

A CONTRIBUTION TO THE ENHANCEMENT OF PROTECTION MEASURES AGAINST PIRACY

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ABSTRACT

Piracy describes materially motivated forms of organised acts of piracy perpetrated against a ship, aiming at unrighteous acquisition of material and/or financial assets. In the worst cases piracy results in human casualties. This paper discusses the impact of acts of piracy closely connected to the sailing route selection and the safety of navigation. It presents piracy threatened areas in the world. Comparable areas are subject to comparative analysis. It is expected that before long, seamen will implement new protection measures aiming at obstructing acts of piracy, particularly when transporting special and commercially very valuable cargo. This paper suggests paths for development of protection measures and legal framework for their introduction.

INTRODUCTION

Piracy has been legally defined by the *UNCLOS – United Nations Convention of Law at Sea*. UNCLOS advises to all signatory countries to cooperate to the fullest possible extent aimed at preventing piracy at sea or at any other place which is not under jurisdiction of any country. According to UNCLOS piracy is [1]:

- Any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft against a ship, aircraft, persons or property in a place outside the jurisdiction of any State,

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- Any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft,
- Any act of inciting or of intentionally facilitating an act described in two previous subparagraphs.

On the high seas, or in any other place outside the jurisdiction of any State, every State may seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates, and arrest the persons and seize the property on board. The seizure may be carried out by ships or aeroplanes of the military or government authorities.

Piracy is also indirectly mentioned in the *International Convention on Safety of Life at Sea – SOLAS* [3], and in the *International Ship and Port Facility Security Code – ISPS Code* [4]. There are no clearly stipulated measures for protection against piracy, which is considered to be the basic disadvantage for a successful protection against piracy attacks.

Due to the increased threat of piracy the *International Chamber of Commerce – ICC* founded the *International Maritime Bureau – IMB* whose task is to collect and exchange data about any kind of attacks to ships [4]. In 1992 ICC IMB founded the *Piracy Reporting Centre – PRC* located in Kuala Lumpur. Its role is to collect, process, analyse and forward data about piracy attacks.

THEORY AND METHOD

Piracy acts have adverse effects to navigation. Their effects relate to the selection of navigational route, measures of precaution and protection applied for safe navigation along the piracy threatened areas.

From the point of safety of navigation navigational areas have to be classified to *Piracy Area Navigation – PAN* and *Non-Piracy Area Navigation – NPAN*.

When selecting the navigational route all statistical data about piracy need to be taken into account. If the selected route passes through the piracy threatened area, the route should be changed if possible.

If it is indispensable to navigate along the piracy threatened areas preparatory measures need to be undertaken. Necessary precautions during the navigation of the ship along the piracy threatened areas are realised by increasing the number of anti-piracy watch. Anti-piracy watch is a precondition for early discovery of attempts of piracy attacks to the ship.

Piracy attacks occur more frequently during the night than during the day. It is therefore necessary to navigate particularly carefully and observe the area surrounding the ship.

RESULTS

Areas limited in space like channels, straits, passages and bays, are naturally convenient for piracy attacks to ships. Piracy is more frequent in underdeveloped countries.

I. In south-eastern Asia and Indian Sub-Continent there are several hot spots of piracy activities [5]:

- Indonesian Islands,
- Malacca Strait ,
- Malaysia, and
- Singapore Strait.

In Africa and the Red Sea the hot spots of piracy activities are [5]:

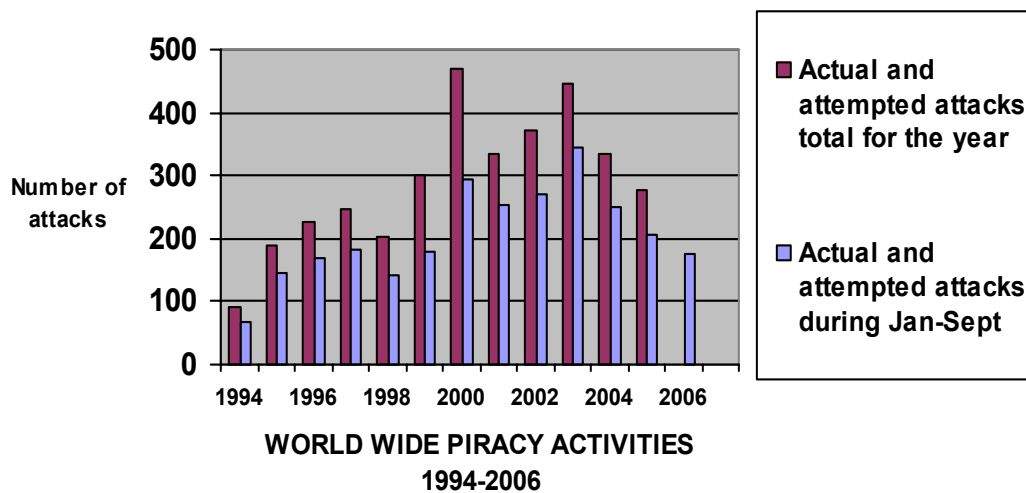
- West Africa (Nigeria),
- Aden Bay and the Red Sea, and
- Somalia waters.

The hot spots of piracy activities in middle and South America are [5]:

- Brazil,
- Jamaica, and
- Peru.

Table 1 World-wide piracy activities 1994-2006

Source: <http://www.icc-ccs.org>, *Piracy and armed robbery against ships report for the period 1st January – 30th September 2006*, ICC International Maritime Bureau, Kuala Lumpur, 2006.



Statistical analysis of the data for the period of 1994 to 2005 show that annual piracy activities amount to 290.42 attacks a year.

Distribution of piracy activities is not even. The areas of real attacks are illustrated in Figures 1, 2 and 3 [5].

Figure 1 Piracy and Armed robbery – 1st January to 30th September 2006 Attacks in SE Asia, Indian Sub-Continent and Far East

Source: <http://www.icc-ccs.org>, *Piracy and armed robbery against ships report for the period 1st January – 30th September 2006*, ICC International Maritime Bureau, Kuala Lumpur, 2006.

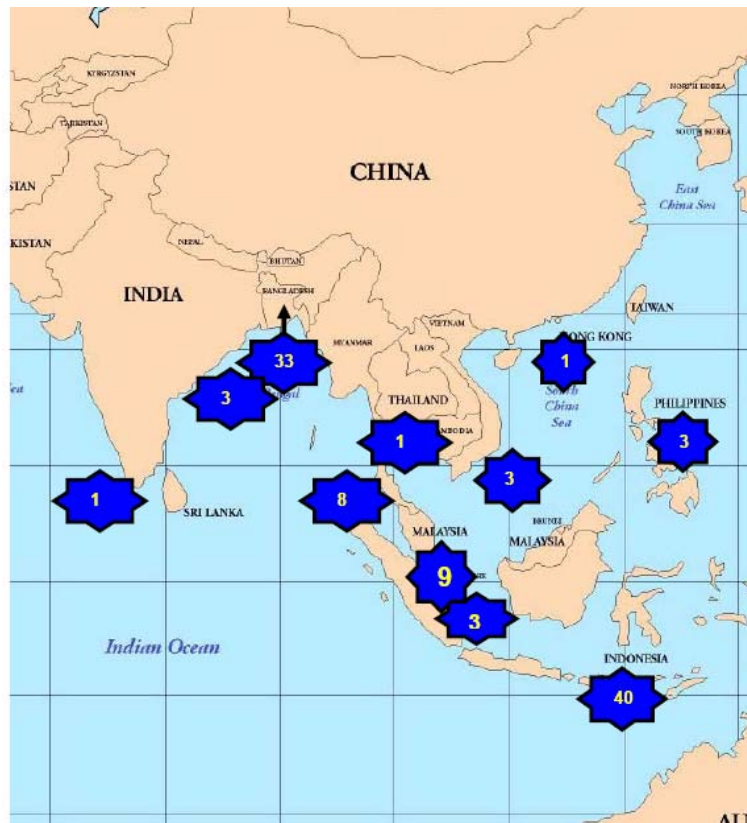
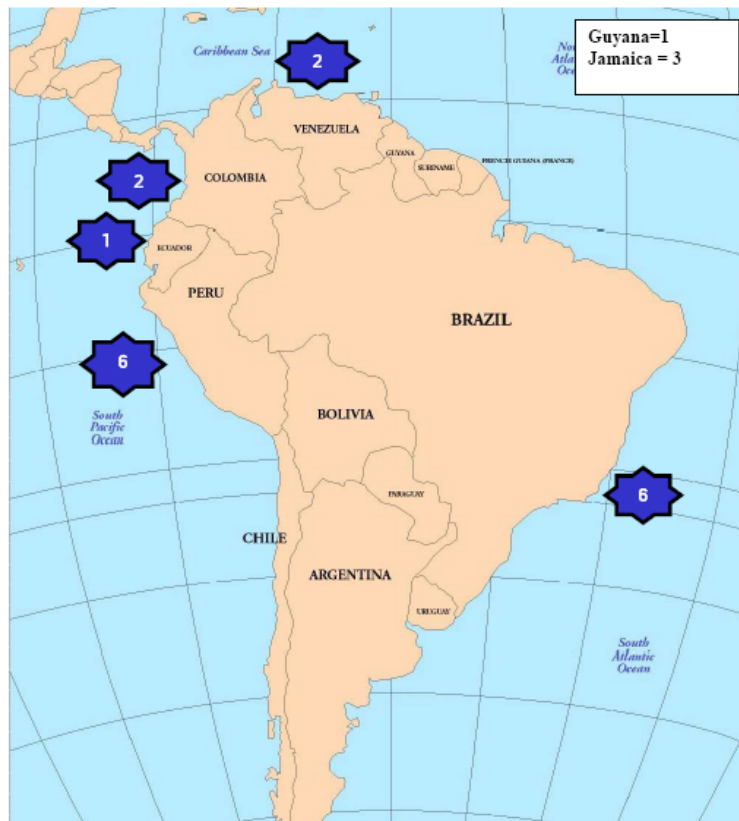


Figure 3 Piracy and Armed robbery – 1st January to 30th September 2006 Attacks in
Caribbean, South and Central America

Source: <http://www.icc-ccs.org>, *Piracy and armed robbery against ships report for the period
1st January – 30th September 2006*, ICC International Maritime Bureau, Kuala Lumpur, 2006.



It is proposed to consider the following areas as key hot spots of piracy activities:

- Bangladesh,
- Malacca Strait,
- Singapore Strait,
- Nigeria,
- Somalia,
- The Red Sea,
- Brazil, and
- Peru.

These areas are considered key hot spots as there the number of attacks is above the average [5]. Evaluation of the existing piracy protection measures can be done analysing the number of attempts of attacks and the total number of successful attacks [2]. The indicator of success shows that the existing piracy protection measures are not sufficient. [2].

DISCUSSION

It is indisputable that piracy the safety protection is a threat for the protection of ships. It is assumed that in the case of piracy attacks the current alarm system of the ISPS Code⁴. The alarm system is installed in the Convention ships, and pursuant to SOLAS requirements, it has to be installed in the Commander Bridge and in another place on the ship. Depending on the kind of performance, the warning after activating the alarm is done by:

- Permanent monitoring of the alarm system (checking signal every six hours),
- Integrating it with the equipment of *Global Maritime, Distress and Safety System – GMDSS*, and
- Changing the spoken and text messages.

However, the alarm system does not contribute significantly to the increased piracy protection measures. Surely, the current measures for protection against piracy are not sufficient, and it is therefore necessary to develop new measures for prevention and protection against piracy. It is assumed that it is possible to use various weapons and other technical and technological devices. Hence, it is necessary to study psychological, military and other aspects of using personal weapons according to determined requirements, and the modern technical and technological protection devices similar to the protection of objects ashore.

The use of weapon would definitely require additional training aimed at obtaining certificate for manipulation. The use of technical and technological devices aimed at increasing the piracy protection measures may relate to:

- Electric protection barriers,
- Dazing system, and
- Deck video surveillance system.

Technical and technological protection devices aimed at increasing protection measures against piracy at ships require adaptation to special conditions of life at sea. Also, during the further study it is necessary to determine the ratio between the number of attacks to ships in navigation, in the anchorage or berth, in order to optimise the adjustment of the selected device for the protection of the ship. One should note the difference between piracy and terrorist attacks, and in future researches attacks aimed at acquiring property or money should be distinguished and studied separately from political and religious attacks. A real contribution to increasing the piracy protection measures is also legal support in designing the proposed protection measures. In case of positive results of the proposed researches,

⁴ SOLAS XI-2/6

regulations relating to training authorised personnel for using weapons should be developed. It is expected that the *Standards of Training, Certificating and Watch keeping - STCW* will be adequate legal support to possible use of weapons on the ship. Moreover, it is advised that the storage requirements are defined by the ISPS Code.

It may be concluded that after the research proposed to the *International Maritime Organisation – IMO* amendments to the ISPS Code should be proposed.

CONCLUSION

Piracy is a minor form of organised activities targeted at a ship aimed at illegal acquisition of material and/or financial goods, and it has been legally defined by the UN Convention of Law at Sea. The Convention of Law at Sea advises all signatory countries the highest extent of cooperation aimed at prevention of piracy in the open sea or in any other place which is not under the jurisdiction of any country. According to the Convention piracy is any illegal form of violence, or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft against a ship, aircraft, persons or property in a place outside the jurisdiction of any State, act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft, and any act of inciting or of intentionally facilitating a piracy act.

Piracy activities affect the selection of navigational route. When selecting the navigational route all statistical indicators of piracy attacks and the obtained data about the areas of presence of piracy attacks need to be taken into account. If the route which the ship has to select passes through the areas of presence of piracy then it is necessary to change the route.

If possible, the route through presence of piracy should be replaced by a new route through safe area. If it is not possible then actions for preventing the assault of pirates onto the ship should be undertaken.

The analysis of the data about piracy activities indicates that the existing protection measures are not adequate. Therefore a possible implementation of adequate devices aimed at increasing piracy protection measures is proposed. If the suggested researches confirm the proposal, it is further proposed to use weapons and other technical and technological protection devices which are used for protection of objects and equipment ashore. The use of the proposed protection measures requires legal framework which can be realised through the IMO and modifications of the SOLAS Convention, ISPS and STCW Code.

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BIOGRAPHY

Josip Kasum, Sc. D. was born on 6th May 1961, in Zagreb, Croatia. He was employed at computer maintenance of Ei Honeywell Bull. He worked as an independent designer in the electronic department of the company DALMA Split and as a research assistant for technical aspects of telecommunications from 1991 to 1993. He has been employed at Croatian Hydrographic Institute (HHI) since 1993. He actively participates in various scientific and/or expert projects within the HHI, such as ADRIA1/ADRIA2 – optical under-sea cable. He also works as the author and/or editor of publications from the fields of naval electronics, radio service and telecommunications and as the manager of system support and Director's consultant since 2000. He gained navigational experience while working on hydrographic survey on the following vessels: m/v JUNAK – Brodospas, m/v VIHOR – Brodospas, m/v HIDRA – HHI – permanently, m/v PALAGRUZA – HHI and m/v LITTLEHALES–USA NAVAL SHIP in the joint project – Hydrographic survey of the high sea of the Adriatic. He is a member of the Association for electromagnetic compatibility ELMACO from Split and an associate in two technical boards of the Bureau of Standards in Zagreb. He also worked abroad, e.g. in London, Great Britain, where he participated in the work of COMSAR, a subcommittee of IMO, in 1998 and 2003, and in various European countries, in accordance to the requirements of the Council for telecommunications of the Republic of Croatia and of HHI. He is a member of the Royal Institute of Navigation in London. He is a member of System Dynamics Society, University of Albany, USA. He passed the State examination, and also went to through advanced training in Honeywell Bull HW/SW, personal computers HW/SW, computer networking, management etc. He has a skipper licence, GMDSS-GOC radio operator licence, etc. He is a permanent expert witness at the County court and Commercial court in Split. Pursuant to the Decision of the Croatian Parliament he has been a member of the National Council for higher education since 2004. He has been a member of the Scientific Traffic Council at Croatian Academy of Arts and Sciences since 2005. He is registered in the Registry of researchers of the Ministry of science, education and sports of the Republic of Croatia, reg. number 222324. He has published 24 scientific papers in relevant scientific magazines and scientific conferences, and a series of books, researches and studies.

Krešimir Baljak, Graduate engineer was born on 10th January 1979 in Zadar, Croatia. He graduated at the Maritime Faculty in Split with the thesis *Plovidba uz pomoć nebeskih tijela uz strukturu nebeske sfere te povijesno i mitsko značenje* and was awarded the academic title of Graduate engineer of maritime traffic. He gained navigational experience while working on tankers for crude oil, chemicals and liquefied gas for the shipping companies *CHEMIKALIEN SEETRANSPORT* (Hamburg), *TECTO* (Antwerpen) and *OSG* (London) from 2002 to 2004. He worked in the Secondary maritime School as a teacher of nautical subjects from 2004 to 2005. He started working at the Maritime Faculty of the University of Split in 2005 as an assistant at the Institute for maritime navigation. He is a member of the Maritime Captains Association. He has a deck officer licence for ships over 500 GT, captain licence for yachts up to 500 GT, general radio operator licence GMDSS, qualifications for work with crude oil, liquefied gas, hazardous materials, managing fires, providing first aid assistance and medical care aboard, basic security on tankers and ships, etc. He is registered in the Registry of researchers of the Ministry of science, education and sports of the Republic of Croatia, reg. number 278380. He published several scientific and expert papers, participated in scientific and expert conferences and research workshops. He is doing his post graduate studies at the Traffic Faculty in Zagreb.

Pero Vidan, Graduate engineer was born on 9th September 1976 in Metković, Croatia. He graduated from the Maritime Faculty in Split in 2000 and then sailed at various ships for *Splitska plovidba*, *Meditranska plovidba*, *Armada Swiss*, *Seatrade*. He passed the exam for the Captain of the ships above 3000 GT. Since 1st March 2006 he has worked as an assistant at the Maritime Faculty in Split for the practical courses of Practice and Electronic Navigation. He is a member of the Maritime Captains Association. He is registered in the Registry of researchers of the Ministry of science, education and sports of the Republic of Croatia, reg. number 288456. He is doing his post graduate studies at the Traffic Faculty in Zagreb