Convention obligations, signed and ratified by Sudan.
- 3) Include a commitment to the continual improvement of mine action processes, products and services, as well as the QMS; and
- 4) Provide a framework for setting quality objectives.

The policy shall be communicated to, and be understood by, all those with functions and responsibilities within the programme/organization's activities. The Quality Policy shall be made available to all stakeholders.

12. Planning of the QMS

When planning mine action QMS relevant authorities/managers shall take action to ensure that the QMS can achieve its intended results including:

- a) Preventing and reducing nonconformity; and
- b) Enhancing performance.

Planning of the QMS shall include:

- a) What will be done;
- b) What resources will be required;
- c) Who will be responsible;
- d) When the actions will be completed; and
- e) How the performance of the QMS will be monitored and evaluated.

When changes are made to the QMS, authorities/managers shall:

- a) Specify the purpose of the changes;
- b) Identify potential consequences of the changes;
- c) Ensure the continued integrity of the QMS;
- d) Ensure that adequate resources are available to implement the changes; and
- e) Communicate any changes to responsibilities and authorities.

12.1. Objective Setting

NMAC and mine action organizations shall specify relevant and achievable quality objectives, the objectives should be specified to functions and the division of responsibility in each section or functional unit, the following shall be considered:

- a) Relevant to the scope of the organization's mine action processes, products and services;
- b) Consistent with the organization's quality policy;
- c) Specific, Measurable, Achievable, Realistic and Time-bound;
- d) Monitored;
- e) Communicated; and
- f) Include relevant aspects of stakeholder satisfaction.

13. Mine Action Resources

Provision of adequate resources to perform functions is crucial in any mine action organization. The NMAC shall ensure that all mine action organizations have provided adequate resources to perform all including quality management functions that are necessary to maintain confidence in the safety, efficiency and effectiveness of mine action services and products, and satisfy the requirements of mine action customers and stakeholders.

13.1. People

NMAC with technical support of UNMAS, and mine action organizations shall:

- a) Determine the competence requirements of job functions affecting the performance of mine action processes and products;
- b) Confirm the competence of workers on the basis of appropriate education, training and/or experience;
- c) Where necessary, take action to ensure the competence of workers through recruitment, transfer or additional training;
- d) Monitor the effectiveness of training;
 - i. Retain appropriate records of training and competence.
- e) Mine action workers shall be made aware of:
 - i. The quality policy;
 - ii. Quality objectives relevant to their job functions;
 - iii. The significance of their roles and responsibilities in relation to the quality of mine action processes, services and products; and
 - iv. The quality and safety implications of not conforming to the QMS.

13.2. Equipment

NMAC with technical support of UNMAS, and also mine action organizations shall:

- a) Determine equipment requirements necessary to operate and deliver safe, efficient and effective mine action processes, products and services;
- b) Specify and communicate requirements to suppliers and implement procurement processes;
- c) Ensure that equipment are checked on receipt and tested, to confirm that they satisfy the requirements;
- d) Establish maintenance schedules in accordance with manufacturer's recommendations and as required by prevailing circumstances and conditions;
- e) Ensure that adequate training of equipment is undertaken to the operators;
- f) Implement operational controls and checks to confirm the continued suitability and functioning of equipment during the field operations, confirmation test of metal detectors shall be the routine during demining operations;
- g) Ensure that non-conforming equipment are marked and segregated to avoid their inadvertent use. Specific attention shall be paid to metal detectors and safety equipment;
- h) Ensure that appropriate repair or disposal action is carried out on non-conforming equipment; and
- i) Maintain and retain equipment documentation appropriate to the type, value and significance of the equipment.

13.3. Information

NMAC with technical support of UNMAS and consultation with mine action organizations shall:

- a) Determine information requirements necessary to deliver safe, efficient and effective mine action services;

- b) Ensure that necessary information is collected, reported, recorded, analyzed and disseminated by competent staff in accordance with requirements (standards, policies, SOPs, forms, templates).

It is the responsibility of NMAC to:

- c) Establish policies and procedures as required to ensure that mine action information is collected and accessed by mine action organizations and stakeholders;
- d) Manage mine action information in accordance with requirements of SNMAS10.01;
- e) Retain, secure, protect and back up mine action information;
- f) Ensure that mine action information is available to stakeholders in a timely form as per their requirements;
- g) Identify and respond to continual improvement opportunities relating to mine action information and its management; and
- h) Seek feedback from mine action information users to determine levels of satisfaction.

NMAC should determine and implement appropriate policies, procedures and practices in relation to mine action information that increase transparency and accountability and that make it easier for stakeholders to access information 'on demand' as well as 'on request'.

13.4. Infrastructure and Working Environment

NMAC shall ensure that working space, equipment, software and transport are suitable for safe and efficient mine action activities. Senior management shall also ensure that the mine action working environment is suitable for the safe, efficient and effective implementation of mine action processes. The working environment should be:

- a) Safe;
- b) Non-discriminatory and non-confrontational;
- c) Stress-reducing; and
- d) Comfortable.

The nature of mine action is such that work may take place under difficult conditions. Mine action senior managers in NMAC and mine action organizations shall, at all times, take all reasonable measures to satisfy the requirements of this standard with respect to working environment.

As a minimum NMAC and mine action organizations shall ensure that mine action operations comply with SNMAS 08 series (Mine Action Safety and Occupational Health). Under certain circumstances where there is reason to believe that working conditions may adversely influence the safety and quality of mine action processes and products; NMAC and mine action organizations should implement additional measures to address the situation, or suspend operations until more appropriate conditions prevail.

14. Mine action Operations

14.1. Requirements for Mine Action Products and Services

NMAC with technical support of UNMAS and mine action organizations working in Sudan shall determine the requirements for the mine action products and services within the scope of operations. In determining requirements the followings shall be considered:

- a) Sudan National Mine Action Standards;
- b) Accreditation requirements and agreements;
- c) APMBC requirements including its work-plan;
- d) Sudan National Mine Action Strategic Plan;
- e) Sudan national regulations and legislation;
- f) Contracts, Memorandum of Understanding and other relevant agreements;
- g) Annual operational work-plan, task orders and other operational direction; and
- h) Requests and preferences expressed by donors, beneficiaries and other stakeholders.

14.2. Planning of Mine Action Processes, Products and Services

Mine action operations shall be planned and controlled to a level necessary to satisfy the requirements and to maintain confidence amongst customers and stakeholders in the safety and quality of mine action processes, services and products. Mine action operational planning shall:

- a) Be based on up to date and relevant information;
- b) Reflect the requirements of agreed objectives;
- c) Be consistent with quality and other mine action policies, including land release policy;
- d) Define intended activities;
- e) Identify resources;
- f) Specify roles and responsibilities;
- g) Reflect gender and diversity considerations;
- h) Reflect environmental considerations;
- i) Set target milestone and completion dates;
- j) Describe how results will be monitored and evaluated; and
- k) Be documented.

Mine action organizations under the coordination of NMAC shall take effective actions to access and obtain information necessary for planning purposes. It is the responsibility of NMAC to take appropriate and effective actions to ensure that all information necessary for effective and efficient mine action planning is made available to relevant organizations.

14.3. Control of Mine Action Processes, Products and Services

NMAC shall ensure that mine action processes, products and services are in conformance with the requirements of SNMASs, plans and strategic objectives. Methods to check conformity include, but are not limited to:

- a) Accreditation of mine action organizations (in accordance with SNMAS 07.02);

- b) Assessment of accredited mine action organizations through questionnaires and or visits to their premises;
- c) Review of mine action organization's previous performance;
- d) Monitoring of mine action organization performance (in accordance with SNMAS07.03); and
- e) Inspection and sampling of mine action organizations released land (in accordance with SNMAS 07.03).

The level of checking shall be determined by NMAC based on:

- a) The safety and quality importance of the process, services or product being provided; and
- b) The effectiveness of the organizations' internal QMS.

The same level of conformity shall be ensured in relation to externally provided processes, services and products. Externally provided processes, services and products are those that:

- a) Will be incorporated into the organization's own mine action products and services, including marking materials, training aids, advocacy and communication materials and artificial limbs in case of VA activities;
- b) Are provided directly to beneficiaries on behalf of the mine action organization.

Mine action processes, services and products relating to the survey, demining searches, destruction of hazardous ordnance, management and handling of explosives shall be subject to accreditation by NMAC in accordance with the requirements of SNMAS 07.02. NMAC shall retain the documented information necessary to demonstrate conformity of externally provided processes, services and products.

14.4. Identification and Traceability of Mine Action Products and Processes

It is the responsibility of NMAC to ensure that mine action products and materials are identifiable and traceable to a level necessary to:

- a) Maintain stakeholders confidence in the safety and quality of mine action services and products;
- b) Identify nonconforming product;
- c) Support root cause analysis in the event of nonconformity;
- d) Allow operational analysis of the effectiveness and efficiency of mine action processes and products; and
- e) Support continual improvement of mine action processes, products and services.

The following mine action products and resources shall, as a minimum, be identifiable and traceable:

- a) Released land: properly documented, mapped and recorded;
- b) Survey and clearance teams, and the members of those teams: properly identified and traceable to tasks and sites;
- c) Survey and clearance equipment and assets including detectors, locators, mine detection dogs, mechanical demining machinery: properly identified, documented and recorded and traceable to tasks and sites;

- d) Explosive ordnance discovered, destroyed, transported, managed: properly identified by type and quantity and located in accordance with requirements of SNMAS 10.01;
- e) Prosthetic devices provided to mine/ERW victims: properly identified, documented and recorded, and traceable to users.

Additional or more detailed identification and traceability procedures should be implemented where stakeholders' requirements justify that.

14.5. Process Controls

NMAC shall ensure that appropriate controls are applied to mine action processes to ensure their conformity to requirements, including:

- 1) Human resource: Check and control to confirm the competencies of staff, their fitness for the job and availability in adequate numbers;
- 2) Equipment maintenance: Check and control to confirm required level of performance of equipment, this includes:
 - a) Test, trial and acceptance/accreditation;
 - b) Completeness;
 - c) Serviceability;
 - d) Tested prior to, during and after the use, there shall be proper confirmation test of detectors;
- 3) Documentation: Check and control to ensure procedures, work instructions and forms are available on site and are at the current issue level (last versions); and
- 4) Measurement: Check and control to ensure effectiveness and efficiency performance indicators, deadlines and targets are established and understood on site.

Process controls shall, in the first instance, be applied by mine action organizations in relation to their own processes using appropriate supervisory and internal monitoring functions.

Additional monitoring of process performance should be conducted by NMAC in accordance with SNMAS 07.03.

14.6. Release of Product and Services

It is the responsibility of NMAC to ensure and implement procedures to verify that mine action quality requirements have been met before mine action services and products are released to recipients, and shall retain documented information on the release of mine action services and products including evidence of conformity to stated requirements. The documented information shall be traceable to:

- a) The organization delivering mine action service and product;
- b) The organization conducting quality assurance and quality control of mine action services and products; and
- c) The responsible person authorizing the release of mine action services and products.

Specific requirements relating to release of land are detailed in SNMAS 05.01.

14.7. Control of Nonconforming Mine Action Products and Services

In case of any doubt about the conformity of mine action service and or product; NMAC shall ensure that such product or service is not released. NMAC and mine action organizations shall ensure that Nonconforming product and service are identified and their unintentional release is prevented.

In the event that mine action service or product is found or suspected to be nonconforming to the stated requirements, NMAC shall ensure that required and appropriate actions are taken in accordance with SNMAS 07.03. Reflecting the nature of the nonconformity, its importance for customers and stakeholders' confidence and safety, and its implications within the QMS, the following actions shall be taken:

- a) Segregate and mark nonconforming service and product to ensure it is not inadvertently released;
- b) Correct the nonconforming service and product;
- c) Ensure prevention of recurrence of the similar nonconformance in the future;
- d) Inform the customers and stakeholders about the issue, not use the service and product before correction.

14.8. Activities Required after the Delivery of Mine Action Services and Products

NMAC should ensure that the following activities are undertaken after the delivery of mine action services and products:

- a) Assessment of meeting the quality requirements and satisfaction of customers and stakeholders;
- b) Assessment of any undesirable or adverse consequences after land release; and
- c) Review and analysis of mine action organizations' performance to support continual improvement processes.

Customers and stakeholders' feedback shall be obtained as part of the assessment process of mine action services and products after being released and used. There should be long term monitoring of mine action services and products after the delivery to the customers and beneficiaries, to assess and evaluate their impact. Such monitoring can be carried out through:

- a) Analysis of data recorded in IMSMA;
- b) Analysis of data from information management systems external to IMSMA, such as national health systems (HMIS);
- c) Through proactive surveys and data collection of the localities and states where mine action services and products have previously been released to customers. This will also help and provide valuable data to Sudan mine action programme on management of residual risk.

15. Communication and Participation

Communication is one of the important aspects of mine action and shall be considered by all mine action organizations working in Sudan. Communication enhances participation of staff, beneficiaries,

UNMAS, donors, government authorities and other stakeholders including state parties to APMBC, communication of information is necessary:

- a) To provide information relating to mine action products and services;
- b) To ensure awareness and understanding necessary for proficient mine action;
- c) When planning and reviewing the QMS;
- d) As required by conventions;
- e) As required by standards, SOPs, agreements and contracts;
- f) When handling enquiries, contracts, tasking including changes; and
- g) In order to obtain and responding to customers and stakeholders' feedback.

It is important to consider customers and stakeholders' requirements of mine action information. The form, contents and frequency of communication shall be determined on the basis of each stakeholder's requirements and relationship with NMAC, UNMAS and mine action organizations. NMAC with technical support of UNMAS shall gather directly and through mine action organizations and share relevant information, expertise and resources with mine action stakeholders. Transparency and accountability shall always be considered in information sharing in order to ensure compliance with any legal and policy limitations. Mine action planning, implementation and monitoring shall include participation of relevant staff and stakeholders.

NMAC shall ensure that all mine action organizations have collaborative relationships within the sector, service providers and stakeholders. The improvements and achievements made by mine action organizations and stakeholders should be recognized.

16. Documentation

The mine action QMS shall be documented in accordance with this standard and shall include additional documentation as necessary for the safe, efficient and effective implementation of mine action processes and delivery of mine action services and products. In determining the level of documentation, the following shall be taken into account:

- a) The size of the mine action organization;
- b) The scope of quality and quality policy and objectives;
- c) The processes carried out and their complexity;
- d) The complexity of interactions between the processes within the organization and with external stakeholders; and
- e) The competencies of the staff.

As minimum, the mine action QMS documentation shall include:

- a) Scope of Quality;
- b) Quality policy;
- c) Quality objectives;
- d) Internal audit and management review outputs and results;
- e) Standard Operating Procedures appropriate to the scope of the organization's activities;
- f) Quality, safety and environmental management procedures, as part of the SOPs;

- g) Operational records and documented evidence, as required by Sudan SNMASs and accredited SOPs;
- h) Records or documented evidence of customers and stakeholders' feedback;
- i) Other documented evidence or records required to satisfy stakeholders' requirements.

Mine action documentation required by QMS, shall be:

- a) Uniquely identified and described including issue and revision date;
- b) Appropriately formatted including language, template and medium; and
- c) Reviewed and approved by an appropriate authority within organization.

NMAC and mine action organizations' top management shall ensure that:

- a) Mine action documentation is available for use when and where it is needed;
- b) All the documentation including those externally provided are kept up to date;
- c) Changes to documents are controlled to ensure that only the current version is in use; and
- d) Mine action documentation is appropriately protected, stored and preserved.

The purpose of mine action documentation is to communicate information. When assessing the quality of mine action documentation ensuring its fitness for purpose, NMAC and mine action organizations' top management should take into account:

- a) Clarity of documentation, and the appropriate language;
- b) Completeness;
- c) Conciseness, to ensure avoiding unnecessary materials.

Mine action documentation shall be retained for a period consistent with:

- a) Applicable legislation;
- b) Sudan National Mine Action Standards;
- c) Donor, customer and other relevant stakeholders' requirements.

Documentation relating to the release of land including cancelled, reduced and cleared, is of particular importance and should be subject to formal long-term archiving in IMSMA and as hard copies in NMAC archive.

17. Performance

17.1. Monitoring, Analysis and Evaluation

Monitoring of mine action activities and performance is a critical function in any QMS. NMAC with technical support of UNMAS, and in consultation with mine action organizations shall determine and document as SNMASs requirements:

- a) What needs to be monitored and measured;
- b) Methods for monitoring, measurement, analysis and assessment;
- c) When monitoring of mine action processes, services and products shall be performed;
- d) How and when results from mine action monitoring will be analyzed.

Monitoring in a mine action QMS should be carried out in accordance with the requirements of SNMAS 07.03. The results of monitoring shall be used to assess:

- a) The extent to which mine action services and products meet requirements;
- b) The degree of customers and stakeholders' satisfaction;
- c) The performance of the QMS both NMAC's and organizational internal QMS;
- d) The effectiveness of planning, prioritization and tasking processes;
- e) The effectiveness of risk management process and functions; and
- f) The performance of externally supported processes, (if applicable).

Evaluation of mine action interventions should be carried out in regular basis and the results of evaluations should be considered during management reviews of the QMS.

17.2. Quality Audit

A quality audit is crucial in ensuring appropriate QMS, similar to monitoring activity, but it implies a degree of formality that may be less evident during routine monitoring activities. NMAC with technical support of UNAMS, and mine action organizations should implement a process of internal audits of the QMS based on a documented procedure to assess the compliance of QMS with this standard. NMAC, donors and funding bodies may require additional programme of external audits on mine action organizations.

18. Improvement

There is always possibility of arising opportunities to improve the performance and could be identified by any staff member. NMAC and mine action organizations should implement measures to encourage staff members, managers and stakeholders to identify and report actual and potential issues and nonconformance for improvement purpose. This will help in identifying areas for improvement, in-depth analysis and selection of appropriate and suitable course of actions, to be implemented for continual improvement.

NMAC and mine action organizations shall establish processes to identify, analyze, assess and take action on opportunities for continual improvement to the QMS and to mine action processes, services and products. Improvement through corrective and preventive actions, and reducing the chance of occurrence of nonconformities and other undesirable events shall be managed in accordance with the requirements of SNMAS 07.03.

18.1. Management Review

Regular management reviews should be undertaken by the senior management of NMAC and mine action organizations, to ensure the continued effectiveness, suitability and alignment of the QMS with the strategic objectives and goals of the Sudan mine action programme.

Management reviews should be conducted at least six-monthly, in light of the findings of internal audits, monitoring and evaluation results, and other prevailing circumstances and conditions. It is important to consider the following aspects when conducting management reviews:

- 1) The status of actions arising from previous reviews;
- 2) Changes in the mine action context relevant to the QMS;
- 3) Performance of the QMS including:
 - a) Stakeholders' satisfaction;
 - b) Extent to which quality objectives have been met;
 - c) Performance of processes, products and services;
 - d) Nonconformities and corrective, preventive actions;
 - e) Monitoring, measurement, audit and evaluation results;
- 4) Performance of resources; and
- 5) Opportunities for improvement.

Management reviews shall include decisions and actions related to:

- a) Opportunities for improvement;
- b) Changes to the QMS; and
- c) Resource needs, suitability and competence.

The decision on improvement actions outlined in management reviews, shall clearly state:

- a) What action will be taken;
- b) Who will be responsible;
- c) When actions will be completed;
- d) How to check the effective implementation of actions.

The results of management reviews shall be documented and communicated to all staff and related stakeholders.

19. Responsibilities

19.1. National Mine Action Centre (NMAC)

NMAC with technical support of UNMAS shall:

- a) Establish, communicate and maintain a quality policy;
- b) Specify the national standards and provide guidelines for the quality management of mine action organizations and activities;
- c) Establish a quality monitoring section to conduct monitoring of mine action activities in accordance with the requirements of SNMAS 07.03;
- d) Review the quality performance of mine action programme regularly on six-monthly basis;
- e) Ensure appropriate follow-up actions are taken in light of the recommendations the quality management reviews.
- f) Establish and maintain an effective and documented QMS;
- g) Establish a quality policy appropriate to the scope of its own activities and consistent with program direction;
- h) Establish quality objectives in line with its own quality policy;
- i) Monitor mine action organizations, including sub-units, in accordance with NTS 07.03;

19.2. Mine Action Organizations

Mine action organizations shall:

- a) Establish and maintain an effective and documented QMS;
- b) Establish a quality policy appropriate to the scope of the organization's own activities and consistent with NMAC quality policy;
- c) Establish quality objectives in line with the organization's quality policy;
- d) Apply management practices, and quality management and operational procedures which lead to mine action activities that meet or exceed Sudan SNMASs requirements and the requirements specified in the contract;
- e) Maintain and ensure the accuracy and validity of information and make all documentation including SOPs, reports, records and other data on their activities available to stakeholders.

Those organizations contracting or funding mine action operations should as also specify and agree on their requirements relating to mine action services, products and outputs, to mine action organizations, through contracts, MoUs or other specific templates.