REVOLUTIONARY GOVERNMENT OF ZANZIBAR
MINISTRY OF INFRASTRUCTURE, COMMUNICATIONS AND TRANSPORTATION

ZANZIBAR MARITIME SEARCH AND RESCUE PLAN

(SAR)

FOR THE IMPLEMENTATION OF IMO INSTRUMENTS

ZANZIBAR MARITIME SEARCH AND RESCUE

Figure 1: Shows the Zanzibar Maritime Search and Rescue Area

APPROVAL OF THE PLAN

The Zanzibar Search and Rescue Maritime Plan are approved by:

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FOREWORD

Zanzibar Search and Rescue Plan is designed to assist the Government agencies, authorities and organizations in planning and preparedness for Search and Rescue (SAR) incidents which may occur within the territorial jurisdiction of Zanzibar and its adjacent areas. It has been developed with the objective of ensuring the closest practical coordination between the Aeronautical and Maritime Authorities to provide for the most efficient and effective search and rescue services, bearing in mind that Zanzibar as part of the United Republic of Tanzania is obliged to provide its part of responsibility towards search and rescue services to aircraft and vessels that may be in distress.

The plan contains SAR policy statement, objectives, system organization, planning and operation, training and exercises. It also provides areas of collaboration between aeronautical, maritime authorities, public and private SAR resources.

This plan is not intended to be used just as a checklist, or as a document to be thrown on the shelf and consulted only when a SAR emergency actually occurs, but it is primarily intended to be a guide for those authorities, agencies and volunteers within Zanzibar's territorial jurisdiction and adjacent areas, who have some degree of SAR responsibility. The best written plans are of no value if they are not used. This SAR Plan shall be used both as an operational document and as a guidance document.

Maritime Search and Rescue (SAR) contains the search for and provision of services to persons who are, or are believed to be, in imminent danger of loss of life at sea. The two operations – search and rescue – may take many forms, depending on whether they are both required or not, on the size and difficulty of the operation and on the available staff and facilities. Maritime SAR does not include salvage or the saving of property except where the action is indivisible from that of safeguarding life.

In the compilation of this plan, care has been taken to ensure accuracy and completeness of information contained herein. Any errors or omissions which may be noted should be referred to:

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ABBREVIATION AND ACRONYMS

AIS	Automatic Identification System
AG	Attorney General
ATS	Air Traffic Services
ACO	Air Craft Operators
CSS	Coordinator Surface Search
DDMC	District Disaster Management Committee
DSC	Digital Selective Calling
ELT	Emergency Locator Transmitter
EPIRB	Emergency Position Indicating Radio Beacon
ETA	Estimate Time of Arrival
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System
GIS	Geographic Information System
GPS	Global Positioning System
HF	High Frequency

IAMSAR	International Aeronautical and Maritime Search and Rescue Manual
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
JKU	Jeshi la Kujenga Uchumi
KHz	Kilohertz
KMKM	Kikosi Maalum cha Kuzuwia Magendo
KVZ	Kikosi cha Valantia Zanzibar
KZU	Kikosi cha Zimamoto na Uokozi
LUT	Local User Terminal
LRIT	Long- Range Identification & Tracking of Ships
MCC	Mission Control Centre
MoU	Memorandum of Understanding
MRCC	Maritime Rescue Coordination Centre
MSI	Maritime Safety Information
NBDP	Narrow-Band Direct Printing
NS	National Security
OSC	On- Scene Commander

PCC	Port Control Centre
RCC	Rescue Coordinating Committee
RC	Regional Commissioner
SART	Search and Rescue Transponder
SES	Ship Earth Station
SOLAS	Safety of Life at Sea
SAR	Search and Rescue
SRU	Search and Rescue Unit.
SURPIC	Surface Picture of an Area of the Ocean
SSAS	Ship System Alert System
SMC	Search and Rescue Mission Coordinator
SVPO	Second Vice President's Office
TASAC	Tanzania Shipping Agency Cooperation
TCAA	Tanzania Civil Aviation Authority
TISD	Tanzania Immigration Services Department
TMA	Tanzania Meteorological Authority
TPDF	Tanzania People's Defense Force

TPF	Tanzania Police Force
VHF	Very High Frequency
ZAA	Zanzibar Airport Authority
ZDMC	Zanzibar Disaster Management Commission
ZEMA	Zanzibar Environmental Management Authority
ZMA	Zanzibar Maritime Authority
ZPC	Zanzibar Ports Corporation
ZURA	Zanzibar Utilities Regulatory Authority

GLOSSARY

Aircraft Coordinator (ACO):	A person who coordinates the involvement of multiple aircraft in SAR operations.
Alert Phase:	A situation wherein apprehension exists as to the safety of an aircraft or marine vessel, and of the persons on board.
Automatic Identification System (AIS):	A system used by ships and vessel traffic services (VTS), principally for identifying and locating vessels.
Automatic Identification System – SAR transmitter (AIS–SART):	A survival craft transmitter that sends out an AIS position report based on a built-in GNSS receiver.
Captain:	Master of a ship or pilot in command of an aircraft, commanding officer of a warship or an operator of any other vessel.
Cospas–Sarsat System:	A satellite system designed to detect and locate activated distress beacons transmitting in the frequency band of 406.0–406.1 MHz.
Craft:	Any air or sea-surface vehicle, or a submersible vessel of any kind or size.
Datum:	A geographic point, line, or area used as a reference in search planning.
Distress alerting:	The reporting of a distress incident to a unit which can provide or coordinate assistance.

Distress phase:	A situation wherein there is reasonable certainty that a vessel or other craft, including an aircraft or a person, is threatened by grave and imminent danger and requires immediate assistance.
Ditching:	The forced landing of an aircraft on water.
Drift:	The movement of a search object caused by environmental forces.
Emergency locator transmitter (ELT):	A generic term (related to aircraft) describing equipment which broadcast distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated.
Emergency position-indicating radio beacon (EPIRB):	A device, usually carried on board maritime craft that transmits a distress signal that alerts search and rescue authorities and enables rescue units to locate the scene of the distress.
General communications:	Operational and public correspondence traffic other than distress.
Global Maritime Distress and Safety System (GMDSS):	A global communications service based upon automated systems, both satellite-based and terrestrial, to provide distress alerting and promulgation of maritime safety information for mariners.
Global Navigation Satellite System (GNSS):	World-wide position and time determination system that includes one or more satellite constellations and receivers.

Inmarsat:	A system of geostationary satellites for world-wide mobile communications services, and which support the Global Maritime Distress and Safety System and other emergency communications systems.
Maritime Incident:	Means an incident which originates from a vessel or craft and happens at sea, near coast, ports or harbors or inland waters which involves lives, environment and property.
Ministry Responsible for Transport:	Means Ministries responsible for Aviation and Maritime Transport in Zanzibar.
Maritime Safety Information (MSI):	Navigational and meteorological warnings and forecasts and other urgent safety related messages broadcast to ships, as defined in regulation IV/2 of the 1974 SOLAS Convention
On-scene:	The search area or the actual distress site.
On-scene coordinator/commander (OSC):	A person designated to co-ordinate search and rescue operations within a specified area.
Planning stage:	A period during a SAR incident when an effective plan of operations is developed.
Rescue:	An operation to retrieve persons in distress, provide for their initial medical or other needs and deliver them to a place of safety.
Rescue co-ordination center (RCC):	A unit responsible for promoting efficient organization of search and rescue (RCC) services and for coordinating the conduct of search and rescue operations within a search and rescue region.

Scenario:	A consistent set of known facts and assumptions describing what may have happened to the survivors.
Sea:	Condition of the surface resulting from waves and swells
Search:	An operation, normally coordinated by a rescue co-ordination centre or rescue sub-centre, using available personnel and facilities to locate persons in distress.
Search and Rescue (SAR):	The use of available resources to assist persons and property in potential or actual distress
Search and Rescue Coordinator (SC):	One or more persons, or Agencies within an administration with overall responsibilities for establishing and providing SAR services and ensuring that planning of those services is properly coordinated.
Search and Rescue Mission Coordinator (SMC):	The official temporarily assigned to coordinate response to an actual or apparent distress situation.
Search and Rescue Region (SRR):	A defined area in which SAR services are provided and coordinated by a single RCC.
Search and Rescue unit (SRU):	A unit composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue operations.
Situation report (SITREP):	Reports, from the OSC to the SMC or the SMC to interested agencies, to keep them informed of on-scene conditions and mission progress.
Vessel:	A maritime craft.

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POLICY

It is the policy of the Revolutionary Government of Zanzibar to provide a national Aeronautical and Maritime Search and Rescue plan (Herein referred to as the Plan) for coordinating civil search and rescue (SAR) to meet domestic needs and international commitments. The saving of lives and their properties recognizes no boundary and should receive the highest priority. As a caring nation and society, the people of Zanzibar, led by the Revolutionary Government of Zanzibar, shall utilize every available resource towards the saving and preservation of life, environment and property. Therefore, the Government shall endeavor to provide SAR services to any person, craft, and ship at any place and at all times regardless of nationality and race.

The United Republic of Tanzania recognizes the importance of having Bi-lateral and Multi-lateral Agreements between States to enable the orderly execution of Aeronautical and Maritime SAR missions. These Agreements include Multilateral Agreement between the State and other States following the 2000 IMO Florence conference on the maritime search and rescue, and the Global Maritime Distress and Safety Systems (GMDSS), and 2001 Tripartite aeronautical Agreements concerning the inter-State use of SAR facilities.

Zanzibar as part of the United Republic of Tanzania ought to implement international conventions through Tanzania's obligations which is a Member State of the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO), by implementing all policies, guidelines and conventions in order to maintain the safety of the people and their properties.

The Aeronautical SAR policy is derived from the Convention on the International Civil Aviation, (Chicago Convention of 1944) and Annex 12 to the Convention. The Maritime SAR policy is from the Convention on law of the sea (UNCLOS 1982), the Convention of Safety of Life at Sea (SOLAS) 1974 as amended, and the Maritime Search and Rescue Convention (1979).

The Revolutionary Government of Zanzibar takes extra effort to provide sustainable maritime SAR services through budgetary support and by building and developing capacity in terms of human and equipment resources to accomplish the maritime and Aeronautical SAR obligations and commitment through training and exercises for different institutions serving the search and rescue services.

Foreign vessels or aircraft when in need to provide maritime SAR services in Zanzibar territorial waters shall ask the consent from the Minister responsible for Transport.

In General this plan is intended to provide coordination setup and guidance on how Search and Rescue Committees and Units can be organized successfully in SAR activities.

OBJECTIVES

Objectives of this search and rescue plan are:-

a) To provide the overall Plan for coordination of Maritime SAR operations, effective use of all available resources, mutual assistance, and efforts to improve search and rescue operation and other services.

b) To support lifesaving through provisions of the International Convention on Maritime Search and Rescue, SOLAS Convention and IAMSAR Manuals volume I-III.

c) To cooperate with Tanzania Mainland for Search and rescue operations (SAR) through ZMA and TASAC;

d) To integrate available SAR resources into a coordinated network for effective means of saving life and property.

e) To provide overall framework for the ability to account for all SAR maritime operations including provision of initial assistance to survivors (food, clothing medical etc.) and delivering them to a safe place

CHAPTER ONE

1.1 SYSTEM ORGANIZATION

1.1.1 Global SAR System.

The International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) coordinate SAR activities through either a regional or global basis and upgrade the member States' efforts to provide search and rescue (SAR) services.

The major reason of IMO and ICAO's support systems is to ensure that all countries have efficient, effective and a useful SAR system worldwide, so that wherever people may be at risk or in danger, in the air or at sea domains, SAR services, as mentioned in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, will be available at any time needed. The overall approach that a member State takes in establishing, providing and improving SAR services is affected by those efforts which form an integral part of a global SAR system.

Search and Rescue (SAR) services are defined as the performance of responding to and taking action in distress monitoring, communication, coordination and search and rescue functions, including provision of medical advice, initial medical assistance, or medical evacuation, through the use of public and private resources, including cooperating vessels, aircraft and other relevant craft and installations.

In the situation of giving assistance to persons in distress and to survivors of SAR incidents, IMO and ICAO member States are required to do so regardless of the nationality or status of such a person or the circumstances in which that person is found.

1.1.2 Regional SAR system

Zanzibar takes the responsibility for coordinating maritime SAR services with the support of the regional Maritime Rescue Coordination Centre (MRCC) through Tanzania Mainland, Kenya and Seychelles in accordance with the Agreement between the Governments of the aforementioned nations.

1.1.3 National SAR System

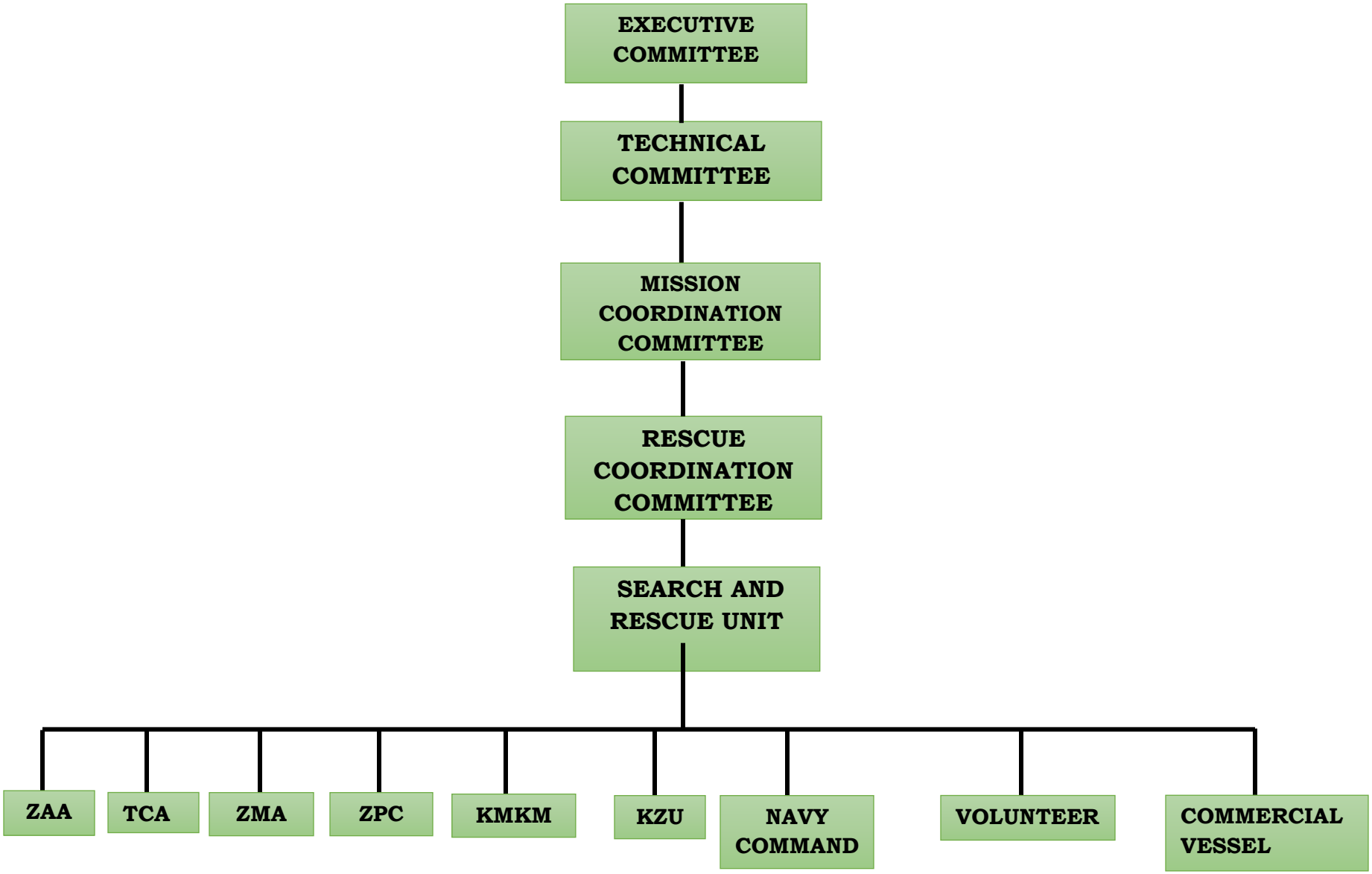
United Republic of Tanzania plays a major role in implementing the Safety of Life at Sea (SOLAS) convention. Hence Zanzibar being part of the United Republic of Tanzania has her role in implementing the convention (The international conventions on Marine Search and Rescue, Safety of life at Sea and International Civil Aviation), and has accepted the obligation to provide aeronautical and maritime SAR co-ordination and services within our territorial waters as prescribed.

The Ministry responsible for Transport has the overall task of being a designated authority for maritime SAR's administrative services and functions in Zanzibar, while the coordination of Maritime SAR services in Zanzibar are performed by the Zanzibar Maritime Authority as Maritime Rescue Sub Centre (MRSC).

1.2 ORGANIZATION AND MANAGEMENT

The national management of SAR operates functions of Aeronautical and Maritime services which are exercised by the Minister responsible for Transport through designated management SAR Committees, namely the Executive Committee, Administrative Committee, Mission Coordinating Committee (MCC), Rescue Coordinating Committee (RCC) and Search and Rescue Units (SRU).

Figure 2: SAR ORGANIZATION COMMITTEES



1.2.1 EXECUTIVE COMMITTEE

The SAR Executive Committee (SAR EC) is responsible for advising and reporting the SAR issues to the President of Zanzibar. The composition of the Executive Committee is as follows:

Chairperson of the Committee is the Second Vice President of Zanzibar who also chairs the Zanzibar's Disaster Management Commission. The Minister of State, Second Vice – President's Office shall be the Vice Chairperson and the Secretary of the committee shall be the Principal Secretary of the ministry responsible for coordinating disaster risk reduction and management.

Other members of the Committee include:

i. All Ministers of the Revolutionary Government of Zanzibar;

ii. Attorney General (AG);

iii. Secretary of the Revolutionary Council and Chief Secretary;

iv. Regional Commissioners of Zanzibar;

v. Brigade Commander of Tanzania People's Defense Forces, Zanzibar;

vi. Commissioner of Police, Zanzibar;

vii. Deputy Director General of National Security, Zanzibar;

viii. Commodore of Kikosi Maalum cha Kuzia Magendo (KMKM)

ix. Commissioner of Fire and Rescue, Zanzibar;

x. Commissioner of Department of Educational Centre (Chuo cha Mafunzo); and

xi. Chief of Kikosi of Valantia.

Role of the Executive Committee:

The Executive Committee is required to perform the following roles:

a. To receive and discuss the Administrative Committee's Report;

b. Determining necessary architecture of policy, legislative, planning, administrative and guidance framework required to achieve an efficient Aeronautical and Maritime SAR organizational and functional capabilities;

c. Coordinating the efforts of the relevant Ministries, Departments, in particular: Finance, Transport, Environment, Natural Resources, Health, Occupational Safety, LGA, Special Departments, Home Affairs, Defence, Attorney General's Office, Tanzania Meteorological Agency, Tanzania Civil Aviation Authority, etc. in preparing for and responding to SAR services;

d. To establish a special committee for a thorough incident's investigation; and

e. To request for SAR assistance from our regional area.

1.2.2 TECHNICAL COMMITTEE

The Administrative Committee shall be responsible for advising and recommending to the Executive Committee any matter related to policy, legislative, planning, or any other administrative implications, as well as to deal with day-to-day administrative matters that need to be sanctioned by the Executive Committee.

The composition of the Administrative committee is as follows:

The Chairperson of the Committee shall be Principal Secretary of the ministry responsible for coordinating disaster risk reduction and management. The vice chairperson of this committee shall be the Principle Secretary of the ministry responsible for Transport and the secretary of the committee shall be Executive Director of the Zanzibar Disaster Management Commission.

Other members of the Committee shall be:

a. Principal Secretaries of the Revolutionary Government of Zanzibar;
b. Deputy Attorney General;
c. Executive Secretary, Zanzibar Planning Commission
d. Chief Administrative Officer of Tanzania Police Force, Zanzibar;
e. Chief Administrative Officer of Tanzania People's Force, Brigade of Zanzibar;
f. Chief Administrative Officer of Fire and Rescue Department;
g. Chief Administrative Officer of Directorate of National Security, Zanzibar;
h. Chief Administrative Officer of Kikosi Maalum cha Kuzuia Magendo (KMKM);
i. Executive Secretary of Zanzibar National Chamber of Commerce, Industry and Agriculture;

j. Reginal Administrative Secretaries, Zanzibar
k. Chief Administrative Officer of Kikosi cha Valantia;
l. Chief Administrative Officer of JKU
m. Chief Administrative Officer Educational Centre (Chuo cha Mafunzo); and
n. Deputy Director Meteorological Authority

Role of Technical Committee:

The Administrative Committee shall perform the following roles

a. To support the Mission Coordination Committee (MCC) in terms of resources and logistics;
b. To review and evaluate plans according to the standards of IAMSAR VOL II;
c. To promote SAR system effectiveness and commitment to SAR objectives;
d. To co-ordinate plans and procedures with other organizations that support, participate in or provide resources for maritime SAR operations;
e. To ensure maritime SAR policies, plans and other SAR directives are maintained;
f. To promote safety programs so as to decrease distress incidents;
g. Oversee the SAR operations.

1.2.3 MISSION COORDINATION COMMITTEE (MCC)

Mission Coordination Committee shall be the guardian and champion of maritime SAR services in Zanzibar. It has the overall task for planning, establishing, organizing, staffing, equipping and managing the maritime SAR system during the operations.

The composition of the Mission Coordination Committee is as follows:

The Chairperson of the MCC shall be the Director General of Zanzibar Maritime Authority and the secretary shall be the head of the Operation and Humanitarian Section from ZDMC.

Other members shall be Directors and Officer from the following institutions:

i. ZURA
ii. TMA
iii. ZMA
iv. ZPC
v. ZAA

vi. TCAA
vii. ZDMC
viii. Tanzania Immigration Services Department
ix. REFERRAL HOSPITAL
x. AG
xi. One Representative from Oil Market Company
xii. Operation commanders from SRU

1.2.4 RESCUE COORDINATING COMMITTEE

Rescue Coordinating Committee shall be responsible for coordinating between Mission Coordinating Committee and On-Scene Commander.
The Rescue Coordinating Committee will be composed of the following institutions:

i. ZMA
ii. KMKM
iii. TPDF
iv. ZPC
v. DMC

1.2.5 SEARCH AND RESCUE UNIT

The main responsibility of this unit is to search and rescue all the victims of an incident, along with their properties during a distress call. This unit will include several experts and professionals from different institutions.

Members shall include the following institutions:

i. ZMA
ii. KMKM
iii. KZU
iv. TPDF
v. ZPC
vi. JKU
vii. ZDMC
viii. TPF - (Police Marine Unit)
ix. TISD
x. TCAA
xi. Referral Hospitals
xii. Red Cross
xiii. Commercial Vessel / Commercial Aircraft
xiv. Volunteers

Generally this unit shall be responsible for:

a. Ensuring that SAR operations are conducted in accordance with prescribed standards and recommended practices as reflected in this Plan, and as considered in the norms and terms of International Conventions;
b. Reviewing past maritime SAR cases with a view of improving the SAR system;
c. Assessing emerging technologies and other environmental changes and advise the MCC accordingly;
d. Ensuring that the limited search and rescue resources are used in the most economic, efficient and effective way;

In addition, the SRU may, at its discretion, not only invite other persons to form part of its membership or attend its meetings, but also establish sub-ordinate working groups as may be deemed necessary.

CHAPTER TWO

2.1 TRAINING AND EXERCISES

The importance of thorough training for all personnel employed in maritime SAR missions must be emphasized. Failure of a single link in the maritime SAR coordinating Units can trigger a complex chain of reaction within the SAR missions, and can potentially reduce the success of the operations, resulting in loss of lives including those of SAR personnel, lives of those who might otherwise have been saved and/or loss of valuable resources that might have been recovered. Standard operating procedures and protocols must be strictly understood and practiced.

The rationale of training is to meet SAR system objectives by developing SAR specialists. Since considerable experience and good judgment are needed to handle SAR situations, necessary skills require significant time to master. Training can be expensive but contributes to operational effectiveness.

2.1.1 TRAINING

The primary function of SAR system is to save those who are in distress under all possible, safe and acceptable means. Therefore, training plays a major role of reducing risks on SAR's own valuable personnel and resources. Training of personnel makes sound risk assessment to ensure that these trained professionals and valuable resources remain available for future operations.

Regular training and sharing of information relating to maritime SAR is promoted by ZMA through SAR Administrative Committee. Standardization of the prosecution of maritime SAR operations is encouraged.

2.1.2 Requirements for Training.

Training of maritime SAR personnel should focus on both the practical and theoretical application of maritime SAR system and may include the following:

a. A study of SAR procedures, techniques and equipment through lectures, demonstrations, films, SAR manuals and journals;
b. Assisting in or observing actual operations; and

c. Exercises in which personnel are trained to coordinate individual procedures and techniques, or operate specialized equipment, in an actual or simulated environment.

2.1.3 Who to be trained

Personnel involved in maritime SAR need to undertake SAR-specific training according to their level of responsibilities. Such personnel are the members of the following committees:

- Executive Committee
- Technical Committee
- Mission Coordination Committee
- Rescue Coordination Committee
- Search and Rescue Unit.
- And all other individuals, a group or multiple groups who are deemed necessary for SAR.

The training Programme is shown in the Appendix III

2.1.4 Training for ZMA Staff

MRCC (ZMA) personnel will require formal specialist training. Training is most beneficial when it is carried out before a specialist is assigned duties to be performed and is generally provided at three levels:

a. Entry level for those specialists just entering the organization;
b. Current level for those specialists who must remain at a certain level of proficiency to continue with their present position. This also includes any updating due to technical and equipment improvements; and
c. Advanced level for those specialists who have a proven performance ability in a current position and desire or need to advance.

Training can be accomplished in a range of locations such as:

a. On the job site to a formal training centre.
b. On the job training to enable learners to learn and contribute to the aims of the organization simultaneously.

The following techniques could be employed for on the job training:

i. Checklists that details duties, skills, tasks and procedures required to be taught during training;

ii. Planning progression, which details the requirements for advancement and is a step-by-step approach, which requires tasks to be performed well at each level before proceeding to the next level;
iii. Assignment rotation broadening the knowledge of specialists and allows for multi-skilling and an understanding of the broader aspects of the organization;

a. In a classroom adjacent to the work place.

The location is determined by the cost-effective use of available facilities and training staff or experts.

Generally, ZMA is supposed to provide three forms of training, namely,

b. Training based on performance

Training based on performance helps SAR specialist and teams to perform their duties effectively and maintain the required level of competency and proficiency.

c. Training based on knowledge

Training based on knowledge provides necessary information for the SAR experts and staff to perform their duties; and one method is to provide knowledge to enable them to review a SAR case.

d. Awareness training

Awareness training is significant for those persons infrequently involved in SAR operations such as high level executives, maritime transport authorizes and other SAR stakeholders.

2.1.5 Public Safety Training Programme

ZMA should provide Public Safety Training through extensive consultations involving all maritime SAR stakeholders. This training programme should include but not limited to distress prevention, escape procedures, survival techniques, how to be located, and actions to be taken to assist in one's rescue.

2.2 EXERCISES

i. ZMA must conduct SAR exercises jointly with other institutions (SRU) to reach a high degree of proficiency. ZMA and TASAC can arrange periodic SAR exercises together with other countries having advance experience.
ii. Consolidation of Exercises test, improved operational plans and communications, provide learning experiences and improve connection and co-ordination skills.
iii. There are three levels under which exercises must be conducted, namely Communication Exercise, Co- ordination Exercise and a Full-scale on Field Exercise.

✓ A Communication Exercise requires the least planning and consists of periodic use of all means of communications between all potential users to ensure capability for actual emergencies. This exercise must be conducted at least once quarterly. The institution responsible for this exercise is ZMA in collaboration with SRU.

✓ A Co-ordination Exercise involves simulated response to a crisis based on a series of scenarios. All levels of the maritime SAR service are involved but do not deploy. A co-ordination exercise must be conducted at least once per year as it requires a lot of planning and at least one to three days to execute. The responsible institution for this exercise is ZMA in cooperation with Technical Committee, Mission Coordination committee, Rescue Coordination committee and Search and Rescue Unit.

✓ A Full-scale or Field Exercise differs from the previous types in that actual SAR facilities are deployed. This increases the scope of maritime SAR system-testing and added realistic constraints due to the time involved in launching, transit and activities of the SRU's. This exercise must be held at least once every two years.

The responsibility of ensuring that these exercises are conducted lies with the Ministry responsible for Transport and Zanzibar Maritime Authority.

CHAPTER THREE

3.1 SAR PLANNING AND OPERATION

3.1.1 Planning for Search and Rescue Mission.

This is the process of assessing and organizing the rescue procedures in accordance with the standards of IMO directives through IAMSAR volume II which leads to how a member state can form rescue operations nationally, regionally and globally in order to save lives and properties at sea.

Normally ships are required to have on board IAMSAR Volume III for the guidance of search and rescue operations. Zanzibar search and rescue framework categorizes the priority of distress under two following scales:

a) RCC and SRU committees will act on a small-scale incident, when vessels send distress signal e.g. fire, needs escorting, flooding warning, threat of piracy, vessel reporting listing incident, or small aircraft of two to three passengers
b) A large scale incident e.g of a potential calamity scale. This is the incident whereby all SAR committees must mobilize to take action according to their roles in order to save lives and properties at sea. This incident needs a quick and in-depth arrangement including the mobilization of resources and establishment of temporary centers. A case example is a scenario of a distress call received that indicates a passenger ship in collision with another vessel is about to sink with many souls trapped inside.

3.1.2 Landing Casualty

When a catastrophe occurs at sea – e.g. a vessel about to sink or an aircraft ditching in the ocean, safer near ports can be used for landing casualties and this depends on the nature, size and the type of vessels or ships in distress. In a scenario where a marine incident occurs far from the operational ports such as Malindi, Mkokotoni, Mkoani, Wete and Wesha Port, these vessels can be allowed to land at any safe practicable near-shore area in Zanzibar.

3.1.3 Maritime SAR Incidents

There are three phases that can be included in Maritime SAR Incidents namely:

Uncertainty Phase

An uncertainty phase exists when an alerting post declares to the MRCC/ ZMA that:

a) There is doubt regarding the safety of a vessel and/or the persons on board; or

b) It is overdue and has failed to make its Estimate Time of Arrival; or

c) It has failed to make an expected position or safety report.

Alert Phase

An alert phase is declared:

a) When there is an apprehension regarding the safety of a vessel or the persons on board; and

b) When following the uncertainty phase, attempts to establish contact with the vessel have failed and enquiries addressed to other appropriate sources have been unsuccessful; or

c) When information has been received indicating that the operational efficiency of a vessel is impaired but not to the extent that a distress situation is likely.

Distress Phase

A distress phase is declared when:

a) Positive information is received that a vessel or the persons on board are in grave and imminent danger and in need of immediate assistance; or

b) Following the alert phase, further unsuccessful attempts to establish contact with the vessel and more widespread unsuccessful enquiries point towards a probability that the vessel is in distress; or

c) Information is received which indicates that the operating efficiency of the vessel has been impaired to the extent that a distress situation is likely to happen.

The master or person in command of a vessel can declare any one of the three above-mentioned emergency phases. However, it is a normal practice that, when possible, the master or person in command of the vessel will declare the distress emergency only when his vessel and/or her crew are in grave and imminent danger.

3.2 SEARCH AND RESCURE OPERATION PLAN

The SAR Operational plan should, amongst others, detail that the following duties be carried out in the distress phase:

a. Initiate action in accordance with the detailed MCC Operational Plan or instructions for the conduct of SAR operations in its area;

b. Where appropriate, estimate the degree of uncertainty of the vessel's position and determine the extent of the area to be searched;

c. Notify the owner or the agent, if possible, and keep him informed of developments of SAR operation centres;

d. Request assistance which might be available from ships, craft or services not included in the SAR service;

e. Prepare a general plan for the conduct of operations from the information available;

f. Make the appropriate amendments as the operation develops;

g. When applicable, inform the vessel in distress, and if possible, of the SAR action taken;

h. Co-ordinate all the SAR Unit efforts in the operation;

i. Appoint on-scene coordinators (OSC) in the SAR operation;

j. Obtain, research, keep and update weather reports for the area in which the SAR operation is taking place;

k. Notify accident investigation authorities as appropriate;

l. Notify the resources mentioned in (e) in consultation with the OSC when their assistance is no longer required;

m. To keep the MRCC informed of the progress of the operation;

n. Keep the Head of Maritime SAR Administration (ZMA) informed of the progress of the operation.

3.2.1 SAR TECHNIQUE PLAN

SAR technique is very important to be known and conducted by SRU in search and rescue operation. Once the optimal search area has been determined, a systematic search for the search object should be planned. Before a search operation takes place, the search planner should provide a detailed search action plan to all involved facilities, specifying when, where and how individual search facilities are to conduct their search operations. Co-ordination instructions, communications frequency assignments, reporting requirements, and any other details required for the safe, efficient and effective conduct of the search must also be included in the search action plan.

The following methods should be used in search and rescue operation:-

a. Expanding Square Search

b. Sector Search

c. Area Search

Expanding Square Search

This is the best technique used when the causality position is confidently expected to be within a relatively small area which relies on a good initial datum.

Sector Search

A sector search is best used when the information about the datum is very clear, as with both datum search. It is better to use a compass for the heading and a stop-watch for timing the distance. Using a GPS or other electronic navigation system does not take into the account the effect of the wind and tide on the causality.

Area Search

This search uses either parallel or creeping line ahead. They have the same coverage and efficiency. However one may be preferable to the other due to factors such as sea state, sun glare, moon light and the shore line. As with all ground - based search electronic navigation system, such as GPS can be used.

SRU- Area Search Operation

When SRU is conducting SAR operation of either parallel or creeping method. The SRU can conduct the search and rescue with a single vessel or multiple vessels. The vessels are spaces at the required track spacing in line abreast and will generally travel at the speed of the slowest vessel.

3.3 SAR OPERATIONS COORDINATORS

Search and Rescue Coordinator (SC)

SAR Coordinator (ZMA) is responsible for managing the SAR system, including providing appropriate legal and funding support, providing or arranging for SAR facilities, coordinating SAR training, and developing SAR policies. Zanzibar SAR coordinator may support maritime SAR operations outside Zanzibar when requested, consistent with the expertise, capabilities and legal authority. This is in keeping with Zanzibar's concern for safety of life at sea and the humanitarian nature of SAR and the advantages of national and international co – operation.

Search and Rescue Mission Coordinator (SMC)

SAR Mission Coordinator ZMA/ZPC is responsible for Search and Rescue activities at a Maritime Rescue Co-ordination Centre or sub-centre. The SMC determines the phase of emergency and is responsible for alerting the units needed for the task. He leads and co-ordinates the operation of the rescue units in the search and rescue sub-region by determining their duties, providing them with the necessary orders, instructions and information, maintaining the preconditions for their activities, and requesting additional resources as required by the mission. The SMC decides on the suspension and termination of the search and rescue activities and on the release from duty of the units ordered to participate in the SAR mission.

On Scene Commander (OSC)

When a number of SAR assets are working together on the same SAR mission in the same location, there may be an advantage if one unit is assigned to coordinate the activities of all participating assets. OSC – TPDF/KMKM is responsible for assuming operational coordination of all SAR facilities on scene; receiving the search action plan from the SMC; modifying the search action plan based on prevailing environmental conditions and keeping the SMC advised of any changes to the plan (in consultation with the RCC when practicable); providing relevant information to the other SAR assets; implementing the SAR plan where required; monitoring the performance of other assets participating in the search; developing and implementing the rescue plan (when needed).

Air Craft Coordinator (ACO)

The ACO (TCAA) duties require special knowledge of aircraft operations. Aiming at the effective co-ordination of aircraft, the ACO activities seek to contribute to aeronautical rescue and SAR services with a clearly improving effect. The appointment of an ACO is justified particularly in cases where there are a lot of aircraft participating in an SAR

operation. The appointment of an ACO takes place in the same manner as that of an OSC and an ACO operates under the SMC. He may performs On Scene Commander's duties, acts on behalf of the OSC if deployed, Coordinates aircraft and maritime SRUs, provides communication, briefs and debriefs SRUs

CHAPTER FOUR

4.1 SAR COMMUNICATION

IMO has introduced specific communication system to speed up SAR operations. Communications support distress alerting, co-ordination and locating functions by allowing those in distresses to alert the SAR system, and for the SAR system to respond and conduct its mission following acknowledgement of an incident.

The necessary communication systems for maritime SAR include telephones, radio operating on international distress frequencies, Inmarsat, long-range terrestrial and satellite systems and other equipment depending upon geographical position, the capabilities of mobile facilities within an area and other factors affecting the ability of persons to use these devices and systems.

The quality, usefulness and overall timeliness of communications from their source to the final destination are of critical importance in maritime SAR. SAR communication equipment must at all times be accessible to all parties involved in SAR operations. The equipment's must be in good working condition at all times because time is of the essence in a SAR operation. Distress alert and messages should always have precedence, that is, they must be processed before all other communications.

Communications must be able to take place quickly between a vessel in distress and the SAR system, and between components of the SAR system, at the national, regional and international level. Maritime SAR operations in Zanzibar are likely to require communications between two or more organs as shown below.

a. ZMA
b. ZPC
c. KMKM
d. TPF – (POLICE MARINE UNIT)
e. KZU
f. NAVY COMMAND (TPDF)
g. ZDMC
h. TCAA
i. REFERAL HOSPITAL
j. LAND AND MARITIME BROADCAST
k. TMA

The following figure below indicates the flow of communication

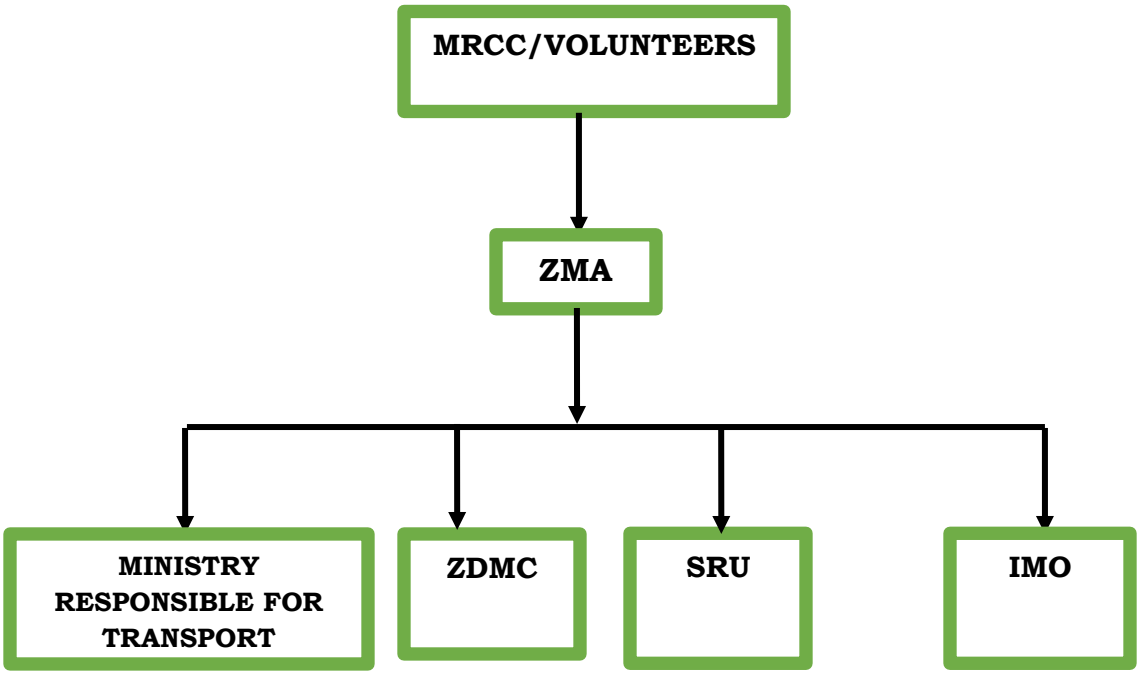


Figure 3: Flow of Communication

Types of messages

Distress traffic includes all messages relating to immediate assistance required by persons, aircraft or marine craft in distress, including medical assistance. Any interference, which puts at risk the operation of safety services or degrades, obstructs or interrupts any radio communication, is unlawful. SAR personnel should be the last people to cause harmful interference, and should co-operate with law enforcement agencies to report and stop incidents of interference.

"Alerting station'', is a broad term, which covers any facility, regardless of its primary purpose, involved in receiving information about an apparent distress situation and relaying it to a MRCC. Alerting posts include coastal radio stations, Local User Terminals (LUT) and Mission Control Centre (MCC) of the Copas-Sarsat system, land earth stations of the Inmarsat System, Air Traffic Services (ATS), Port Control Centres (PCCs), Police Marine stations, KMKM centre, Naval command centre, Vessel Monitoring Services (VMS), emergency and Fire-rescue services, vessels, aircraft or other persons or facilities which may receive and relay such alerts. ZMA has the responsibility of relaying the Message to other SRU or other vessels.

The ability of MRCC to respond to an emergency depends largely on information forwarded via alerting posts. Communications between alerting posts and the MRCC, or local SAR facilities should be by fast and reliable means. Communication channels should be checked regularly to ensure that they are operational at all times.

The following institutions and facilities will serve as dedicated alerting stations and will be staffed 24 hours a day, namely, MRCC, ZMA, coastal radio station, KMKM , KZU, Tanzania Navy Command , and Police Marine Stations, ZPC, ZDMC and TMA

A designated alerting station will gather the following information on a distress call for passing onto the MRCC

a) Identification of the craft in distress (Name, type, call sign and size).
b) Geographical position of the incident (latitude/longitude or bearing/distance).
c) Date and time of incident.
d) Nature of emergency (fire, collision, man overboard, disable, overdue, crash etc).
e) Number of crew on board
f) Date, time and point of departure, planned route, estimated time of arrival (ETA) and point of destination;
g) Radio frequency in use;
h) Emergency radio equipment and frequencies, including emergency position indicating radio beacons;
i) Weather conditions at sea.
j) Kind of assistance required, if possible
k) Heading, speed and fuel on board
l) Details of initial reporter (name, telephone number, address etc)
m) Date and time of initial report;
n) Possible route deviations;
o) Number of passengers on board vessel
p) Details of survival equipment on board
q) Type of cargo on board
r) Any other pertinent information

4.2 FREQUENCIES FOR DISTRESS ALERT AND COMMUNICATION.

The following frequencies may be used between land station, vessels and aircraft when compatible equipment is available. ZMA domesticates IMO frequencies together with its own frequencies at the regional and global level during a distress incident in order to facilitate SAR operations.

i. 2,182 kHz. Many vessels, especially fishing vessels, and nearly all ships, are equipped to use 2,182 kHz. Some transport aircraft can transmit on 2,182 kHz, and aircraft designated for maritime SAR operations are required to carry this frequency. Aircraft may have difficulty calling up vessels on 2,182 kHz, as vessels

normally guard this frequency through automatic means and are alerted when the MF DSC alarm signal is transmitted.

ii. 4,125 kHz. This frequency may be used by aircraft to communicate with ships for distress and safety purposes. All ships may not carry this frequency (most SOLAS ships and many other Vessels do). If an aircraft needs help from a ship, SAR authorities can notify ships in the vicinity of the situation and ask them, if practicable, to set up a watch-on frequency 4,125 kHz.

iii. 3,023 and 5,680 kHz. These are HF on-scene radiotelephony frequencies for SAR. Designated SAR aircraft and most civil aircraft carrying HF equipment can operate on these frequencies. They may also be used by vessels (nearly all SOLAS ships) and coast radio stations engaged in Co-ordinate SAR operations.

iv. 121.5 MHz AM. This is the international aeronautical distress frequency. All designated SAR aircraft and civil aircraft carry equipment operating on 121.5 MHz; it may also be used by maritime craft. Passenger ships must be able to communicate for SAR purposes on this frequency. All aircraft are required to guard this frequency, flight-deck duties and equipment limitations permitting.

v. 123.1 MHz AM. This aeronautical on-scene frequency may be jointly used by aircraft and vessels engaged in SAR operations. Passenger ships must be able to communicate for SAR purposes on this frequency.

vi. A working 14-channel and a 16-channel on VHF can also be used to respond to any emergency assistance required from port control station.

vii. Land line distress call

a) ZDMC – 190

b) KZU – 114

c) TPF - 99

4.3 Survival and Emergency Radio Equipment

Aeronautical and maritime survival radio equipment also operates on 121.5 MHz, a frequency which can be used for alerting, homing, and on-scene communications, depending on equipment design. The ultra-high frequency (UHF) 406 MHz is reserved solely as an alerting frequency for ELTs, EPIRBs and 182 kHz, 121.5 MHz, and 156.8 MHz may be available for use in vessel and aircraft survival craft.

4.4 Global Maritime Distress and Safety (GMDSS)

Communications between merchant vessels in distress and maritime SAR organizations are achieved by a satellite and radio watch known as the Global Maritime Distress and Safety System (GMDSS). GMDSS enables a distress alert to be transmitted and received automatically over short and long distances. The system allows maritime SAR authorities as well as shipping in the vicinity of the distress to be rapidly alerted so that a coordinated SAR operation can be commenced within no time. However, in Zanzibar, ZMA is supposed to find out their own GMDSS equipment's according to SOLAS convention.

Additionally, GMDSS provides for urgency and safety communications, and the dissemination of Maritime Safety Information (MSI). Certain fishing vessels and other marine craft may also carry GMDSS equipment. Advice may be sought from the MRCC staff that are familiar with the SOLAS GMDSS provisions and associated IMO requirements. GMDSS equipped vessels can be expected to perform the following wherever they operate. The capability of GMDSS instruments system relies on the ability to:-

a) Transmit ship-to-shore distress alerts by two independent means;

b) Receive shore-to-ship alerts (usually relayed by Reginal MRCCs);

c) Transmit and receive:

(i) ship-to-shore alerts;

(ii) SAR coordinating communications;

(iii) On-scene communications;

(iv) Locating signals;

(v) Maritime safety information;

(vi) General radio communications to end from shore; and

(vii) Bridge to bridge communications

Regulation 5 and 5-1 of chapter IV of the 1988 Amendments for the SOLAS Convention requires every State to provide information to IMO about its shore-based SAR facilities to support ships carrying GMDSS communications equipment off its coast. ZMA and TASAC obtain information from MRCC within our area and regionally from MRCC in Kenya.

IMO collects and publishes this information in the GMDSS Master Plan. It is the responsibility of the Head of Maritime SAR Administration to ensure that the Master Plan has current information about its facilities, and that the MRCC's communications facilities, ships and training institutions have a copy of the Master Plan.

The Master Plan shows for every State, in list format and on maps, which of the following services are operational and planned:

a) VHF, MF and HF Digital Selective Calling (DSC) installations;
b) Inmasart, Safety Net, Navtex and HF narrow-band direct printing (NBDP) services; satellite EPIRB registration, MCC and LUT information; and
c) Which MRCC's are using Ship Earth Stations (SES)

4.5 COSPAS-SARSAT System

COSPAS-SARSAT is a satellite system designed to provide distress alert and location data to assist SAR operations, using spacecraft and ground facilities to detect and locate the signals of distress beacons operating on 406 MHz. The responsible Cospas- Sarsat Mission Control Centre (MCC) forwards the position of the distress alert and other related information to the appropriate SAR authorities. Tanzania Zanzibar and Tanzania Mainland share this information and disseminate to the SAR units.

4.6 Automatic Identification System- Search and Rescue Transmitter (Ais-Sart).

The Automatic Identification System (AIS) – Search and Rescue Transmitter (SART) derives position and time synchronization from a built in Global Navigation Satellite System (GNSS) receiver and transmits its position with an update rate of one (1) minute. Every minute the position is sent as a series of eight (8) equal position reports, this is to maintain a high probability that at least one of the position reports is sent on the highest point of a wave.

4.7 Maritime Survivor Locating Systems,VHF DSC Maritime Survivor Locating Devices (MSLD).

The VHF DSC MSLD, such as the Mobilarm Crewsafe series of beacons, transmit a MAYDAY using a synthesised voice on VHF Channel 16 and a distress alert on DSC (VHF Channel 70) immediately a man overboard incident occurs (or when the unit is manually activated). The transmission is repeated once the MSLD obtains a GPS position (within 1 minute) and is updated every 5 minutes for the first 30 minutes, and then every 10 minutes for the life of the battery (24 hrs). The MSLD includes the MMSI for identification; some MSLD may also transmit on AIS and a 121.5 MHz homing signal.

4.8 Communications in Support of SAR Operations

The SMC is responsible for designating specific frequencies for on-scene use during SAR operations, and for establishing reliable communications with adjacent operation centers. When appointed, the Coordinator for Surface Search (CSS) or the On-scene Commander (OSC) is responsible for establishing reliable communications between all participating search units and the MRCC.

CHAPTER FIVE

5.1. ZANZIBAR AERONAUTICAL SAR OPERATION

The Zanzibar Aeronautical SAR Operation, refers to as the operation throughout this document, is a directive of the Zanzibar Government to State agencies for the provision and coordination of Aeronautical SAR services. The plan recognizes the existing of regional framework for handling Aircraft accident and incident investigation

Rescue by aircraft

In some cases aircraft may be used for rescue. Each aircraft has operational and technical limitations and should not be used on operations for which it is not suitable. When possible, a rescue operation by aircraft should be backed up by a surface facility, particularly for a large number of survivors. The following types of air craft may be used in SAR operations:-

a) **Fixed-wing aircraft**

Fixed-wing aircraft may drop equipment to survivors and direct rescue facilities. They can mark the position as long as they can remain on scene, by serving as a radio and radar beacon, showing lights, dropping flares, and providing radio signals for direction finding and homing by other rescue facilities.

b) **Seaplane and amphibians**

Seaplanes and amphibians are able to operate from in-shore waters and can land close to survivors located in such areas. However, a landing in unknown waters may be dangerous. Under favorable weather and sea conditions, seaplanes and amphibians can be used for rescue operations in inland seas and coastal waters. This should only be considered when no other means of rescue are immediately available.

c) **Helicopter**

Helicopters can be used to rescue survivors by winching or by landing on a ship if a suitable location exists. Water landings are possible when amphibious helicopters are used. Due to their unique flying capabilities, they should be used whenever possible. They are particularly suitable for rescues in heavy seas or at locations where surface facilities are unable to operate.

The number of survivors that a helicopter may take aboard is limited. Therefore, it may be necessary to reduce its weight by removal of non-essential equipment.

Rescue facilities available in a Helicopter are;-

i) Winch with a sling

ii) Rescue basket

iii) Rescue net

iv) Rescue seat

v) Rescue stretcher.

5.2 AERONAUTICAL SYSTEMS

Virtually all commercial aircraft on international routes are under positive control by Air Traffic Services (ATS) units when they are airborne. ICAO has linked ATS units into a world-wide system. Consequently, there usually is little delay from the onset of an international commercial aircraft emergency until SAR agencies are notified, and there is often no need for an extended search if an aircraft should be forced down away from an airport.

Aircraft may not be under positive control, which can result in delayed reporting of their emergencies. Aircraft may not take off unless they have filed a flight plan and been granted clearance. In Tanzania the Civil Aviation Authority (TCAA) controls the airspace in conjunction with the Zanzibar Airport Authority (ZAA).

A foreign SRU wishing to participate in a SAR mission will be required to provide the following information for diplomatic clearance as follows.

i. Country of registration;

ii. Aircraft registration mark / Vessel's IMO number;

iii. Type of vessel;

iv. Call sign;

v. Purpose of entry;

vi. Point of entry into the State airspace / waters;

vii. Flight/vessel/route to the SAR area;

viii. Current location of SAR aircraft / vessel;

Flight in area of SAR action by other aircraft

Aircraft that are not involved in a SAR operation should normally not fly within areas of SAR action. However, if such aircraft need to enter an area of SAR action, they should do so only with the approval of TCAA, ZMA or coordinating ATS unit and are subject to the rules of the area or the relevant class of airspace.

CHAPTER SIX

6.1 ASSISTANCE OTHER THAN SEARCH AND RESCUE

Generally, apart from SAR services other services may be required to perform the operations. That if assistance is not carried out, could probably lead to loss of life of the people, vessel and their property. Thus there is a need of assisting a ship or aircraft in a serious distress situation and in danger of becoming a calamity (e.g. consequently putting the lives of all souls and property onboard at risk). Therefore, broadcasting of Maritime Safety Information (MSI) and alerting appropriate authorities of unlawful acts being committed against a ship or aircraft is essential.

For those situations where the assistance of SAR services may be anticipated, suitable operating plans should be developed that include provisions for co-ordination with other authorities such as ZMA, KMKM, fire and rescue Unit, ZDMC, ZPC, as appropriate. However, in many cases, these requirements cannot be foreseen and SAR personnel may have to provide an appropriate response.

6.1.1 Intercept and Escort:

Intercept and escort services are assistance needed other than SAR. The main purpose of intercept and escort services are to minimize delay in reaching the scene of distress and to eliminate a search for survivors. Escort service for both aircraft and vessels will normally be provided to the existing nearest adequate authority or nearest safe haven for vessels (safe mooring and through a means of communications such as a telephone and or HF and VHF radios).

Escorts are likely to provide various types of assistance as the escorted craft are unable to arrive at a safe place by its own power. Hence, the following assistance can be provided by an escort:

i. Providing Moral support to the persons on board the distressed craft, assuring them that assistance is immediately available.
ii. Support in restoring navigation and communication functions for the distressed craft, permitting its crew to concentrate on copying with the emergency,
iii. Carry out inspection of the exterior of the distressed craft,
iv. Provide advice on procedures for aircraft ditching, including ditching heading, or for abandoning or beaching a vessel, illumination during aircraft ditching or vessel abandonment, or assistance in the approach procedure at the destination,

immediate provision of emergency and survival equipment, if any, carried by the escort facility, and direction of rescue facilities to the distress scene.

6.1.2 Collision:

A risk of collision may probably exist when a vessel is on a constant bearing with decreasing range. In order to avoid collision in this situation, more assistance is needed. Thus, a captain has to take a series of bearings from your vessel to the other vessel. If these bearings do not change much as you are getting closer, there is a risk of collision. Hence taking early action to avoid collision using the necessary rules of avoidance.

6.1.3 Escort:

In an uncertainty phase, the Air force (TPDF) /KMKM/KZU may alert SAR facilities capable of providing an escort facility. If the incident progresses to an alert or distress phase, the Air force (TPDF) /KMKM/KZU may then dispatch the escort facility immediately. Even when it appears too late for the intercepting facility to effect the intercept, it should be dispatched so as to begin the search. An aircraft may be considered to need an escort when:

i. Navigation or radio equipment is suspect;
ii. It is unable to maintain altitude;
iii. It has suffered structural damage;
iv. It is on fire or fire is suspected;
v. The pilot's control of the aircraft is impaired;
vi. Remaining fuel is suspected to be insufficient;
vii. Fewer than three out of four, or fewer than two out of three engines are operating normally; or
viii. It is threatened by any other grave and imminent danger.

A ship also may be considered to need an escort when:

i. Its stability is endangered (e.g., taking in water or cargo shifting);
ii. It has suffered actual or suspected structural damage;
iii. It is on fire or fire is suspected;
iv. The master's control of the vessel is impaired;
v. Remaining fuel is suspected to be insufficient;
vi. Its steering gear is defective; or
vii. It is threatened by any other grave and imminent danger.

The following information regarding the distressed craft should be given to the intercepting facility:

i. Description, including call sign and other identification marks;
ii. Position at a specified time and type of navigation aids used;
iii. Heading and drift (or track);
iv. Speed over the ground or water;
v. If an aircraft, whether maintaining altitude, climbing, or descending;
vi. Number of persons at risk; and

Brief description of the emergency.

Accurate navigation by both the distressed craft and the intercepting facility is the most important factor when affecting an intercept. When visual contact has been made, the intercepting aircraft will normally take up a position slightly above, behind and to the left of the distressed craft. Aircraft would probably escort ships. A ship carrying out an interception should stand by the distressed craft until the danger is past, unless otherwise be given instructions to the contrary and from the authorized institution on scene.

6.1.4 Weather Forecasts and Warning.

The process of SAR in Zanzibar, safety information including Maritime safety information (MSI), such as weather forecasts and warnings of hazards to navigation, is promulgated by SAR. TMA and ZDMC are authorities that make arrangements for broadcast of MSI by several means that may include VHF and HF radio, Radio and Television broadcasting. Broadcast of MSI can serve to prevent SAR incidents from occurring. Similar safety information may be promulgated for aircraft and distributed as arranged by the Zanzibar Airports Authority.

6.1.5 Security Alert System:

Ships are required to carry equipment called the Ship Security Alert System (SSAS) for sending covert alerts to shore for vessel security incidents involving acts of violence against ships (i.e. piracy, armed robbery against ships or any other security incident directed against a ship).

The system is intended to allow a covert activation to be made which alerts the competent authority ashore and denies knowledge of its activation to perpetrators of the acts of violence. In this situation, the MRCC, due to his being available on a 24-hour basis, shall be the first point of contact between the ship and coastal authorities concerned.

Piracy or armed robbery against ships where the ship or crew is in grave and imminent danger, the master may authorize the broadcasting of a distress message, preceded by the appropriate distress alerts using all available radio communications systems. If this situation happens the SRU will be responsible for attacking.

Actions taken by the MRCC upon receiving a covert SSAS alert include:

a) Do not acknowledge receipt of the alert;
b) Do not attempt to contact the ship originating the alert;
c) Do not send any communications to other ships in the surrounding area of the ship under threat unless directed by the security forces authority;
d) If the position of the incident is within its SRR, the RCC should immediately inform its security forces authority;
e) If the position of the incident is outside of its SRR, the RCC should relay the alert to the appropriate RCC using the normal methods of communications; and
f) Place SAR resources on standby, if appropriate, since it may become a SAR case.

In Zanzibar, search and rescue outside of RCC responsible areas services may be called upon for assistance by other emergency services in areas that are not in their normal area of responsibility. Examples of these situations include:

a) Major incidents where there are large numbers of casualties; and
b) Medical evacuation when primary services are unable to perform the mission, such as by ship from a small coastal island where by weather prohibits the evacuation by aircraft.

6.1.6 Evacuation

In certain exceptional situations, evacuation by sea may be the only way to save persons on land from the forthcoming danger that has trapped them. Forest fires, volcanic eruptions, and industrial accidents causing the discharge of hazardous materials are examples of such situations. When these types of situations occur, SAR services may be the only emergency organization capable of performing the evacuation. The SRU will be responsible for evacuation.

6.1.7 Assistance to property

Assistance to property is another assistance rather than SAR. The primary concern of SAR operations is assistance to persons in distress. Variations of the terms such as “saving” and “salving” are commonly used internationally regarding removal of property from risk. Commercial salvage companies may become involved during or after SAR operations. SAR personnel on scene are usually in the best position to assess what actions are necessary to minimize future hazards such as pollution from cargo or oil spills and ships becoming hazards to navigation or vessels, craft or life-saving appliances left adrift at sea that may cause an unnecessary SAR alert in the future.

Action such as towing or temporary repairs or recovery by the SAR facility may be able to prevent more complicated problems later. However, SAR facilities typically are not experts in salvage operations, so the SMC must consider their capabilities and the risks to them. When a salvage vessel is at the scene of the distress or on route to it, the SRU involved should verify whether the salvage vessel is prepared to affect salvage, and whether this assistance is acceptable to the distressed craft. If not, the SRU should render assistance as necessary to ensure the safety of life.

CHAPTER SEVEN

7.1 SEARCH AND RESCUE RESOURCES

Any instrument that will be used to facilitate SAR exercise is a resource. Thus SAR resources will be in terms of human resources, financial resources and material resources.

7.1.2 HUMAN RESOURCES

The SAR organization includes all of those agencies which perform distress monitoring, communications, co-ordination, and response functions. This includes providing or arranging for medical advice, initial medical assistance, or medical evacuation, if necessary, SAR facilities consist of all of the public and private facilities, including co-operating aircraft, vessels, other craft and installations operating under co-ordination of an RCC. In establishing a SAR service, Zanzibar - ZMA uses Government agencies and non-government agencies, existing facilities to the fullest extent possible during distress. A successful SAR organization usually can be created with having designated full-time SRUs.

7.1.3 MATERIAL RESOURCES

These are very important to SAR services. No organization can satisfy by itself in terms of material resources. Hence, good relationship among different SAR stakeholders should be established so that each stakeholder would be ready to provide his assistance in terms of material needed. Such material resources include evacuation boats, helicopter, lorries, blankets, life jackets, ambulances etc. To keep the stake holders aware of the SAR services regular simulation exercises are compulsory.

7.1.4 FINANCIAL RESOURCE

Disaster SAR Management Committee has the full authority in mobilization of use and raise funds as required. For example:-

a) The power to withdraw funds for resources allocation both human and material resources. Human resources deal with engagement of hiring experts and buying facilities when required by SRU during the implementation of SAR operations.

b) The power to use the fund for casualties so as to recover from materials, physical and mental disorder that was caused by the incident.
c) Raise of funds including collection of money, useful materials which are reliable to restore a semblance of livelihoods and bring life to normality.

Any stake holder may contribute to the raise of the fund. These stake holders are:

a. External donors;
b. Ship operators;
c. Business men;
d. Port Operators;
e. Fishing Companies;
f. Airline Companies;
g. Airport operators/aviation; and
h. TCRA
i. And others.

However all responsible institutions should set aside fund from their annual budget for the purpose of exercises when needed.

CHAPTER EIGHT

8.1 RECORDING, REPORTING, MONITORING AND EVALUATION

8.1.1 RECORDING

Recording the incident is very important as a measure of incident documentation. It helps to improve the services and identify patterns of origin of that incident, situational analysis, success, difficulty and challenges experienced in executing the SAR, future immediate action, as well as building more collaboration and support from other stakeholders, government and other agencies.

Information that will be collected in order to have a good record includes:

a. Tasking detail
b. Name and age of the casualty
c. What the incident was
d. Type of ship/ aircraft
e. Registration number of ship as well as the registrar of the vessel
f. Where and when the incident was
g. What assistance has been provided and by whom
h. How long the SAR exercise took place
i. Other rescue organization/institutions involved etc.

This record is used as a reference to facilitate the services through notifying the cause of the incident.

8.1.2 REPORTING

Any incident must be reported to different institutions so as to make sure that necessary actions are taken in accordance with the underlying rules and regulations governing the maritime procedures. Hence the incident should be reported to the IMO, the central government, Ministry responsible for Transport facilities as well as the regional organizations as shown in the figure 3 below.

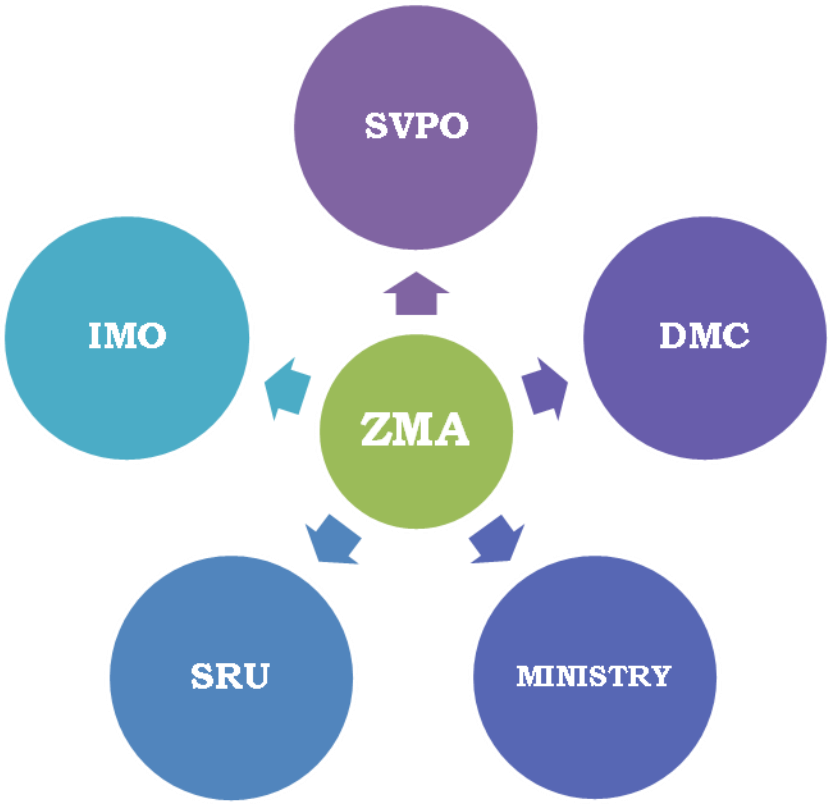


Figure 4: Shows the Primary Institutions to be reported

8.1.3 MONITORING AND EVALUATION

The overall accountability of monitoring and evaluation after SAR lies within the Ministry responsible for Transport, and shall work in collaboration with the key sectoral Institution (ZMA). Other key stakeholders include International, Regional and United Nations agencies, Civil Society Organizations, business companies, etc. These stakeholders have an obligation to team up in monitoring and evaluation exercise. These stakeholders also play key roles in the implementation of various maritime strategies and instruments.

The Zanzibar Maritime Authority (ZMA) will collect, compile, analyze and disseminate information on the implementation of various IMO programmes and instrument.

APPENDIX I

TABLE 1: INCIDENCE AND TYPE OF RELEVANT COMMITTEES

TYPE OF DISTRESS	COMMITTEES				
	EXCUTIVE COMMITTEE	**TECHNICAL COMMITTEE**	**MCC**	**RCC**	**SRU**
1.Passenger vessel sinking 2. Aircraft of more than 10 passengers ditching 3.Collision of large vessel	Refer number 1.2.1	Refer number 1.2.2	• ZURA • TMA • ZMA • ZPC • ZAA • TCAA • ZDMC • TISD • REFERRAL HOSPITAL • AG • One Representative from Oil Market Company • Operation commanders from SRU	• ZMA • KMKM • TPDF • ZPC • ZDMC	• KMKM • TMA • TPDF • TPF - POLICE MARINE • JKU • KZU • ZPC • ZAA • TISD • TCAA • COMMERCIAL VESSELS • RED CROSS • REFFERAL HOSPITAL
Piracy	-	-	Head of SRU	RCC Committee	TPDF/KMKM
Vessel Flooding Patient in a Vessel Vessel Aground	-	-	-	RCC Committee	ZPC/KMKM

Escorting/Convoy	-	-	Head of SRU	• ZMA • KMKM • TPDF • TPF (POLICE MARINE) • ZPC	TPDF/KMKM
Small aircraft ditch of 2 to 3 people	-	-	Head of SRU	• ZMA • KMKM • TPDF • ZPC • ZDMC	• KMKM • TPDF • KZU • ZAA • ZPC • TPF - POLICE MARINE • TMA • ZMA • ATS

APPENDIX II

TABLE 2: RESPONSIBLE INSTITUTION IN INCIDENTS

ANNEX		ASSIGNED TO	
	INCIDENT	**PRIMARY AGENCY/INSTITUTION**	**SUPPORT AGENCY/INSTITUTION**
ANNEX A SEARCH AND RESCUE	SINKING OF PASSENGERS' VESSEL/COLLISSION	• KMKM • TPDF	• KZU • ZPC • ZAA • ZMA • ATS • MRCC • TPF - POLICE MARINE • COMMERCIAL VESSELS • VOLUNTEERS
ANNEX B SEARCH AND RESCUE	AIRCRAFT DITCHING	KZU	• ZAA • ATS • ZMA • MRCC • KMKM • TPDF • ZPC • TCAA • TMA • TPF – POLICE MARINE • RED CROSS

ANNEX C PROVIDE RESOURCES AND LOGISTICS	LERGE SCALE INCIDENT	ZDMC ZMA	• ZRB • OIL COMPANIES • MINISTRY OF FINANCE • COMMACIAL VESSELS/COMPANIES
ANNEX D MEDICAL SERVICES	ANY TYPE OF INCIDENT	REFFERAL HOSPITALS	• MINISTRY OF HEALTH • DEPARTMENT OF SOCIAL WELFAIRS • RED CROSS • GOVERNMENT & PRIVATE HOSPITALS
ANNEX E COMMUNICATION AND NAVIGATION WARNINGS	ANY TYPE OF DISTRESS	ZMA	• ATS • ZPC • KMKM • MRCC • FISHING VESSELS • TMA
ANNEX F TRAINING	PUBLIC AWARENESS AND EXERCISES	ZMA	• ZDMC • MEDIA • KMKM
ANNEX G SECURITY THREAT	PIRACY	TPDF KMKM	• ZMA • MRCC
ANNEX H OTHER SERVICES	ESTABLISH EMERGENY CENTRE AND RECEIVE CASUALTIES	ZDMC DDMC	• JKU • CHUO CHA MAFUNZO • KVZ • TPDF

			• TISD • RC • SHEHA • TPF • NS
ANNEX I PROVIDE RESOURCES AND LOGISTICS	SINKING OF PASSENGERS' VESSEL/COLLISION	SECOND VICE PRESIDENT'S OFFICE	• MINISTRY RESPONSIBLE FOR:- • REGINAL ADMINISTRATION AND SPECIAL DEPARTMENTS • FINANCE • DEFNCE • HOME AFFAIRS • TRANSPORT

APPENDIX III

TABLE 3: TRAINING PROGRAMME

COMMITTEES	TRAINING	TIME
Executive Committee Technical Committee Mission Coordination Committee	Maritime SAR Organisation and its relationship to maritime safety and security, air traffic, and communication services.	Annually
	Bilateral and Multilateral agreement with regards to search and rescue services	Annually
	Capabilities and limitations of available resources and facilities.	Annually
	Legal aspects in maritime incidents and policies.	Annually
	Routine administrative functions.	Annually
	Data and information management.	Annually
	Visits to SAR facilities and supply depots, participation in exercises, including packing and loading of survival materials.	Annually
	Instructions through films and relevant journals.	Annually
Rescue Coordinating Committee Search and Rescue Units	To obtain and evaluate information and reports;	Every six months
	Alerting regarding facilities and commencement of SAR operations;	Every six months
	Interpretation of different systems of position reporting;	Every six months
	Determination of a search area;	Every six months

COMMITTEES	TRAINING	TIME
	Search techniques and patterns of air, maritime and land facilities.	Every six months
	Plotting of search information.	Every six months
	Communications procedures.	Every six months
	Rescue procedures	Every six months
	Dropping procedure of supplies.	Every six months
	Ditching assistance, interception and escort procedures.	Every six months
	Briefing and questioning of SAR personnel.	Every six months