



**THE SAFETY OF ARTISANAL FISHERMEN IN LAKE VICTORIA: THE CASE FOR A REGIONAL
AERONAUTICAL AND MARITIME SEARCH AND RESCUE ORGANIZATION**

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New Welfare Services–Sustainable Service Design as a Driver for Regional Development

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The Safety of Artisanal Fishermen in Lake Victoria- the Case for a Regional Aeronautical and Maritime Search and Rescue Organization.

Lake Victoria is Africa's largest freshwater lake by area shared by three countries: Uganda, Kenya, and Tanzania. The lake supports the economic development of the region through transport and fishing as well as recreational and tourism activities in the three countries. The main ports on the lake are Kisumu, Mwanza, Bukoba, Entebbe, Portbell, and Jinja served by several train ferry services for both cargo and passenger transport. Besides these ports, the lake shore and its islands accommodate hundreds of landing sites used by artisanal fishermen. Approximately 30 million people live along its shores and the lake currently provides livelihood for three to four million people.

Despite its economic importance in linking the three countries and providing employment and food (fish), Lake Victoria has over the years recorded several accidents that have claimed numerous lives. For instance, the ferry MV Bukoba sank in the lake on 21 May 1996 with loss of lives estimated to be between 800 and 1000, making it one of Africa's worst maritime disasters. In 2018, over 200 passengers died in the MV Nyerere accident. In Uganda, on 24th November 2018, MV Templar a local cruise boat loaded with party revelers capsized leading to a loss of more than thirty lives. On 6 November 2022, a scheduled aircraft operated by Precision with 39 passengers crashed into Lake Victoria while approaching to land at Bukoba Airport, leading to a loss of 19 lives. Additionally, there are reports that close to 5000 artisanal fishermen drown in the lake annually affecting 30000 livelihoods. This essay intends to propose a regional Search and Rescue Organization incorporating both aeronautical and maritime players to improve the safety of artisanal fishermen on Lake Victoria.

Numerous benefits come with the harmonization of aeronautical and maritime search and rescue. These include but are not limited to the following:

- a) Operational and cost advantage in harmonizing aeronautical and maritime SAR services within Search and Rescue Regions (SRR).
- b) Minimizes confusion over which authority is to be alerted.
- c) Joint Rescue Coordination Centers (JRCC) can be established at minimal cost by combining aeronautical and maritime RCCs.
- d) Cost-effective in developing adequate capabilities and plans to assist both or either aircraft or ships in distress.
- e) Reduced cost
- f) Less complexity for alerting posts in forwarding any distress alerts
- g) Better coordination and shared use of Search and Rescue expertise and assets
- h) Avoiding duplication of effort and enhancing coordination
- i) Enhance the efficiency of Search and Rescue services

What I am proposing in this essay is not new to individuals knowledgeable in the conduct or provision of Search and Rescue services but rather a call for all responsible authorities and decision-makers to ensure that aeronautical and maritime actors in the region combine resources to form an effective search and rescue organization that can improve the safety of artisanal fishermen on Lake Victoria and the whole

region in general. It is a general practice the world over that both aircraft and ships are used for the search and rescue of persons in distress- whether the distress craft is a boat or an aircraft. There are recorded aircraft accidents on Lake Victoria wherein fishermen have played a big role in rescuing aircraft passengers, but literature is scarce on any incident where an aircraft has been dispatched to rescue a capsizing or drowning fisherman. In this essay I will argue that the provision of assistance to persons in distress is not just a humanitarian obligation, it is also an essential public service. Service, according to the service-dominant logic, is defined as the application of one's competencies and skills for the benefit of another or the entity itself (Vargo & Lusch, 2017). It is also the objective of this essay that the artisanal fishermen of Lake Victoria shall phenomenologically determine the value of the Search and rescue service.

Search and Rescue: what is it?

Search and Rescue (SAR) is just a combination of two distinct words that relate to those operations rendered to persons in distress or who are lost. According to Annex 12 to the Convention on International Civil Aviation (ICAO Annex 12), Search is defined as “an operation normally coordinated by a rescue coordination center or rescue subcenter using available personnel and facilities to locate persons in distress” whereas, Rescue is defined as “an operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety”. These definitions are replicated in several maritime documents as well.

From these two definitions, it follows that although the two words are normally mentioned together and relate to the provision of assistance to persons in distress, they refer to two distinct operations: one being about locating the persons in distress while the other is about retrieving and delivering them to a place of safety. This implies that for any search and Rescue service to be effective, both operations (the search and the rescue) must be effective. It also implies that the two operations, in most cases, are conducted by different parties or teams. The search team is not necessarily the rescue team. This calls for a thorough organization that coordinates the activities or functions of the search operation with those engaged in rescue.

According to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, search and rescue services are *the performance of distress monitoring, communication, coordination, and search and rescue functions, initial medical assistance, or medical evacuation, using public and private resources, including cooperating aircraft, vessels, and other craft and installations*. From this simple definition, it follows that an effective SAR organization is expected to depict, as a minimum, elements such as a) how the distress is monitored, communicated, and coordinated; b) means of locating the distress (Search); c) means of rescue (including the provision of medical assistance and evacuation); d) public facilities and resources; e) private resources; and f) all cooperating aircraft, vessels, and other craft and installation. All these elements must be identified and organized by the State to give assurance to the public of the availability of an effective SAR service.

The SAR system, like any other system, has individual components that must work together to provide the overall service. Once the search and rescue region (SRR) is established in terms of the geographical extent, and necessary legislative arrangements for SAR services are completed, then the primary system components required for the provision of an effective service are: Communications throughout the SRR, and with external SAR services; An RCC for the coordination of SAR services; SAR facilities, including SAR units with specialized equipment and trained personnel, as well as other resources which can be used to conduct SAR operations; Medical advice and medical assistance and evacuation services; On scene coordinator (OSC) assigned, as necessary, for coordinating the on-scene activities of all participating facilities; and Support facilities that provide services in support of SAR operations.

Generally, the basic requirements for developing an effective SAR system include a) legislative establishment of the SAR services, b) arrangements for the use of all available resources, and provision of others if necessary, c) establishment of geographical areas of responsibility with associated Rescue Coordination centers or rescue subcenters, d) staffing, training and other personnel support to manage and operate the system, e) adequate and functioning communication capabilities, and f) agreements, plans and related documents to achieve goals and define working relationships.

International arrangements for SAR

Internationally, SAR is guided by three Conventions. For Aviation, there is the Convention on International Civil Aviation (Chicago Convention) 1944, with Annex 12. For Maritime, there is the International Convention for the Safety of Life at Sea (SOLAS) 1974, and the International Convention for Maritime Search and Rescue (SAR) 1979. These are supplemented by the International Aeronautical and Maritime Search and Rescue Manual (Doc 9731) in three volumes.

The Chicago Convention established rules for international air navigation and the International Civil Aviation Organization (ICAO). Currently, 191 states have ratified this convention and are members of ICAO. It has 19 annexes and Annex 12 is on search and Rescue. Article 25 of the Convention deals with Aircraft in distress and states thus: *“Each Contracting State undertakes to provide such measures of assistance to aircraft in distress in its territory as it may find practicable, and to permit subject to its authorities, the owners of the aircraft or the authorities of the state in which the aircraft is registered to provide such measures of assistance as may be necessitated by the circumstances....”* The detailed standards and Recommended Practices for search and Rescue are in Annex 12 to the Chicago Convention.

The Maritime SAR Convention aimed at developing an international SAR plan, so that, no matter where an accident occurs, the rescue of persons in distress at sea will be coordinated by a SAR organization and, when necessary, by cooperation between neighboring SAR organizations and States Parties to ensure that arrangements made for the provision of adequate SAR services in their coastal waters. Also just like Annex 12 to the Chicago Convention, Parties are encouraged to enter into SAR

agreements with neighboring States for the establishment of SAR regions, pooling of facilities, establishment of common procedures, training, and liaison visits; State Parties to take measures to expedite entry into its territorial waters of rescue units from other Parties; Establishes the preparatory measures which should be taken, including the establishment of rescue co-ordination centers and subcenters; Outlines operating procedures to be followed in the event of emergencies or alerts and during SAR operations. This includes the designation of an on-scene commander and his duties. It has an annex with five (5) chapters that clarify Governments' responsibilities and emphasize regional approach and coordination between maritime & aeronautical SAR operations.

For proper implementation and enforcement, the SAR international standards and recommended practices enshrined in the above international conventions, are required to be incorporated in the National legislation. This is important because regulations serve as an unmistakable commitment by the state, hold people accountable, clarify the extent of powers and degree of responsibility, and help to determine functions and responsibilities clearly and irrefutably. Consequently, Uganda has enacted the following legislations: the Uganda Civil Aviation (Search and Rescue) Regulations and the Inland Water Transport Act, of 2021. Similarly, Kenya and Tanzania have equivalent legislations regulating safety in aviation and maritime.

As such the States have the following obligations that must be clearly spelt in their legislation: Establishment of a national entity or arrangements with another Contracting State or group of States to provide, on 24-hour basis, SAR services within its territory to ensure that assistance is rendered to persons in distress; Establish a legal framework, a responsible authority, organized available resources and a workforce skilled in coordination and operational functions (through legislation, letters of agreement & training activities); Establish joint RCC to coordinate aeronautical and maritime SAR operations, or otherwise, when separate aeronautical and maritime RCCs serve the same area; Designate as SAR units, elements of public or private services suitably located and equipped for SAR operations; Coordinate SAR organization with those of neighbouring States; Permit entry of SAR units of other States for the purpose of SAR subject to conditions prescribed by its own authorities; Authorize its RCCs to provide assistance to other RCCs, including assistance in the form of aircraft, vessels, persons or equipment; and Arrange for all aircraft, vessels and local services and facilities which do not form part of the SAR organization to cooperate fully with the latter in SAR and to extend any possible assistance to the survivors of aircraft accidents

A State is also required to establish a National SAR Coordinating Committee (SCC) comprising organizations involved in SAR and those that support it, ensuring that the various authorities, responsibilities, and functions of each sector are established, documented, understood, and made available to each other. It brings the various representatives of cooperating sectors together to encourage collaboration ensure the best use of their diverse resources and capabilities and develop optimal cooperative processes and procedures within the framework of their respective constitutions mandates and policies.

There are several benefits to be realized in a regionalized SAR that include, among others, elimination of duplication, improved distribution of distress alerts, jurisdiction based on risk and need, not on arbitrary national borders, common standards of recruitment, increased coverage of service, consistency of coverage and cost-effectiveness (economies of scale, shared use of assets, extended SAR coordination is cheap).

The existing regional arrangements concerning SAR

a) The East African Search and Rescue Agreement

This agreement was first signed between Ministers of Transport and/or Communications of the three East African States of the Republics of Uganda, Kenya, and Tanzania in 2002. Later through an administrative memorandum, the republics of Rwanda and Burundi were added to the agreement. This agreement concerns the interstate use of Search and Rescue Resources and gives express permission to any of the country's aircraft and/or vessels to enter the airspace or territorial waters of another for purposes of Search and Rescue. This entrance must be coordinated by each State's Rescue Coordination Centre. The spirit of cooperation by pooling SAR resources is supported by both ICAO and IMO conventions and, if harnessed, feeds into the proposal for a regional SAR organization.

Article 2.1 states that:

“The Partner States shall:

- (a) Ensure adequate cooperation in Search and Rescue operations within their Search and Rescue Regions.*
- (b) Assist each other when the Rescue Coordination Centre of one Partner State requests the Rescue Coordination Centre of the other to provide such assistance.*
- (c) Assist each other by pooling their Search and Rescue facilities for operations within their Search and Rescue Regions*
- (d) Enter other collaborative Search and Rescue efforts which shall include among others:*
 - (i) Mutual visits by SAR personnel of the States*
 - (ii) Joint training or exercises*
 - (iii) Co-operation in the development of SAR procedures, techniques, equipment, or facilities*
 - (iv) Exchange of pertinent SAR or communications information.*
- (e) Establish one or more committees to provide a means for ongoing cooperation and study in improving SAR effectiveness”*

The above article stresses the scope and purpose of Search and Rescue cooperation among the states in the East African region. The keywords in this agreement are cooperation, collaboration, and coordination among the partner states in all aspects of SAR. But while these states are willing to cooperate, collaborate, and coordinate, it appears each state maintains a separate rescue coordination center, personnel, resources, and budget. This is because each state has its own search and rescue region

and for one state's resources to cross into the other Partner states region must be subjected to border/custom controls being coordinated by the relevant RCCs. This has the potential to delay the provision of this essential lifesaving service of SAR. This essay intends to propose that SAR is regionalized within the East African Community states with borders acting as bridges or facilitators, not barriers, for service provision.

Maritime Communication and Safety on Lake Victoria Project

This project, funded by the African Development Bank and commissioned by the Lake Victoria Basin Commission, is a private-public partnership solution to address maritime safety and communication challenges on Lake Victoria. The project consists of three parts:

- i. Establishment of a Maritime communications network: a wireless communication system covering the most traveled part of Lake Victoria (20km from the shorelines). It is expected that a fisherman in distress shall dial a toll-free number 110 to alert rescue.
- ii. Establishment of a Maritime Rescue Coordination Centre (to coordinate SAR on a 24/7 basis and provide weather alerts to fishermen)
- iii. The SAR organization (16 SAR stations equipped with rescuers and rescue equipment on 24/7 standby. Also responsible for carrying out education, safety awareness promotion, and other community projects.)

The project has been partially implemented with the commissioning of the maritime communication system achieved in mid-2021. It is a commendable intervention towards improving the safety of Lake Victoria whereby vessels in distress or persons aboard vessels can use their mobile phones at no cost to alert rescue. Despite this intervention, reports of fishermen drowning without calling the toll-free code 110 continue to appear in the local news media. It appears either the fishermen are not sensitized about the availability of the toll-free service or they do not carry their mobile phone sets when they go out into the lake to fish.

During a recent Search and Rescue sensitization workshop conducted jointly by the Uganda Civil Aviation Authority and the Maritime Administration of the Ministry of Works and Transport in the Island district of Kalangala, Uganda, one of the local leaders protested the criteria used to select the location of the SAR station at Misonzi island stressing that Misonzi was quite far from the most inhabited and biggest island (Bugaala) and not adequately covered by GSM phone network.

From the project literature, the project was intended to provide communication services within the range of 20 km from the lakeshores- indicating that this is the most traveled part of the lake. However, during my informal interactions with some fishermen on one of the landing sites of Lake Victoria, they have indicated that some types of fish such as Nile perch are only found in the deeper parts of the lake more than 20km from the shore, and beyond the existing GSM network coverage. This implies that some fishermen continue to risk their lives in the deeper sections of the lake where even when faced with

distress circumstances, communication with SAR centers would be difficult. After all, there is no legal restriction to prevent them from fishing in that part of the lake.

It recommended that further studies be carried out on how to have 100% coverage of communication for the entire lake, and to explore other interventions for SAR alerting in areas not covered by the GSM network. This might also require instituting restrictions on minimum equipment for water vessels intending to operate beyond the GSM network coverage.



By sarahemcc - Fishing Boats at Ggaba Landing Site, Lake Victoria, CC BY 2.0,
<https://commons.wikimedia.org/w/index.php?curid=5962300>

The proposal for a regional aeronautical and maritime search and Rescue Organization.

As indicated earlier, this essay is a call on decision-makers to work towards establishing a regional entity to spearhead the provision of aeronautical and maritime search and rescue in Lake Victoria. The lake covers an area of approximately 69,000 square kilometers spanning Tanzania, Uganda, and Kenya. Approximately 30 million people live along its shores and the lake currently provides livelihood for three to four million people. Unfortunately, it is also one of the most dangerous waterways in the world. Each year some 5,000 people lose their lives on the lake due to drowning, pirates, and accidents. Most of them are fishermen who leave behind several dependents – affecting perhaps 30,000 people’s well-being annually.

The establishment of a regional SAR system is typically dependent on the development of multilateral national or regional plans, agreements, etc., to suit the desires and needs of the States involved. These documents may discuss the establishment of rescue subcenters, equivalent arrangements in place of establishing search and rescue regions, etc., but usually provide for effective use of all available resources for SAR; delineation of search and rescue regions; description of relationships between the parties; discussion of how higher-level conventions, plans, agreements, etc., will be implemented and supported.

The three countries sharing Lake Victoria were the first countries forming a Regional Economic Block known as the East African Community (EAC), with its headquarters in Arusha, Tanzania. In September 2002, the three partner states signed an agreement concerning the interstate use of search and rescue facilities. The partner states are also jointly implementing the Multinational Lake Victoria Maritime Communication and Transport Project aimed at improving the safety of fishing and shipping on Lake Victoria and involving the installation of very essential SAR equipment and facilities such as the maritime RCC at Mwanza, Tanzania, and 16 SAR centers spread across the lake. Therefore, Uganda, Kenya, and Tanzania can leverage the EAC SAR agreement and the maritime communication and transport project to form a regional SAR organization for Lake Victoria.

As far as aeronautical SAR is concerned, each of the three EAC partner states has its own aeronautical rescue coordination center (RCC). An RCC is defined as a unit responsible for promoting the efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region. Tanzania has an RCC in Dar es Salaam (Julius Nyerere International Airport), Kenya in Nairobi (Jomo Kenyatta International Airport), and Uganda at Entebbe International Airport. Each state's aeronautical SAR region covers part of Lake Victoria. For an effective SAR system, these aeronautical RCCs should delegate responsibility for SAR coordination and operations over the Lake Victoria region to a dedicated SAR organization consisting of both aeronautical and maritime units.

Each of the three partner states also has in place a document serving as a National search and rescue plan. The content and structure of these plans are similar for, it is understood, they were developed following the same template coordinated by the ICAO-East African and Southern Africa regional office. The objective of each of the State's plans is "to provide an overall plan for coordination of aeronautical and maritime SAR operations, effective use of all available resources, mutual assistance, and efforts to improve such cooperation and services". The plans also provide for the establishment of national SAR committees in their respective States. The responsibility of the National Committee, as read from Uganda's Plan, is to advise the Minister (of Transport) regarding the broad policy required to achieve an efficient aeronautical and maritime SAR organization, coordinate efforts of the relevant ministries, departments, and agencies, and the pooling of SAR resources. The membership of these committees includes both public, private, and voluntary organizations that contribute personnel and other material resources to SAR. The existence of these national committees should make the formation of the proposed regional SAR organization a task easy to achieve.

Lake Victoria region is a unique ecosystem for SAR operations consisting of a combination of inland ports and airports and a multitude of fishing landing sites. The major inland ports include Portbell and Jinja in Uganda, Kisumu in Kenya, and Mwanza, Bukoba, and Musoma in Tanzania. The airports on Lake Shores include Entebbe International Airport, Kisumu International Airport, and Mwanza International Airport as well as other smaller aerodromes such as Jinja, Kakira, Bukoba, and Musoma.

The traffic (both maritime and aeronautical) generated by these ports, airports, and landing sites presents a strong case for dedicated regional organization for both aeronautical and maritime search and rescue.

As guided by the IAMSAR manual, a regional approach can reduce costs and improve the distribution of distress alerts, coverage, and services. For example, it is usually less operationally complex, and more economical and effective, for States within a region to share the use and support of long-range terrestrial and satellite communications facilities and communications registration databases to support SAR. States can sometimes support each other with search and rescue units to reduce the total number of units needed for adequate coverage and readiness. Training and other types of resources can be shared to everyone's benefit.

An example of shared resources can be the establishment of a Joint RCC for Lake Victoria to coordinate both maritime and aeronautical SAR services. One advantage of combining aeronautical and maritime RCCs into a joint RCC and staffing the facility with both aviation and maritime specialists and equipment is a synergistic approach to the solution of SAR incidents. RCC staff can share subject matter expertise and determine a more balanced and complete evaluation of each incident. For example, maritime equipment can be used to rescue survivors of aircraft incidents and accidents that occur in areas not easily accessible by rescue aircraft and aircraft can also be used to evacuate passengers stranded on distressed ships.

This proposal is slightly different from the non-governmental-led SAR organization proposed by Wengelin, M., & deWet, T. (2010). Primarily, SAR is a state obligation. Therefore, the State and its government must incorporate SAR into their public service structure and should take a leading role in establishing this SAR organization. The state has vast resources (appropriate for use in SAR) distributed across its territory in various agencies and departments. The only challenge is that these resources and agencies are not organized. After the State has established this organization, then other cooperative bodies such as NGOs, voluntary associations, and clubs, can be incorporated into the SAR organizational structure through memoranda of understanding and inter-agency agreements. The NGOs such as the National Lake Rescue Institute of Uganda (NLRI) shall play a vital but supplementary role to the state SAR organization.

Borders and Boundaries issues in Lake Victoria

There have not been major territorial conflicts among the three countries sharing Lake Victoria except one over a small rocky island (Migingo), barely the size of a football pitch- see photo below, near the boundary between Uganda and Kenya. It is believed that the deep waters around Migingo Island attracted fishermen from both countries looking for the profitable Nile Perch fish species. However, Kenyans living on the island were required to purchase special permits from the Ugandan Government. At the peak of the conflict, armed forces from the two countries pitched camps in the surroundings of the island and, destabilized relations between the two brotherly countries.



Migingo Island is at the border between Uganda and Kenya.

Source:

https://www.aljazeera.com/wpcontent/uploads/2019/02/793e06c25e2b47e2b6e46d530ef57a15_8.jpeg?resize=1170%2C780&quality=80

Each of the three countries claims absolute sovereignty over a portion of Lake Victoria with Tanzania, Uganda, and Kenya taking 49%, 45%, and 6% respectively. Whereas these EAC partner states in principle cooperate economically, artisanal fishermen continue to report being “harassed” by both border patrol and other security agencies operating on the lake. For instance, fishermen from one state are not allowed to into the territorial waters of another state. This can cause a risk of impeding cross-border SAR operations. Therefore, as Asiwaju (2012) puts it, these borders are potential conflict generators and there is a need for a policy review to turn these colonially inherited borders over Lake Victoria into bridges, conflict preventers, and facilitators for the broader economic development of the region.

The SAR organization being proposed should aim at putting in place policies for the elimination of boundaries within Lake Victoria. The SAR resources of the East African Partner States should endeavor to provide this life-saving service to any person, aircraft, or ship at any place and always without regard for nationality or race.

Safety Culture in Artisanal Fishing

Whereas many fishermen have lost lives on Lake Victoria, it appears that the biggest contributing factor is the lack of safety culture in this community. Most of the regulations in the fisheries sector are related to the safety and quality assurance for handling, storage, and transportation of fish not the safety of

fishermen themselves. Also, a closer examination of the Inland Water Transport Act, 2021 whose purpose (Article 2) is” to regulate, coordinate and oversee maritime safety, security, training, search, and rescue, and to prevent marine pollution on inland waterways”, does not indicate whether this law applies to artisanal fishermen or whether they were involved in its enactment. Consequently, artisanal fishermen continue to use boats that do (not?) meet minimum safety and regulatory requirements thereby putting their lives at risk of accidents.

As part of the community and stakeholder engagement and sensitization, the Maritime Communication and Safety on Lake Victoria project, highlighted earlier, has distributed free lifejackets to the fishermen at almost all landing sites. However, reports indicate that fishermen have mixed feelings about the use of these life-saving jackets (Daily Monitor). Reasons range from cost, hygiene, and sizes of jackets. Yet more lives continue being lost. This might call for more sensitization and a strict enforcement regime on the carriage and use of life jackets in the maritime industry as it is in the aviation industry for those flights operated over water.

To reduce and improve the safety of artisanal fishermen, the regional SAR organization shall put in place an effective Safety Management System (SMS). In this context, “safety” refers to the effort that is taken to ensure that the actions of all stakeholders on the lake, including their equipment, and facilities including SAR, are free from factors that may lead to deaths, injuries, or loss. The stakeholders here mean all individuals providing a service or just using the lake, including artisanal fishermen. Any effective SMS is expected to have four functional components: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion (safety culture). The SAR organization would benefit from the aeronautical authorities in the region to extend these SMS principles to the maritime sector, and particularly to bring the artisanal fishermen on board.

Implementation of the Proposed Organization (Change Management)

As indicated earlier, there exists some ongoing parallel efforts in the region in SAR both in maritime and aviation sectors. The proposed organization aims at consolidating these efforts and/or processes into one entity combining both aeronautical and maritime SAR aspects. To achieve this, I suggest the adoption of the “10-step commandment” theory developed by Kanter et al. (1992). These 10 rigid steps are: 1) analyze the organization and its need to change, 2) create a vision and common direction, 3) separate from the past, 4) create a sense of urgency, 5) support a strong leader role, 6) line up political sponsorship, 7) craft an implementation plan, 8) develop enabling structure, 9) communicate, involve people and be honest, 10) reinforce and institutionalize the change.

The above step-by-step process is easily achievable if no.6 and no. 9 are given due attention. Political sponsorship is key in the implementation of any state activity or program. The political leaders of the EAC partner states must be sensitized about the dividends that accrue with improved safety on Lake Victoria through joint aeronautical and maritime SAR. These dividends/benefits must be communicated clearly and honestly, involving all stakeholders- especially the artisanal fishermen. The

involvement of political leaders is important for the organization to get the necessary legitimacy and acceptability, while communication and stakeholder involvement help to mitigate any resistance the change is likely to meet.

In addition to communication is the need to harmonize the training and language requirements for the key personnel in the SAR organization. Aviation has rigorous and mandatory training and licensing programs for personnel involved in all aspects of the industry. This is partly responsible for the relatively improved safety levels in aviation. It is recommended that the SAR organization seek to implement the training and all aspects of SAR personnel proficiency requirements highlighted in the IAMSAR manual.

Conclusion.

While writing this essay, I must confess that I was biased. My bias stems from my extensive knowledge of aeronautical search and rescue where I have been part of the planning and sensitization of SAR activities across Uganda. I plan to continue sharing my knowledge with colleagues in the maritime sector to establish a regional aeronautical and maritime SAR entity covering Lake Victoria and its surroundings.

The policy and decision-makers in the EAC countries should leverage the East African Community SAR agreement and the ongoing implementation of the Multinational Lake Victoria Maritime Communication and Transport Project as well as their National SAR plans to establish the Lake Victoria SAR organization with a Joint RCC serving both aeronautical and maritime SAR aspects. The existing national SAR committees in each of the EAC countries should constitute the regional steering committee for the proposed organization. After establishing this organization, other cooperative SAR agencies such as NGOs, voluntary associations, and clubs should be incorporated into its structures and supported. These volunteers play a vital supplementary role in SAR and should be recognized by the State authorities.

The borders and boundaries separating EAC states should be eliminated to make the provision of SAR service effective, especially over the shared Lake Victoria region. The borders should instead be turned into bridges or avenues for improved SAR service delivery. This should be made possible by utilizing the existing treaties for the economic integration of the East African Community. The SAR organization shall have a dedicated program to promote a safety culture and sustainable lake use practices among all stakeholders. It is only when the safety of lake users improves through the reduction of accidents and the number of lives lost that lake users see value in the services provided by the proposed regional aeronautical and maritime SAR organization.

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