

Analysis of Serbian Military Riverine Units Capability for Participation in the United Nations Peacekeeping Operations

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ABSTRACT: This paper analyses required personnel, training capacities and equipment for participation in the United Nations peacekeeping operations with the riverine elements. In order to meet necessary capabilities for engagement in United Nations peacekeeping operations, Serbian military riverine units have to be compatible with the issued UN requirements. Serbian Armed Forces have the potential to reach such requirements with the River Flotilla as a pivot for the participation in UN missions. Serbian Military Academy adopted and developed educational and training program in accordance with the provisions and recommendations of the IMO conventions and IMO model courses. Serbian Military Academy has opportunities for education and training military riverine units for participation in the United Nations peacekeeping operations. Moreover, Serbia has Multinational Operations Training Center and Peacekeeping Operations Center certified to provide selection, training, equipping and preparations of individuals and units to the United Nations multinational operations.

1 INTRODUCTION

Modern age and changing geopolitical scene brings complex security situation including asymmetric threats and new types of conflicts. Awareness of collective reaction against upcoming threats is very important, so it is better to be stopped in its source. New challenges posed new request for military riverine units which have adapted their capabilities in regard to worldwide and local safety aspects. In spite of poor autonomy abilities of military riverine units to reach some world destinations, national capabilities ought to be partly directed towards the UN's requirements because a global security provides a national security at the same time.

The United Nations military riverine units are essential part of peacekeeping operations in case land forces are limited with territory features. They are engaged in case of uncompleted or non-existent land

line of communications in area of operations. Their engagement has to provide required support for civilian and the other UN participants in accordance with established mandate of mission.

The military riverine units should reach multipurpose role within national frameworks as a starting point for interoperability with others in possible peacekeeping operations. However, national military riverine tactics and procedures do not have to be changed. The aim is constructing own riverine elements such a flexible units with long range of mobility, quick reaction of troops, high level of force protection, sustainability and support to the other units concerning universal challenges.

2 CONCEPT OF DEVELOPMENT NATIONAL MILITARY RIVERINE UNITS

There are few major inland basins on each continent which are intersected by rivers, canals, irrigation ditches and lakes (e.g. *the Danube and the Volga rivers create great waterway system with navigable canals in Europe, the Amur river as long natural border between Russia and China in East Asia, the Mississippi and the Missouri rivers with own tributaries in North America, the Amazon river in South America, the Nile, Congo rivers and Tanganyika lake in Africa*). All disseminated countries in these areas have long tradition of powerfull military riverine units that have been developed in accordance with existing waterways network density. Nonetheless, their missions and tasks depend on contemporary risks and threats, but prosperity of inland security components and required capabilities depend on political and economic potential. Countries with political instability and low level of economy cannot often ensure an appropriate answer for growing violence and crime on its own territory. In that case, the world community is supposed to provide a collective security led by the United Nations with the military riverine units as an important part of peacekeeping missions.

In the past, the countries did not consider mobility and rapid reactions of this kind of military branch. They had been mainly focused on using them for fire support to land forces as well as for rivers crossing and mine/counter mine operations. That was understandable due to bipolar world during the period of the Cold War when global political situation enforced countries to develop riverine units for specific treats form the opposite side. The military riverine units had been usually equipped with quite big vessels called monitors and armored artillery ships with heavy guns (caliber from 30 mm to 110 mm) as an integral part of them. These types of vessels are still in service in some countries although these crafts are mostly outward. Moreover, river mine sweepers and river patrol boats had been built as fairly smaller ships in that period (fitted with machineguns caliber from 7,62 mm to 12,7 mm and guns from 20 mm to 30 mm). [1]

Nowadays, the inland waterways remain economic and military potential in all countries. It has been confirmed in all struggles since the Second World War. They have not lost significance as important communication for supply and support land units on battlefield on tactical and operational level. Since the end of the Cold War, strategic decision was to develop air forces and missile rocket units, while river ships were not priority for a long time. Many countries with poor economy suppressed own military riverine units while the others with

respectable military capacities were decreasing their strength. However, upcoming asymmetric threats and new ways of waging wars have started including inland waterways and the purpose of the military riverine units has been reinforced. [2]

3 STRUCTURAL ORGANIZATION AND PERSONNEL

The military riverine unit has to provide full capability for the UN operations with long range mobility in high level of threats surroundings. Also, crucial demands are self-sustainability and ability to support the other UN units and agencies in theater. The main focus of engagement are cessation of hostilities, protection of civilians and human rights, providing assistance for monitoring and verification activities, controlling illegal activities as well.

A company size unit approximately 140-200 strength correspond to the UN's requirement, including special qualifications of staff personnel, marines, crew boats and the other elements for support. UN riverine company is directly operationally controlled by the Force Commander, who can carry authorization over to Sector Commander in some specific situation. The central point of company are three patrol platoons made up of identical or different type of boats with transport capacity up to 105 organic troops in total, but widespread on three different location. A headquarter of UN company can be situated on land in residential containers or embarked in appropriate craft related to existing conditions and available national assets. A headquarter provides operational command, control and administration of unit personnel. The nerve of the company is operational and planning cell which completely provides awareness of all situations, sharing information with Force Headquarter and receiving reports from patrol units on the site. An inevitable part of headquarter is a coordination cell as co-located with the other force elements throughout integrated operations or when some parts of riverine company are launched in area of responsibility of other sectors. A maintenance cell has to be reachable in broad territory for guaranteeing repairs during day and night operations with enough spare parts, appropriate tools, required equipment, special instruments and following documents. Furthermore, logistically sustain for up to 30 days without resupply is responsibility of logistic cell. Medical care must be established as a level 1 hospital and coordinated by a medical cell with quite strong capability for working out surface and air evacuation of casualties.

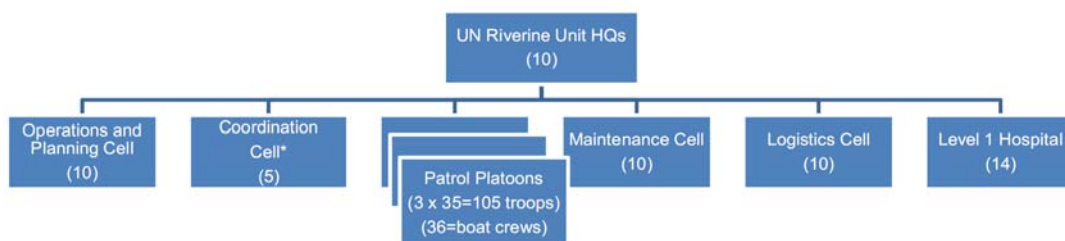


Figure 1. Organization chart of the UN riverine company [3]

General characteristic of riverine unit is wide-ranging individual skills of personnel for providing high level of readiness to realize all assigned tasks in complex area of responsibility. Regarding combination of land and aquatic vastness, boat crews and marines are obliged to possess unique abilities. Therefore, they need to be completely familiar with radio communication procedures, first aid kit, handling and using personal weapons as well as owning partial knowledge about Explosive Ordnance Disposal and Counter Improvised Explosive Devices procedures. As additional requirements for the boat crews are full skills of navigation in daily and night conditions, boat safety measures, communications, rapid maneuvering and handling with installed weapons on boat. On the other hand, personnel of light infantry should possess basic knowledge about navigation and boat equipments. Moreover, collective capabilities are significant for riverine company concerning geographic challenges, specific ways of engagement and tactical boat operations and infantry operations.

4 EQUIPMENT AND ARMAMENT

First of all, disposal in standard ISO 20 ft container and air transportable of all equipment with helicopter Mi-26 or aircraft C-130 are outset for reaching capabilities of the UN riverine unit.

Generally, the United Nations demand fixed-mounted weapons on all riverine boats, few options of propulsion to achieve a speed at least 35-40 knots: water jet, propelled or powered outboard engines, then own full potential to operate during day and night (24/7), maintaining marine bands (HF, VHF), aircraft band and satellite communications as well as reliable scheme and resources for casualty evacuations.

Fast patrol boat as an organic component of UN patrol platoon is a type of vessel with self-sufficient conditions for crew and approximately 29 troops onboard up to 30 days, equipped with weapons at least caliber 23 mm and crew ballistic protection from small arms (at least 7,62 mm). A generator, an automatic fire extinguisher system and life rafts are needed gears on fast patrol boat, too.

Light patrol craft is a bit smaller boat with impressive capability regarding armament, speed and transport capacity. The UN's target requirement about fixed-mounted weapons is neutralization up to 600 meters and suppress up to 800 meters with crew protection against at least 7,62 mm non-armor piercing. Maximum transport capacity is 1.800 kg including 10 marines plus 2 crews in 200 km operating range or 250 km with 4 crew members only. Therefore, this type of the UN boat is not allowed to weight more than 11.100 kg due to a possibility of air transportation by military helicopters Mi-8/Mi-17. [3]

Different types of vessels as riverine/costal component have been presented for a long time in the UN missions according to the following: in Haiti (MINUSTAH); the Democratic Republic of Congo (MONUC/MONUSCO); Darfur, Sudan (UNAMID);

South Sudan (UNMISS) and Mali. Also UNOCI and UNMIL investigated possibility for waterborne patrols on Cavalla River (border Cote d'Ivoire/Liberia).[4] In recent years, Uruguayan riverine companies are deployed in UN mission MONUC-DR Congo, equipped with two river patrol boats class A UPF (Unidad de Patrulla Fluvial) class Mk 44 and numerous rigid-hull inflatable boat (RHIBs) mark Zodiac Mk IV. The main characteristics of river patrol boat: length 11.30m, width 3.25m, draft 0.6m, Complements 2+6, armament 1 x Browning M2 HB 12.7mm (*forward-mounted*), 2-3 x machine guns FN MAG 7,62mm (*aft/side-mounted*). (Fig. 2.)



Figure 2. Uruguayan riverine patrol boat class A UPF [5]

Uruguayan companies under the UN mandate are in charge of conducting operations on Lake Kivu and Lake Tanganyika with armed personnel onboard in an effort to beat armed robbery, smuggling and illegal taxation imposed by local armed groups on commercial vessels. Major troop contributors to MONUSCO had identified the need for more surveillance assets and greater riverine capabilities to enhance coverage on lakes and rivers in the Kivus. [6]



Figure 3. Bangladeshi RHIBs in eastern Mali [7]

Serbian River flotilla equipped with RHIB 720 type boats, length 7.40 m, width 2.90 m and draft 0.85 m. These boats are equipped with powerful Yamaha outboard motor of 150 HP. On the water, they develop speed of about 54 kilometers per hour and are able to accommodate 15 persons or 3600 pounds of cargo.

A Bangladesh Riverine Unit of the UN Mission in South Sudan (UNMISS) launching riverine operations on the River Nile. Marine boats are intended to protect UN barges, including those

carrying humanitarian aid. In Mission in Mali (MINUSMA) Bangladesh Riverine Unit carry out a river patrol. (Fig. 3.)



Figure 4. US Navy Special Operations Craft – Riverine SOC-R

The US Navy has Special Operations Craft - Riverine designed to operate along river networks and coastal areas. The Special Operations Craft - Riverine performs short range insertion and extraction of SOF in river and nearshore environments. The SOC-R is a high-performance craft designed to fit aboard C-130 or larger military aircraft. Fig.4 [8] Good opportunity for Serbian

riverine unit is multirole fast combat boat type PREMAX as Serbian state own product which capabilities are fully compatible with the UN requirements for light patrol craft. Also, it possesses similar features as special operations craft used by U.S. Navy riverine forces for in-shore interdiction, riverine patrolling and direct action missions. Fig.5.[9]



Figure 5. Multirole Fast Combat Boat – type PREMAX, Production of Serbian State Owned Company

Overview of main characteristics the mentioned riverine crafts are represented in table below:

	UN Light Patrol Craft (Including Rigid-Hull Inflatable Boats)	Special Operations Craft – Riverine (SOC-R USA)	Multirole Fast Combat Boat type PREMAX
air transportable	MI-26 or C-130	C-130 trailer	C-130 ¹ trailer
Propulsion	Water jet-propelled powered outboard engines	2 × 440 hp Yanmar 6LY2M-STE diesel engines each driving a Hamilton HJ292 water pump-jet	2 × Cummins QSB 6.7 480 HP Common rail diesel
Speed	at least 35-40 knots	40 knots (74 km/h)	40-45 Knots
Sensors and processing systems:	GPS, VHF/HF/	(FLIR), GPS, VHF/HF/ UHF/FM Net & SATCOMM	GPS, VHF/HF/ UHF/FM , SATCOMM
Autonomy	200-250 km	232 km	5 h / 200 nm
Displacement	Max 11.100 kg	Empty 7.300 kg Max load out 9.400 kg	Dry weight 6.500 kg Max weight 10.500 kg
Length	10.5 m	10 m	11.98 m
Width			
Beam		2.97 m	3.34 m
Draft	Max 1.2 m	0,61 m	0.7 m (sea version 1.2 m)
Crew	2	4	2-4
Transport capacity	10 light infantry or 1.800 kg	8 SEALs	max 12 (including crew)
Armament	Weapons sufficient to neutralize targets out to 600 meters, or suppress targets out to 800 meters.	2 × GAU-17 miniguns (forward) 1 × M2HB .50 caliber (12.7 mm) machine gun (aft) 2 × M240B 7.62 mm light machine gun(s) (side-mounted) 2 × 40 mm Mk 19 grenade launcher	automatic 20 mm M55 gun 7.62 × 54R mm M84 light machine gun manually-operated 12.7 mm HMG 30 mm M93 automatic grenade launcher
Armor	at least 7.62 mm non-armour piercing ammunition	Ballistic protection (up to 7.62mm x 39mm ball) for the engines, helmsman and gunners	Add-on bullet-proof panels can be mounted on the inner sides of the hull for extra boat protection.

¹ C-130 Cargo Hold, Width: 3.1m; Multirole Fast Combat Boat type PREMAX has beam on waterline, 3.00 m, but maximum beam is 3.34 m because of rubber (rubbing strake).

5 TRAINING AND EDUCATION

Republic of Serbia has century-old tradition of seamanship and nautical activities, remarkable network of national and international inland waterways, too. Serbia has continuity of membership in the International Maritime Organization and all international laws and regulations have been adopted in maritime and inland navigation. Serbian Military Academy cherishes long history of maritime practice while the Nautical Department is in charge of education and training for Serbian Armed Forces, civilians from its own country, as well as from abroad.

The great potential of the Nautical Department is based on a naval tradition and accreditations for study programs – nautical module (240 ECTS) as a unique training system in Serbia and represents symbiosis of maritime education between the Navy and the Merchant fleet. Maritime training courses are also organized in the Nautical Department and quality system is built on the recommendations of The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention), ISO 9001:2008, evaluated by Bureau Veritas and Det Norske Veritas Germanischer Lloyd – DNV GL. Training for seafarers (STCW courses) has been carried out for more than 1.000 civilians and 200 members of the Serbian Armed Forces since June 2007. Lectures are conducted in Serbian and English at the Military Academy with literatures on both languages. There are fully capability for training, including equipped classrooms, swimming pool, simulators and polygons in vicinity of rivers. Highly professional services make this training one of the most competitive in South East Europe.

Seafarers and boatmen are trained at the Serbian Military Academy for maritime and river industry, customs, military and police riverine units. Furthermore, Serbian Military Academy adopted and developed educational training program against piracy, applying all the provisions and recommendations of the IMO conventions and IMO model courses for Autonomous vessel protection detachment (AVPD). However, continuous support has been already provided for Serbian AVPD whether has participated in the EU military operation EUNAVFOR ATALANTA, concerning navigational training with simulators and IMO model courses. [10]

At the Serbian Military Academy, boat crews are trained to operate their respective vessels for day and night operations in accordance with national standards and International Maritime Organization safety standards (STCW Convention and IMO model courses). River flotilla primarily conducts training for boat safety, navigation, night vision, communications, operator maintenance, high-speed maneuvering, handling weapons (including crew-served weapons) and other individual and collective skills unique to riverine craft operating in a riverine environment. Multinational Operations Training Center and Peacekeeping Operations Center in Serbian Armed Forces have experience of selection, training, equipping and preparations of individuals and units to the United Nations multinational operations. Moreover, Peacekeeping Operations Centre is a

member of the European Association of Peace Operations Training Centers (EAPTC) and International Association of Peace Operations Training Centers (IAPTC).

In these military institutions within Serbian Armed Forces, there are optimal conditions to realize all phases of educations and training process in order to achieve required tasks of the UN Military Riverine Units: waterborne security, reconnaissance and surveillance, security for shipping in transit, support to ground forces, search and rescue operation, personnel relocation, humanitarian assistance and disaster response.

6 CONCLUSION

The United Nations engagements in peacekeeping operations have become more complex over the years especially due to asymmetric threats and new ways of waging wars. The crisis usually includes opposed armed groups situated on a wide territory which comprises different terrain features. In these conditions the UN is supposed to establish a peacekeeping operation where rivers and lakes intersect the land causing difficulties to the UN elements. In this environment military riverine units could be an ideal solution as an enabler to the UN land forces. However, their capabilities have to be multidimensional and possess appropriate specific engagement capacities for various and vast water systems affected by different climates and density of waterways and canals. The main characteristics of UN military riverine units represent the balance among different capabilities: mobility of boats, quick reaction of light infantry, force protection, sustainability and support to the other UN peacekeeping units.

Republic of Serbia with own military riverine component and established maritime and navigate education have fundamental capabilities to provide personnel, equipment and appropriate training for participation in UN peacekeeping operations in riverine environment. Serbian military riverine units have the potential to become compatible with the issued UN requirements.

There are a lot of benefits, concerning experiences of other countries in peacekeeping operations, thus the positive effects to Serbian riverine units could be better equipment, training, higher incomes, operating in real combat environments. [11]

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