



**NATO MARITIME INTERDICTION OPERATIONAL
TRAINING CENTRE**

nmiotc

Maritime Interdiction Operations journal

Regional Capacity Building

Maritime Security Issues

NMIOTC Counter-Piracy and WMD Training

Innovative Solutions to Tackle Piracy



NMIOTC MIO JOURNAL

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COMMANDANT'S OVERVIEW

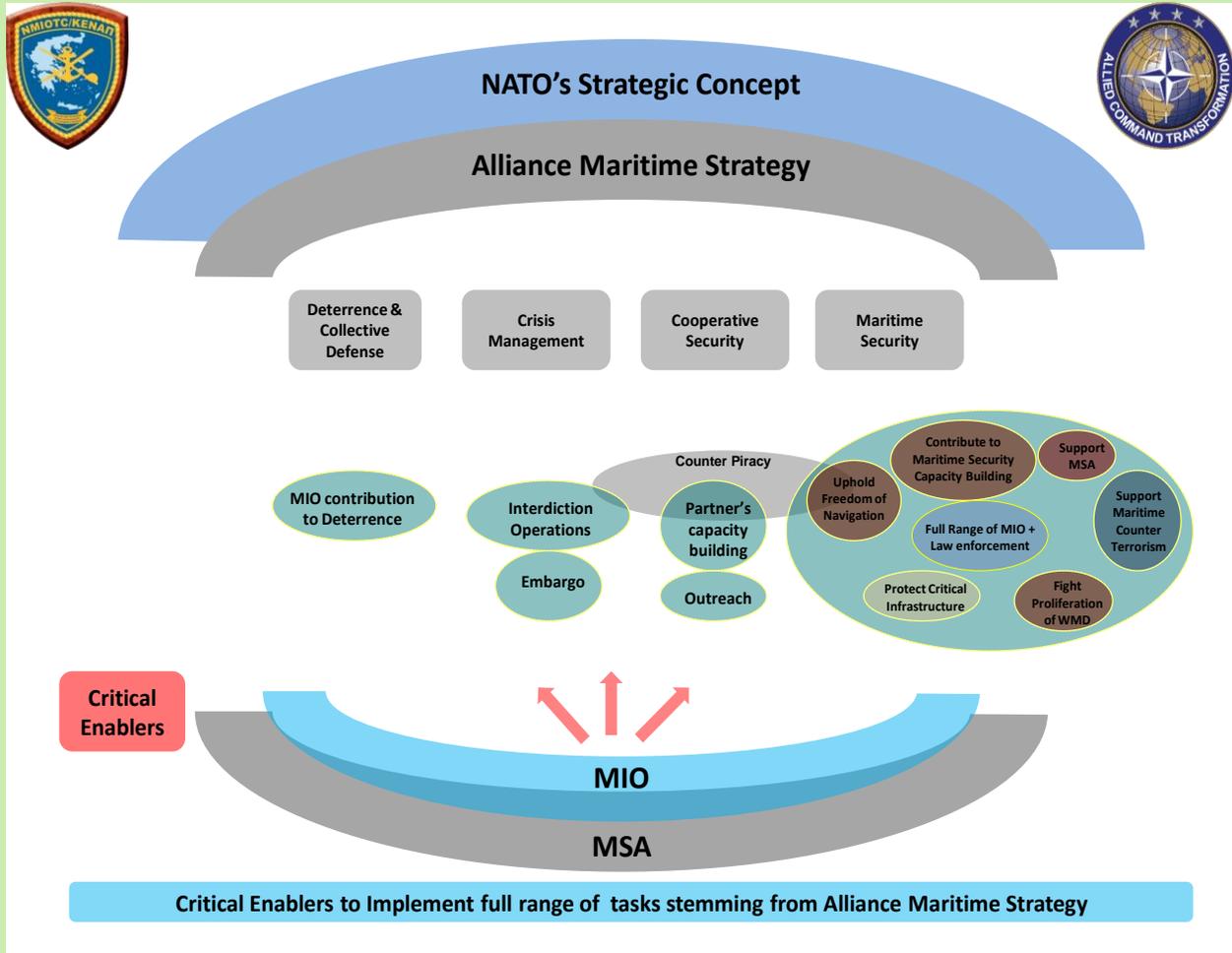
By Commodore Adrianos Poulos GRC (N)

NMIOTC's MISSION

To conduct the combined training necessary for NATO forces to better execute surface, sub-surface, aerial surveillance, and special operations activities in support of Maritime Interdiction Operations.

NMIOTC Commandant's Vision

Enhance Maritime Security through MIO Training and remain the recognized expert in the field of MIO.



MIO relations to NATO's Strategic Concept

NMIOTC stands in the NATO community for the last three and a half years delivering training and transformation concepts to help support countering of maritime terrorism. More specifically NMIOTC has trained more than 3000 students in the Maritime Interdiction (MIO) area on a practical and theoretical basis and as we believe this is a significant contribution

to provide experts globally in efficiently tackling the phenomena of maritime piracy. Through cooperation and contributions from other international organizations and academia NMIOTC is honored to be a proud member of the global maritime experts field and is always trying to stand in a position so as to hold the fame of a Center that can deliver basic through advanced training and most importantly providing to students NATO standards. In order though, to pursue this goal it is of utmost importance

to sense the strategic worthiness of MIO into the whole concept of Alliance Maritime Strategy. MIO is not something old fashioned but along with MSA is the critical enabler to support Alliance's Maritime Strategy and prove to the political level that their decisions can be effective and efficient. Without MIO and MSA no maritime strategy can be applied and this is because to start any maritime operation there is always the first or last link to a MIO operation supported of course from a concrete MSA and generally information exchange strategy.

In the above photo we depict NMIOTC's strategic perspective on how Maritime Interdiction Operations and Maritime Situational Awareness are critical enablers to implement the full range of tasks stemming from Alliance Maritime Strategy.

As we all know NATO's strategic concept is the fundamental basis from which all maritime strategic tasks are originating from the political level. One level below and on the strategic level, Alliance Maritime Strategy has been agreed from all NATO nations and is the foundation from which the four core values are driving the whole concept of operational and tactical dimensions in the maritime environment. These core values are:

- Deterrence and Collective Defense
- Crisis Management
- Cooperative Security (outreach through partnership, dialogue and cooperation)
- Maritime Security

MIO is lying underneath each one of the above mentioned core values as follows:

Deterrence and Collective Defense: MIO contributes actively to deterrence and collective defense in support of operations to maritime, land and air environment by supporting rapid and decisive force actions.

Crisis Management: Here the links to embargo operations (or other crisis response actions), a traditional MIO operation referred to ATP 71 (MIO bible), is the link directly among MIO and Alliance Maritime Strategy.

Cooperative Security: Contributing to partner capacity building by improving the capabilities of them to address security threats in the maritime environment and to operate there effectively. MIO is actively contributing to train, exercises and all aspects of support to partners' capacity building by improving their capabilities.

Maritime Security: MIO is closely related and supporting Maritime Security Operations separately but equally to all the other core values of Alliance Maritime Strategy.

Finally we should stress the fact that counter piracy operations due to its nature entail in some aspects all core values of alliance maritime strategy starting from deterrence and collective defense and going all the way to maritime security operation under the uphold of freedom of navigation MSO task. In order to start a counter piracy operation we always start a MIO mission and counter piracy is an aftermath. So nobody can separate MIO and counter piracy as are close to each other and actually if you want to perform counter piracy operations the road always passes first from a MIO preparatory mission.

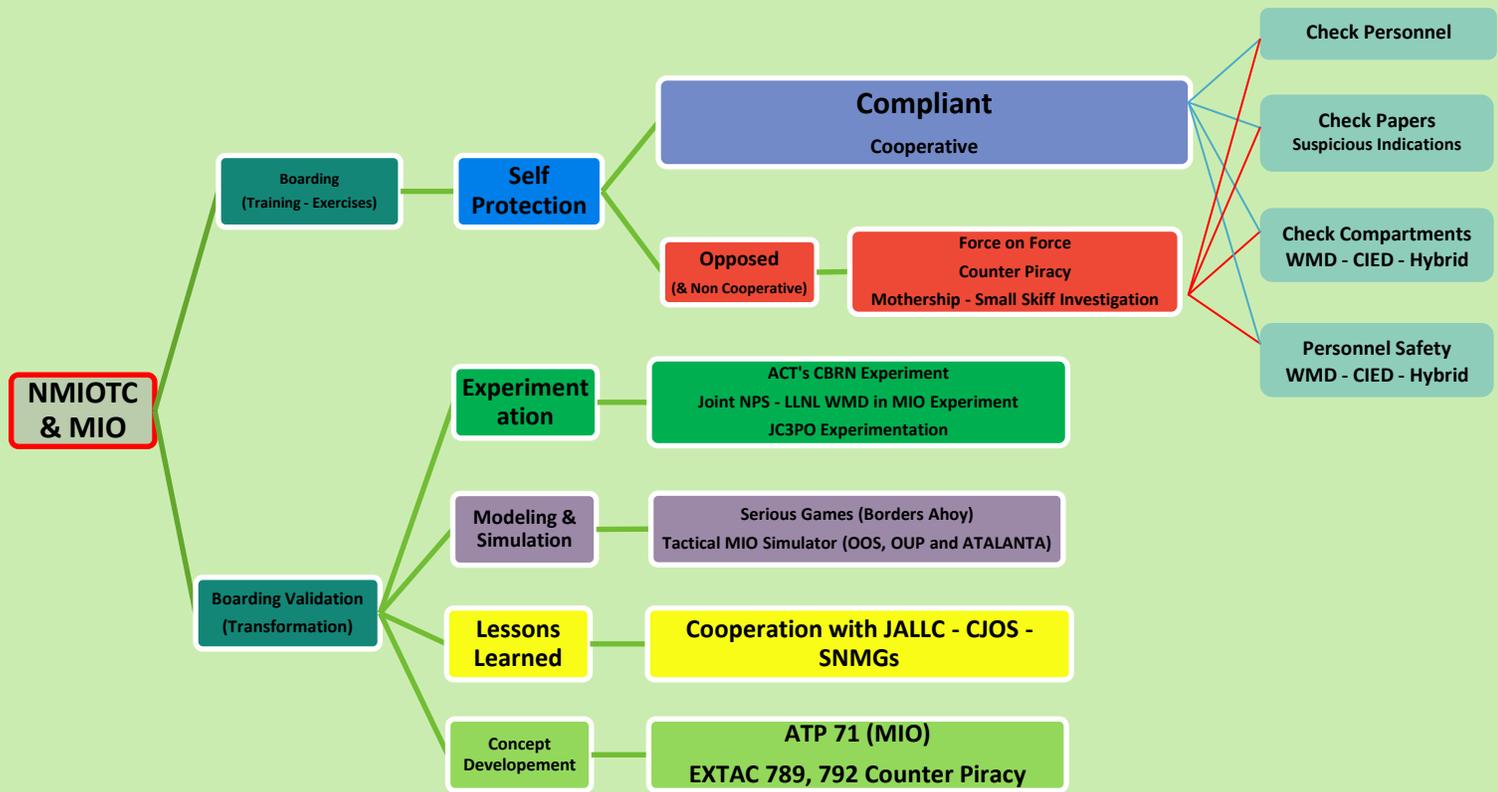
By the above mentioning facts we clearly understand that Maritime Interdiction Operations are closely related and linked to Alliance Maritime Strategy.

NMIOTC's Activities

NMIOTC is a NATO Education and Training Facility with mission to train Command Teams, Boarding Teams, Naval Units and Individual Personnel in Maritime Interdiction Operations. Its vision is to remain Alliance's credible MIO expert, enhancing the effectiveness of Alliance's Maritime Strategy in all possible ways.

Currently, NMIOTC's broad field area of expertise lies on all actions that can occur during an interdiction mission, starting from the associated safety of personnel and all the way to the whole execution of an interdiction mission, in support of NATO's maritime strategy. In other words NMIOTC provides training in such a way that the boarding team is able to face any threat related to their own security or any aspect connected to their mission.

Maritime Interdiction Operation (MIO) is a critical enabler stemming directly from the core values of Alliance's Maritime Strategy, which is the fundamental document from which all maritime strategic tasks are originating from the strategic level. MIO is lying and linked directly underneath to each one of the core values supporting the whole Alliance's maritime strategy in any possible way. It is actually the tool that puts Allied Maritime Strategy into practice.



Besides, one should stress the fact that a MIO and a counter piracy operation are related in many aspects, without being identical. Starting from a typical MIO operation you can easily end up in a counter piracy operations or generally in opposed boarding situations.

NMIOTC is conducting all boarding related training, exercises and transformational activities that can be understood from the below logical flow chart representing only some of the most serious activities that NMIOTC is undertaking on a daily basis.

NMIOTC's daily and future work is split mainly and in accordance with official MOU documentation, in training, exercises and transformation. As it can be seen from the above flow chart boarding (training and exercises) can be generally divided in compliant and opposed boarding operations. During a compliant MIO operation the boarding team needs to check papers (thus to find indications of possibly illegal cargo), to check / search compartments (thus to find indications for WMD / CBRN / CIED / Hybrid or any other illegal and suspicious cargo and report back to MIO Commander) and first and foremost to take into serious consideration the safety of personnel (thus to have the basic but adequate knowledge for any maritime terror threat that can be found on board a suspect vessel such as WMD / CBRN / CIED / Hybrid or any other possible threat known nowadays or in the future).

Respectively and before a boarding operation starts no one can estimate if a compliant boarding operation

will be easily reverted to an opposed boarding operation (force on force). As a small example, let's consider a ship that has been taken under pirates control without anyone knowing of it. During the hail and query procedure the master of the vessel replies physically in all queries, under the pressure of the pirates and as nothing has happened. The boarding team finally goes on board and notices that the ship has been taken under pirate's control. This operation then is an opposed boarding operation. That is why NMIOTC is dealing with counter piracy operations because there is a close link between a typical MIO operation and a counter piracy operation. The same situation can happen during a small skiff / mother ship investigation, where the suspicious crew on board the small skiff or the mothership is pretending that they are fishermen, but in reality there are strong indications that these are pirates.

On the transformation area NMIOTC is conducting extensive experimentation, concept development, modeling and simulation activities with ACT, NPS, LLNL, USEUCOM, CJOS, USCENTCOM and other organizations / academia in order to validate the findings and enhance boarding operations with valuable results that could help the execution of boarding operation and increase the success of it in the near future. One recent example was OUP simulation that enhanced ship's participation embargo procedures before a ship's deployment to operation Unified Protector.

...NMIOTC is conducting extensive experimentation, concept development, modeling and simulation activities with ACT, NPS, LLNL, USEUCOM, CJOS, USCENTCOM...

Last but not least, all the above procedures are being enhanced from the Concept Development and Lessons Learned procedure, where cooperation with ACT, JALLC, SNMGs and other naval units and personnel participating in real operations share the valuable knowledge and help better prepare upcoming operations.

Epilogue

As a concluding comment to above mentioned facts and figures NMIOTC is proud to stand in the field of Maritime Interdiction Operations as a subject matter expert capable of delivering effective, efficient and affordable training and transformation solutions in line with NATO standards and policy. We believe that in the near future and as the security threats are changing rapidly in the maritime environment NMIOTC will continue to prove its worthiness and capabilities to support those that want to tackle the current issues of maritime terrorism. Of course all the abilities that we encompass can only be performed through strong cooperation with other international organizations and academia. We are more than happy to see student faces full of joy when they are finishing their training in NMIOTC expressing their gratitude to NMIOTC's instructors. We are more than happy because of the trainees satisfaction and appreciation at the end of the training. This joy is also sustained by the increasing figure of the number and the variety of our distinguished clients, like USCG and European Special Forces, and gives us the awareness of being "accredited" on the field and the strength to strive for even better results.

Following Socrates' words that "Happiness is stemming not from money but from productivity" we are committed to continue providing our best efforts even in an era of severe global austerity.

Commodore Adrianos Poulos, GRC N graduated from the Hellenic Navy Naval Academy in July 1981 and was appointed as Navigation Officer and XO to various types of ships. He had the honour to Command, the Fast Patrol Boat HS KAVALOUDIS (P-25 – Missile Patrol Boat) and the "S – Kortenaer" type Frigate, HS AIGAION (F-460). Commodore's main appointments include, Operations Officer in the Frigates Command, Staff Officer to the Hellenic Navy General Staff / A1 directorate as well as Comandant to the Patrol Boats flotilla. His NATO experience includes a two year assignment to the NATO / PjP cell in Mons, Belgium and also a two year tour as DCOS for STRFORNATO in Naples. Since April 2011 Commodore Adrianos Poulos is the NMIOTC Commandant.

Besides his naval education, Commodore Adrianos Poulos has received a master's degree in Operations Research from Naval Postgraduate School in Monterey California and he holds a B.S. from the Economic University of Athens. Additionally, he has attended a number of educational programs in military colleges, such as the Hellenic Naval Staff and Command College, the Hellenic Naval War College and the Hellenic National Defense College.

Commodore's awards include the Cross of the Order of Honor, the Cross of the Order of Phoenix, the Medal of Military Merit B' Class, the Navy Force Formation Command Medal C' Class and the Staff Officer Service Commendation Medal B' Class.

He is married with Constantina Stratigon, who is an English Teacher in Primary Schools and he has three children, two daughters and one son.

NMIOTC PHOTO GALLERY

VIP VISITS



*Visit of the Commander JFC Naples
7 December 2011*



*Visit of the US Sixth Fleet Commander
1 February 2012*



*Visit of an US Coast Guard Delegation
20 January 2012*



*Office call by the FS ACONIT Commander
2 February 2012*



Visit of the Minister of Defense of Greece, Chief of Defense of Hellenic Armed Forces and Commander-in-Chief of the Hellenic Navy General Staff

7 March 2012



Visit of the Deputy Commander of the Supreme Allied Command Transformation

8 March 2012



Visit of the Portsmouth Flotilla Commander

1 February 2012



Visit of Commander SNMG 1

8 March 2012



Visit of the Chief of Naval Operations of Israel and the Hellenic Fleet Commander
23 March 2012



Visit of the Commander US Naval Forces Europe
4 April 2012



Office call by the ITS SCIROCCO Commander
3 April 2012



Visit of the Swedish Defense Attaché
8 May 2012



***Visit of Russian Ship VADM KULAKOV Cruise Commander and
the Russian Defense Attaché in Greece
23 April 2012***



***Visit of the Swedish National Defense College
9 May 2012***

VISITS, CONFERENCES AND WORKSHOPS



***Meeting of the MAROPS WG
23-27 January 2012***



***NMIOTC Advisory Board Meeting
1 February 2012***



***Joint Capability Technology Demonstration for the ACT CBRN Experiment
28-29 February 2012***



COURSES, EXERCISES AND TRAININGS



Crew Control Training for a Hellenic Navy Ship's BT
8-11 November 2011



RHIB Insertion Training for an Italian Ship's BT
22-25 November 2011



Tactical Sweep Training for an UK Ship's BT
23-27 January 2012

COURSES, EXERCISES AND TRAININGS



***VBSS Training for a French BT
1-3 February 2012***



***VBSS Training for an UK BT
6-8 February 2012***



***Train the Trainers Course for the ACT CBRN Experiment
6-10 February 2012***

COURSES, EXERCISES AND TRAININGS



***Training of an US Coast Guard Team
24 January - 2 February 2012***



***Training of a Norwegian Boarding Team
6-16 February 2012***



***Training of a Portuguese BT on
ACT CBRN Experiment
19 March 2012***



***IMO Djibouti Code of Conduct
Train the Trainers Course
26-30 March 2012***

COURSES, EXERCISES AND TRAININGS



***Combined Training of Bulgarian and Romanian Boarding Teams
5-10 March 2012***



***Training of a Dutch EOD Team
20-30 March 2012***



***Training of a Slovenian BT
23 April - 4 May 2012***



***Training of an Italian BT
3-6 April 2012***



***Final Planning Conference of Exercise
"Phoenix Express 2012"
3-5 April 2012***

COURSES, EXERCISES AND TRAININGS



***Training of the Russian Ship VADM KULAKOV Boarding Team
24-26 April 2012***

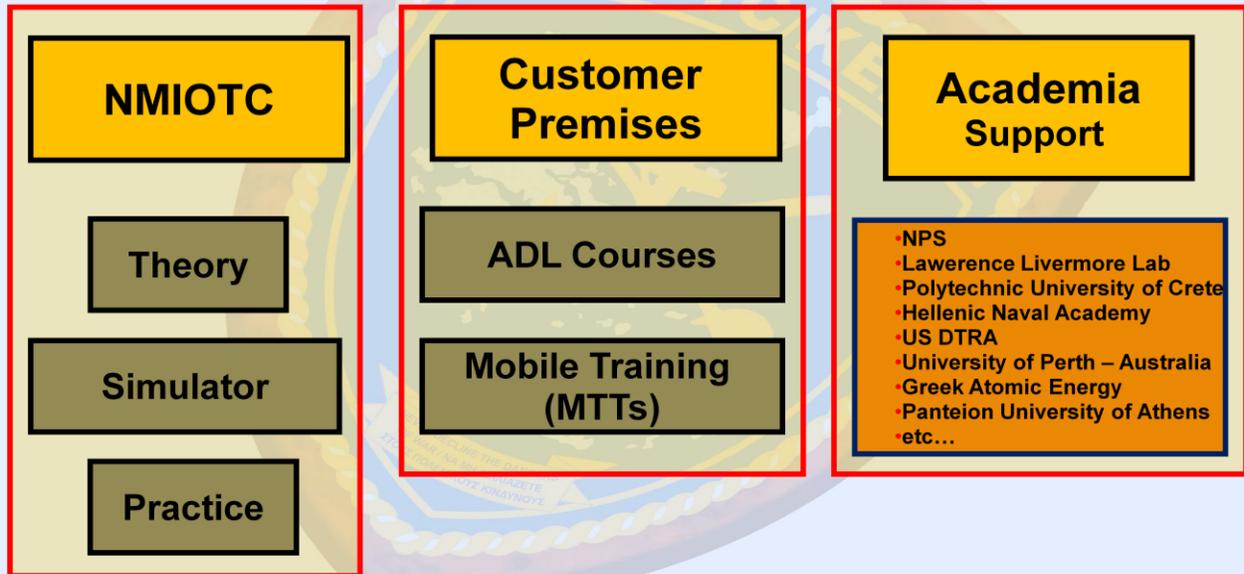


***Training of the Units Participating in the Exercise "Phoenix Express 2012"
7-18 May 2012***

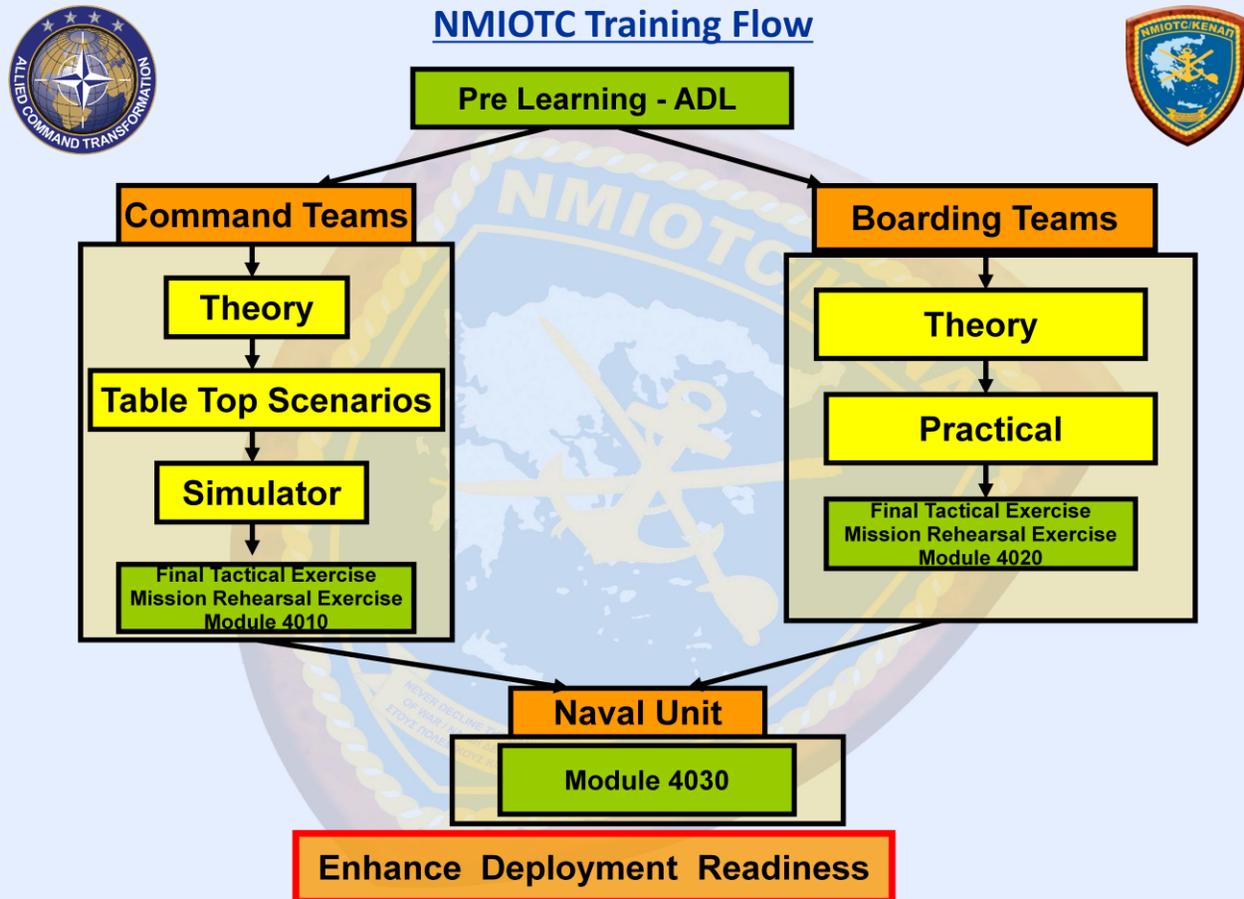


***Final Tactical Exercise for the Royal Danish Military Police Team Training
24 April - 2 May 2012***

NMIOTC Provision of Training



NMIOTC Training Flow





NMIOTC TRAINING FACILITIES



NMIOTC MIO Simulator



**Simulation for MIO Scenarios
Related to current NATO
Operations**



NMIOTC RHIBs



NMIOTC's instructors (in blue) teaching counter piracy techniques to a MIO boarding team. Training is being executed with NMIOTC's RHIBs in Souda Bay area conducting realistic and mission rehearsal scenarios.



A real pirate whaler is used for practical small vessel investigation training. NMIOTC extensively apply the model of **realistic mission rehearsal** before deployment.



Recently NMIOTC's training support team installed smoke, noise and background noise generators inside training ship "HS Aris" in order to make training more realistic and effective for the students creating a real war gaming zone environment.



Pictures from the monitors of the CCTV system on board NMIOTC's training ship "HS Aris", where students' actions are being recorded and played back after training in post evaluation training briefs. These pictures show the material collected from 35 micro cameras in hidden places inside the training ship.

SOMALIA'S ONLY SOLUTION: PROACTIVE STRATEGY TO REPLACE REACTIVE TACTICS

By Cdr Kleanthis Kyriakidis, GRC (N), Ph.D. Candidate

Our counter piracy operations off the Horn of Africa prove that the Western policy of containment is not SAFE, which is the acronym of suitable, acceptable, feasible and mainly enduring. We tend to focus on the solution rather than the nature of the problem. Some focus on the “catch and release” judicial problem, some on organizing convoys or issuing best practices for the ships. I will not speak about them, because useful as they may be, they are medications which treat the symptoms, not the root causes. As Vice Admiral William Gortney said back in 2009 “piracy is a problem that starts ashore and requires international solution ashore”.¹ In this paper, I will try to briefly describe how the gradual deterioration in Somalia led to chaos and how we can overcome the current deadlock.

The problems on the ground started during the 22 years reign of the “comrade” Mohamed Siad Barre whose socialist experiment turned to a brutal dictatorship, only superficially stable. The Somali society is among the most homogeneous in the world (both religiously and linguistically). Nevertheless, the clan is more important than the nation or even religion and it is the first source of conflict. Barre exploited the tribal character of the country applying the “divide and conquer” policy.² The strongest and more independent clans faced ruthless persecution. Among the first to suffer were the Majeerteen clan and among the worst cases of cruel repression was the slaughter of the Isaak clan. When Barre ran out of

allies abroad and acquiescent clans in Somalia, his regime collapsed in 1991.

When a dictator dies in a tribal society, stability is at stake, a lesson that the West did not learn in Somalia and runs the risk of facing again in Libya. Following the collapse of central authority in Mogadishu, warlords took over³ and as a result a civil war erupted. People not only had to pay “taxes” to move freely in the country but most importantly were barred from any humanitarian aid. The result was half a million dead people in less than two years and the American Operation “Restore Hope”, with the U.S. military mission named United Task Force (UNITAF) safeguarding the United Nations’ and independent NGOs’ efforts to ease the misery of the people. After six months in Somalia, in May 1993, United Nations Operation in Somalia (UNOSOM) II took over from the Americans and in less than a month 24 Pakistani peacekeepers were killed. Five months down the road the notorious “Black Hawk Down” incident took place.⁴ In March 1994, the US and a year later the entire UN mission fled and total anarchy reigned. In retrospect, both the US and the UN deployment – “the largest

ever peacekeeping operation and the first operation where the peace would be enforced without consent from conflicting parties”⁵ - did provide humanitarian aid and established local administrations. In that sense, even if it did not enforce peace, it succeeded in preventing the total disarray that followed its departure.⁶

We tend to focus on the solution rather than the nature of the problem.

1 Ploch Lauren et al, Piracy Off the Horn of Africa (CRS Report for Congress R40528), April 27, 2011, p. 41.

2 According to Schaefer, Brett D, “Piracy: A Symptom of Somalia’s Deeper Problems,” Heritage Foundation Backgrounder No. 2398, April 17, 2009 “his [Barre’s] Marehan [sub]clan, supported by the Darod, Ogaden and Dulbahante clans, increased its influence in government at the expense of the northern Majeerteen (also Darod) and Isaaq clans, from which the main insurgent groups opposed to Marehan hegemony drew their support”.

3 Aideed (father and son), Ali Mahdi, Ali Ato and Morgan were the most important warlords.

4 On October 3, 1993, after a 17-hour battle between U.S. troops and Somali factions in Mogadishu 18 American Rangers were brutally killed.

5 Country Information & Policy Unit, Immigration & Nationality Directorate, UK Home Office, Somalia Assessment, October 2011, p.7

6 As John Hirsch suggests “Operation Restore Hope was not a panacea. But it demonstrated the capacity of outside forces to work constructively with Somalis at all levels to reduce human suffering and open up the prospect of a better future for the Somali people. The fact that this has not yet happened does not mean that it cannot be achieved”. See Hirsch John, “The Black hawk Down Effect”, Foreign Policy, August 12, 2011.

Since 1995 the international community chose the containment approach, instead of tackling the real underlying issues. The outcome is an absolute disaster: the young children of mid-nineties grew up to be the terrorists and pirates of 2012. And their children are becoming “children pirates”, as their fathers had been “children soldiers”. The simple truth is that Somalis get involved in criminal activities in order to survive.⁷ The strongest clans literally enslaving the weakest ones⁸, one in three children starving, hundreds of thousands of refugees and more than a million Internally Displaced People (IDPs)⁹ and the economy of war which perpetuates violence and boosts piracy is the norm nowadays. The international community, instead of alleviating, adds to this calamity in several ways: The livestock ban from the Gulf countries led to the eradication of the pastoral economy, which accounted for 80% of Somalia’s export economy during the Barre era.¹⁰ The poor villager had to become a pirate. Even worse, mainly European and Asian fleets have been illegally exploiting the Somalian fisheries and using the Somalian coasts as toxic dumpsters for more than a decade. Somalia loses between 90 and 300 million dollars per year due to the illegal fishing alone.¹¹ “There are documented cases of Somali fishermen being drenched with boiling water in their canoes, their nets being destroyed and those with smaller boats crushed and killed in addition to other forms of abuse”.¹² These people tried to safeguard their legal rights and had every right to bear arms to protect themselves. The war between the poachers and their trawlers against the Somali fishermen escalated to the contemporary Somali piracy. Furthermore, after 9/11 there were severe restrictions against hawala companies, which had facilitated quick money transfers and had employed many Somalis. Both the families who depended on these companies and the employees who lost their job are potential pirates out

of impoverishment.¹³ Last but not least, the international community assisted Ethiopia, not only when it invaded Somalia, but also when it built dams along the Shabelle River, diminishing the absolutely essential water for the Somali pastoral and agricultural economy.¹⁴ We need to take into consideration that along the African Union peacekeepers, who have put the terrorist group Al-Shabaab on the defensive, Kenyan troops entered the country moving towards Kismayo and Ethiopian forces occupied Beledweyne last December and headed towards Baidoa, the main Al-Shabaab stronghold.¹⁵



The aforementioned problems and foreign interventions turned pirates and terrorists to heroes for a big part of the local population. In one of its excellent briefs, the International Crisis Groups highlights the following regarding Puntland: “A major factor fuelling the piracy problem is the level of societal acquiescence the practice enjoys. The “sea bandits” (burcad badeed) are seen by many as heroes, striking a blow for Somali nationalism and “protecting” the country’s coastal waters from predatory foreign fishing and ships laden with toxic cargo”.¹⁶ As regards the Al-Shabaab insurgency after the Ethiopian intervention, it is referred to in many Arab countries as “Al-Muqawamah al-Somaliyah (the Somali resistance)”. Even mass media as the influential London-based Arabic daily “Al Quds al Arabi” have portrayed the terrorists as freedom fighters.¹⁷

7 In an excellent analysis of the humanitarian aspect, which also discusses who becomes a pirate and why, we read “Those who manage to survive from the famine prefer to join the Al Shabaab militants or the pirate groups, ensuring this way that they will have something to eat, at least for one more day”. See Chapsos Ioannis, *Somalia Remains ‘Stealth’: The Human Insecurity Paradigm*, Research Institute for European and American Studies, August 21, 2011

8 World Bank Economic and Sector Work, *Conflict in Somalia: Drivers and Dynamics*, New York, January 2005, p.7

9 According to Dagme Ted, *Somalia: Current Conditions and Prospects for a Lasting Peace* (CRS Report for Congress R33911), August 31, 2011, “there are an estimated 792, 544 Somali refugees in neighboring countries and 1.7 Internally Displaced People (IDPs)”.

10 Peter Little, *Somalia: Economy Without State*, Bloomington: Indiana university Press, 2003, cited in World Bank Economic and Sector Work, *Conflict in Somalia: Drivers and Dynamics*, New York, January 2005, p.24

11 Schofield Clive, *The Other “Pirates” of the Horn of Africa*, RSIS Commentaries, Nanyang Technological University, Singapore, January 5, 2009, p.2

12 Osei-Tutu Joana Ama, *The Root Causes of the Somali Piracy*, KAIPTC Occasional Paper No. 31, March 2011, p. 10

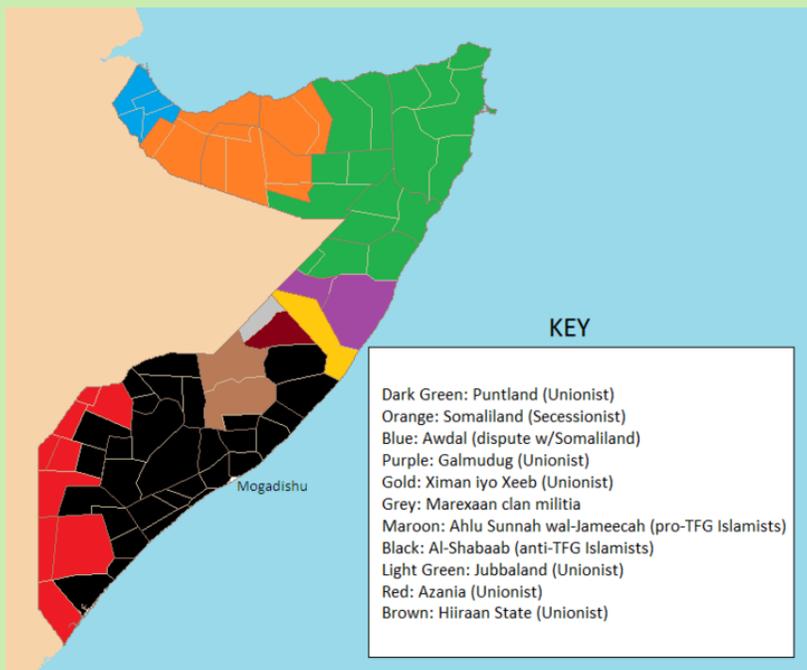
13 Ibid World Bank Economic and Sector Work, p. 28

14 Ibid World Bank Economic and Sector Work, p. 30

15 International Crisis Group, *Somalia: An Opportunity that Should Not Be Missed*, Africa Briefing No 87, February 22, 2012, p. 4.

16 International Crisis Group, *Somalia: The Trouble with Puntland*, Africa Briefing No 64, August 12, 2009, p. 11.

17 International Crisis Group. *Somalia’s Divided Islamists*. Africa Briefing No 74. Mav 18. 2010. p. 16.



August.

The aforementioned description is very general for a country as complex as Somalia. In order to further analyze the current situation we need to take a look at three distinct areas: Firstly, the former British colony of Somaliland in the northwest which self-proclaimed its independence in 1991 but is recognized by neither any country nor the United Nations.²¹ Yet, it is stable and functioning. Its system of governance, the Beel system, is really interesting, since it is an effort to combine the traditional power with the House of Elders (Guurti) and a Western-type of Parliament, the House of Representatives (Wakillo) with delegates from the different clans.²² Secondly, Puntland in the northeast, which is relatively stable, but also the main pirate base. Lately

though, it has showed willingness to combat piracy and most pirates moved towards the south. Since 1998 clan elders of the Darood/Harti declared the creation of the regional administration of Puntland²³, which included seven regions of the north-eastern Somalia, including two disputed areas, Sool and Eastern Sanaag, also included in Somaliland. Both Somaliland and Puntland have good relations with Ethiopia and few if any ties with the Arab countries.

Lastly the natural resource-rich area of South-Central Somalia, which had proved its capabilities of self-governance during the ICU rule, but it is currently in ruins facing the Al-Shabaab insurgency. Violent clashes take place every day between the African Union peacekeepers and Ahlu Sunna Wal Jamaa (ASWJ), “an alliance seeking of clans to protect their traditional version of Sufi Islam”²⁴ on the one hand and the terrorists of Al-Shabaab on the other hand. Speaking of the devil, there is terrorism in Somalia. And there is piracy. But there is no linkage between them, at least so far.²⁵ South central Somalia is also the largest area, has issues with Ethiopia and gets support

Since 2004, most countries and organizations have propped up a “paper” government, the Transitional Federal Government (TFG) which has been malfunctioning, accused of being “inept, increasingly corrupt and hobbled by President Sharif’s weak leadership”.¹⁸ The only time that Mogadishu was peaceful, operating and both the warlords and piracy were curtailed¹⁹ was the second half of 2006, when the Islamic Courts Union (ICU) took over. In a demonstration of short-sighted foreign policy, the ICU was ousted by the Ethiopian Army with the blessings and assistance of the West. Obviously, this foreign intervention worsened the state of affairs and the arrival of the African Union Mission in Somalia did not heal any wounds.²⁰ Moreover, the resistance’s baton was passed to a splinter group of the ICU, the well known radical al- Shabaab. This group, linked to Al Qaeda but entirely independent gave to the Somali conundrum a terrorist flavor. Al Shabaab became extremely powerful, controlled Kismayo (one of the largest towns) and withdrew from Mogadishu only last

18 International Crisis Group, Somalia: The Transitional Government on Life Support, Africa Report No 170, February 21, 2011, p. i.

19 Ibid Dagne, p. 16 and Osei-Tutu, p. 13

20 Ibid Dagne, p. 10: “As of July 2010, there were an estimated 7.000 AMISOM peacekeeping personnel in Somalia”.²¹ The strongest clan in Somaliland is the Isaak one, which had been decimated by Barre and the atrocities committed against it – including the aerial bombardment that levelled the “capital” city of Hargeysa – led to secessionism and the declaration of independence in 1991.

22 Ibid World Bank Economic and Sector Work, p.21. The Beel system is indeed unfair and a bit ineffective; nevertheless, it is much better than anything else in Somalia.

23 International Crisis Group, Somalia: The Trouble with Puntland, Africa p. 2.

24 Ibid International Crisis Group, Somalia: The Transitional Government on Life Support, p. i

25 According to both William Wechsler, Principal deputy Assistant Secretary of State for Political and Military Affairs, Testimony before the House Transportation and Infrastructure Subcommittee on Coast Guard and Maritime Transportation, on March 15, 2011 and Vice Admiral William Gortney, Commander US Naval Forces Central Command, at the House Armed Services Committee on March 5, 2009, mentioned in Ploch Lauren et al, p. 5, 16.

by the Arabs. There are intra and inter clan rivalries in all three semi-autonomous regions, mainly for the control of the following areas: the Lower Juba, the Mudug region and the Sool and Eastern Sanaag.²⁶

After more than a dozen of futile Peace conferences²⁷, where usually the host nation tries to push its own agenda, we need to take some proactive action to improve the situation on the ground so as to solve the piracy problem as well. Humanitarian aid and institutions building are deemed expensive. Nevertheless, did anyone really take into account that the annual cost of piracy is almost 7 billion dollars²⁸, which means that the accumulated cost all these years is between 130 and 140 billion dollars, with some estimation exceeding the 200 billions? Is this number even conceivable for people with an average annual income between 600 and 650 dollars?²⁹

One of the few countries which seem to care about Somalia is Turkey. In August 2011, Prime Minister Erdogan was the first non-African leader in more than two decades who visited the country capital along with his family, many ministers and advisors. He offered 115 million dollars and pledged to build six hospitals in Mogadishu.³⁰ Turkish Airlines was the first airliner which began biweekly flights to Mogadishu from Istanbul, with a heavily subsidized ticket. Turkish companies got involved in building infrastructure, including the “rehabilitation” of the airport and Turkish universities offer scholarships to young Somalis.³¹ The international community should follow the Turkish example. We do not need or favor an aid-dependent Somalia, but we cannot build an aid-independent one, without an initial assistance. The United Nations humanitarian assistance for Somalia was half a billion dollars, which is less than 8% of the total cost of piracy. Penny wise and pound foolish!

As regards a viable solution, we can reverse the

disadvantages of clannism and perceived Islamism by exploiting both for the common good. Firstly, the clan elders can be our allies, a stabilizing force providing conflict mediation and rule of – customary – law. We just have to be careful to work in a cross-clan or clan-neutral way and increase the constructive contact among clans. Secondly, Islam is not the enemy and both the political and spiritual leaders of ICU have condemned piracy as anti-Islamic. Moreover, religion transcends clans. We need to engage the moderate political Islam, which in this case is the moderate part of the former ICU. If not, the radical Islam, al-Shabaab and Hizb-al-Islam³², will prevail.³³ Furthermore, by approaching the moderate Muslim leaders, we can initiate talks with the radicals, the way

We do not need or favor an aid-dependent Somalia, but we cannot build an aid-independent one, without an initial assistance.

26 Ibid World Bank Economic and Sector Work, p. 37

27 For details about the reasons the reconciliation conferences failed, see Liban Ahmad, Why Reconciliation Conferences for Somalia Have Failed, Garowe Online, September 7, 2010.28 Bowden Anna & Basnet Shikha, The Economic Cost of Somali Piracy 2011, One Earth Future Foundation, February 8, 2012, Executive Summary.

29 Ibid Osei-Tutu Joana Ama, p. 5

30 Ibid Dagme, p. 1

31 Heaton Laura, “Saving Somalia”, Foreign Policy, April 24, 2012.

32 The militant group Hizb al Islam (Islamic Party) is not completely in agreement with Al-Shabaab and was mostly absorbed by Al-Shabaab in December 2010. See Weinstein Michael, Somalia: Al-Shabaab Split and its Absorption of Hizbul Islam, Garowe Online, January 8, 2011. According to the International Crisis Group “The rise and appeal of Islamist groups was linked to the belief that they could transcend the schisms that have so divided Somali society, but despite a gloss of unity, most Islamist groups are equally divided along ideological and clan lines. Initially, Al-Shabaab and Hizb al-Islam shared a similar vision and model of Sharia, but they are divided on two crucial issues, pan-Somali nationalism and the political utility of clans”. See International Crisis Group, Somalia’s Divided Islamists, p.4.

33 This is the case in the North African belt as well. If we alienate and fight against the Muslim Brotherhood in Egypt or Ennahda in Tunisia, we run the risk to cause an Islamist takeover by Salaffis. See Kyriakidis Kleanthis, “Regional Cooperation in the East Mediterranean Basin after the Arab Spring: Perils and Prospects”, Journal on Southeastern European Security Strategy and Transatlantic Leadership Vol III, Strategy International, April 2012.

we try to do in Afghanistan with the Taliban. The end of any insurgency requires a negotiated agreement and this cannot be reached by foreign military; only by an alliance of clan elders and moderate Islamic leaders. If we manage to expand the cross-clan partnerships, as a confidence building measure among rival clans then we have a good chance of establishing and maintaining peace and progress.

**No matter
what we do,
piracy will
exist as long as
chaos reigns.**

Moreover, the solution should be the creation of either a federal state³⁴ or a confederation of states, with Puntland and Somaliland which are de facto semi-autonomous assisting Mogadishu, which could profit from the relative stability of these areas; after all, they are all Somalis and they know it. There is another reason for endorsing federalism. Instead of big, grandiose projects, we can fund small, feasible ones aiming at developing institutions and building local capacities. We should especially pay attention to fund and support with knowhow any and all development projects, dealing specifically with the economic recovery of the coastal communities, since they are the first who practically give young men a chance to

develop a livelihood by rejecting piracy. Last but not least, a more decentralized system is more acceptable to the local population who had always been facing the central government as a predator.

At this point I would like to emphasize the importance of the demilitarization of the society, in conjunction with the institution building. The integration of all belligerents, even former Al-Shabaab fighters who renounce terrorism, in the police and armed forces³⁵ is crucial along with the formation of a commonly agreed Somalian constitution. Especially regarding piracy the creation of an effective all-Somali coastguard, even by recruiting former pirates, would be a strategic solution³⁶ to a seemingly unsolvable problem. Nevertheless, piracy is not the only crime or possible global problem related to Somalia. What do we gain if we fight effectively against piracy and former pirates turn to terrorism or organized crime, since the situation on the ground remains chaotic? Even if the Somalis refrain from any militant action, they would have to become illegal immigrants...

The aforementioned analysis leads to a very clear recommendation: No matter what we do, piracy will exist as long as chaos reigns. We cannot expect to solve a problem by using reactive tactics; we need to replace them as soon as possible with a holistic proactive strategy for Somalia, addressing the situation in land.

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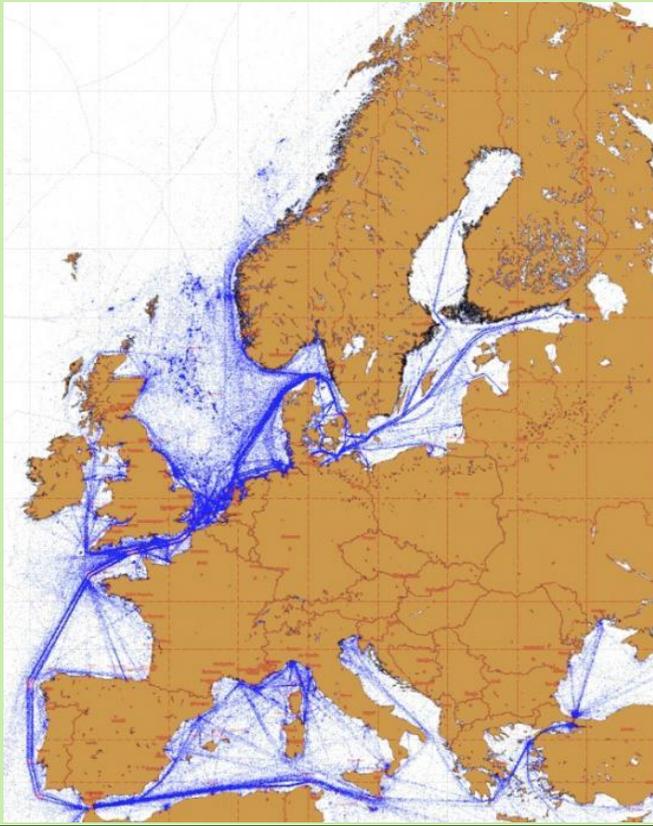
34 "A federal arrangement would lead to decentralization of power, but its success depends on, among other things, the influences of external states with a stake in Somalia". Ibid World Bank Economic and Sector Work, p. 19. See also the recommendation of Schaefer, Brett D, p.3 to "use nascent governments and authorities to expand and improve governance in Somalia".

35 This proposal may sound radical but has been already thrown on the table by many analysts. See International Crisis Group, Somalia's divides Islamists, Africa Report No 147, December 23, 2008, p. ii.

36 In Chapsos Ioannis, "Regional Capacity Building for Countering Piracy Through the Human Security Concept", NMIOTC MIO Journal, 4/2011, November 2011, p. 49, we read "The escalation of violence is not the means to counter piracy and the 'witch hunt' and shooting from international Naval forces is just a short-term and inefficient response. An effective local 'coast-guard' i.e., could be a far more effective and long-term option, since it would deny also the approach from the sea to the already globally known pirates' safe havens. If we could provide them other alternatives for survival than piracy and organised crime activities, all actors, state and non, would have many things to gain."

RESPONDING TO EVOLVING REGIONAL THREATS TO MARITIME SECURITY

By Commander Harvey Scott, US Navy (Retired)



Regional Threats to Maritime Security

Seventy percent of the surface of the Earth is covered by water and approximately 90% of global trade and about half of the world's oil is transported by sea. Maritime areas also provide a vital dimension of Europe's economy. It is estimated that 90% of the European Union (EU)'s external trade and 40% of internal trade is transported by sea. Some 350 million passengers and about 3.5 billion tons of cargo per year pass through European seaports and the European waterways including a number of chokepoints such as the English Channel, the Danish Straits and the Strait of Gibraltar.

Therefore, it should come as no surprise that the protection of the world's maritime routes has come to be seen as an essential dimension of security. A number of recent high-profile maritime events, such as the terrorist attack against the USS Cole in 2000, the attack against the French oil tanker Limburg in 2002, and the piracy boom off the coast of Somalia, have confirmed the necessity and urgency of tackling the

maritime dimensions of the new threats and challenges that have emerged in the post-Cold War globalized security environment.

Many of the current threats in the maritime domain including terrorism, proliferation of weapons of mass destruction (WMD), illegal trafficking in drugs, people, arms (and their components) and piracy are of a transnational or global nature, and therefore require a concerted and coordinated approach.

Maritime security is not a new issue for NATO and the European Union (EU). Both organizations have already developed a number of policies, tools and are developing new concepts and capabilities to enhance maritime security. This process is ongoing and these organizations are continuously reviewing their contributions and considering their future roles in supporting and or leading global maritime security initiatives.

Maritime Security Challenges

Since the attacks of 11 September 2001, the threat posed by international terrorism has gained a new dimension. Incidents such as the USS Cole and Limburg attacks have demonstrated that terrorists are interested in and capable of using the maritime domain to achieve their objectives. Preventing terrorists from attacking at or from the sea and from crossing maritime borders has thus become a major preoccupation for European and North American governments.

A related threat is the use of maritime routes by terrorists or state actors for the trafficking of weapons, weapon components and potentially weapons of mass





destruction (WMD) material and technology.

The International Atomic Energy Agency (IAEA) Illicit Trafficking Database (ITDB) reported that from January 1993 to December 2011, a total of 2164 incidents were reported to the ITDB by participating States and some non-participating States. Of the 2164 confirmed incidents, 399 involved unauthorized possession and related criminal activities. Incidents included in this category involved illegal possession, movement or attempts to illegally trade in or use nuclear material or radioactive sources. Sixteen incidents in this category involved high enriched uranium (HEU) or plutonium. There were 588 incidents reported that involved the theft or loss of nuclear or other radioactive material and a total of 1124 cases involving other unauthorized activities, including the unauthorized disposal of radioactive materials or discovery of uncontrolled sources. During 2011, 147 incidents were confirmed to the ITDB. Of these, 20 involved possession and related criminal activities, 31 involved theft or loss and 96 involved other unauthorized activities. During this period, four incidents involved HEU, one of which was related to an attempted sale and three were related to other unauthorized activities.

The increase in the illegal movement of drugs, human beings and arms as well as the growing flow of illegal immigrants, particularly from Africa to Europe, has raised the problem of effective maritime governance and border control, in particular on the porous maritime borders. These illegal activities could also finance the acquisition, transport and use of WMD or improvised biological, chemical or radiological weapons.

The increases in incidents of piracy and armed robbery off the coast of Somalia in recent years and recent previous threats along the Straits of Malacca have shown that this threat is far from extinct. Where extreme state weakness occurs attacks can take place along vital maritime trade routes and piracy can pose a

threat not only in terms of local or regional security but also international security. The situation in Somalia has also raised the concern of a possible collusion of interests between pirates and terrorists. Other unstable regions, such as the Niger Delta, also continue to face significant piracy problems.

Current Regional Financial Constraints Impacting Maritime Security Engagement

In response to current regional and global financial constraints the necessity for an integrated maritime security policy and engagement has become increasingly critical. While the security threats have continued the national governments, international organizations and agencies funding available to respond to these has in many cases decreased in response to evolving regional financial difficulties. Integration of maritime security would increase effectiveness and reduce the cost of pursuing this engagement by utilizing and sharing existing tools that have already been established and are in use which would reduce the need for duplication of efforts. Currently additional work needs to be done in this area to achieve the goal of developing political will and increased technical and operational engagement and cooperation.

Defined Mission of NATO in Responding to these Threats

NATO as an alliance composed of nations with extended coastlines, naval traditions, large maritime capabilities, and wide-ranging trading interests is having a strong interest in enhancing its role to allied and international maritime security. The Alliance is looking for ways to improve practical co-operation at all levels with Partners, and further appropriate organizations in the planning and conduct of ongoing and future discussions. This takes into account emerging lessons learned, and considers flexible options for the adjustment of NATO military and political planning procedures with a view to enhancing civil-military interface.

Under Operation Active Endeavour (OAE), NATO is monitoring shipping to help detect, deter and protect against terrorist activity. The operation evolved out of NATO's immediate response to the terrorist attacks against the United States of 11 September 2001. However, due to budgetary constraints and concurrent NATO anti-piracy operations (Operation OCEAN SHIELD) the active participation of physical naval forces have been significantly decreased. As the Alliance has refined its counter-terrorism role in the

intervening years, the operation's mandate has been regularly reviewed.

The experience that NATO has accrued in OAE has given the Alliance experience in the deterrence of maritime terrorist activity in the Mediterranean Sea. This expertise is relevant to wider international efforts to combat terrorism and, in particular, the trafficking and smuggling of weapons of mass destruction, as well as enhanced cooperation with non-NATO countries and civilian agencies.

Current NATO Engagement

NATO's Operation Active Endeavor



OAE is one of two NATO's Article 5 operations. OAE's focus is on anti-terrorism and was initiated as support to the United States immediately after 9/11. It therefore aims to demonstrate NATO's solidarity and resolve in the fight against terrorism and to help detect and deter terrorist activity in the Mediterranean.

NATO forces have hailed over 100,000 merchant vessels and boarded some 155 suspect ships, though that has declined significantly in recent years. These boarding missions take place with the consent of the ships' masters and/or flag states in accordance with international law.

In practice, some merchant ships passing through the Mediterranean are hailed by patrolling NATO naval units and asked to identify themselves and their activity. This information is then reported to both NATO's Allied Maritime Component Commander in Naples, Italy, and the NATO Shipping Centre in Northwood, the United Kingdom. If anything appears unusual or suspicious, teams of between 12 and 25 of the ship's crew may board vessels to inspect documentation, conduct a security and safety sweep and verify some of the cargo against manifest documentation. If anything appears suspicious, NATO personnel at the Maritime Command Center may convey this information to the appropriate borders, customs or law-enforcement agency at the vessel's next port of

call. The suspect vessel may continue to be tracked until it enters a country's territorial waters.

By conducting these maritime operations against terrorist activity, NATO's presence in these waters has benefited shipping transiting the Straits by improving perceptions of security. NATO is helping to keep seas safe, protect shipping and control suspect vessels. Moreover, this operation is an opportunity for NATO to strengthen its relations with partner countries, especially those participating in the Alliance's Mediterranean Dialogue.

The operation is under the overall command of the Supreme Headquarters, Allied Powers, Europe (SHAPE) and more directly by Joint Forces Command (JFC) Headquarters, Naples. Day-to-day tactical management is through, Allied Maritime Component Command Naples, Italy (CC-Mar Naples).

The original operational pattern used surface forces as reaction units to conduct specific tasks such as intercepting, tracking, reporting and often boarding of suspected vessels based on intelligence, vessel track history and the master's responses to questions posed by NATO naval units. In more recent years, due to the limited availability of naval units, the NATO command structure has been relying more on intelligence and automated information to support tracking to try and achieve operational objectives.

In the revised Concept of Operations approved by the North Atlantic Council on 23 April 2009, the Military Committee highlighted two considerations: the need to further enhance information-sharing between NATO and other actors in the region; the fact that in some cases, the operation is hampered by the lack of consent to conduct compliant boarding of suspect vessels.

Looking Towards the Future

Development of an Overarching Regional Maritime Security Strategy

In May 06, the Chiefs of the European Navies



(CHENS) discussed the issue of European Maritime Security. Drawing on a similar, but global, theme introduced at the 2005 Newport International Sea Power Symposium, the CHENS highlighted the importance of the maritime domain to European security, prosperity and economic stability, and acknowledged the disruptive threat posed by current and emerging illegal activity within the maritime domain. They noted that within the maritime areas surrounding the European continent, although the military and civilian agencies of several nations and organizations were involved in Maritime Security Operations (MSO) of varying style and emphasis, there was no clear, overarching, inter-agency strategy. The Allied Maritime Strategy, approved in 2010 provided overarching guidance dealing with these areas of concern. Since then, the Supreme Allied Command, Transformation (SACT) Headquarters Staff have developed an ‘umbrella’ Maritime Security Operations (MSO) Concept currently under review by the Allied Nations that more closely defines the overall scope of MSO. Several operational and tactical level concepts dealing with specific MSO mission areas are now in development.

They stated that the proposed strategy would allow nations to co-operate effectively to deter, protect against and counter hostile and illegal threats to safety and security in the maritime domain. The development of a European Inter-Agency Strategy for Maritime Security must remain cognizant of the development of other regional strategies and include agreement with UN bodies, particularly the International maritime organization (IMO).

Developing these operations would focus on terrorism, proliferation, narcotic trafficking, illegal migration, piracy and armed robbery, but might also include smuggling, the protection of national resources, energy security, the prevention of environmental impact and safeguarding sovereignty. In defining these activities, it is to be understood that the lead in the majority of issues is not a military remit but that a successful strategy for an increasingly secure maritime domain lies in a coherent civilian and military partnership.

It is necessary to determine what is required to respond to these threats in the form of regional and international cooperative agreements, training, legal restraints, and intelligence sharing operational cooperation and coordination and commitment of resources.

Through the evolution of the roles and responsibilities of Active Endeavor and new and evolving threats it is necessary to develop an overall flexible strategy to respond to these regional threats.

Path Forward

In the current economic environment national governments, international organizations and Non Government Organizations (NGO’s) are being asked to do more with contracting resources. The domain of maritime security is no exception to this current reality. In response to the evolving regional threats involving threats in the maritime domain including terrorism, proliferation of weapons of mass destruction (WMD), illegal trafficking in drugs, people, arms (and their components) and piracy a concerted cooperative approach is required.

This approach would be expected to determine what is required to respond to these threats in the form of regional and international cooperative agreements, training, legal restraints, intelligence sharing, operational cooperation and command and control and coordination and commitment of resources.

Through the evolution of delineating the roles and responsibilities of these evolving threats it is necessary to develop an overall flexible strategy to respond to these regional threats.

It is estimated that the tools and resources to respond to these threats already exist via multiple national governments, international organizations and agencies and that by developing a strategy for a coordinated engagement that costs would be reduced and at the same time effectiveness and efficiencies would increase.

Aspects to consider in the development of a cooperative engagement strategy would include but are not limited to:

1. Improving the accuracy of shipping cargo manifests
2. Developing a strategy for strategic communications
3. Exploring the potential use of meta data tagging
4. Addressing legal issues pertaining to apprehension
5. Developing rules of engagement for compliant boardings
6. Discussing the NATO role in maritime security and opportunities for engagement and cooperation with national government’s (Coast Guard, Navy and

governmental non military organizations) and international organizations and agencies.

7. Developing a strategy for cross dimensional sharing of available intelligence information including the NATO Intelligence Fusion Center

8. Developing requirements and an opportunity for cooperative engagement procedures pursuant to maritime security command and control

9. Development of accelerated customs clearance inspections at selected secure ports which would reduce shipping delays and attract shipping to these ports

Explore potential cooperative engagement, coordination and training with the following organizations and activities.

1. United Nations Convention on Conventional Weapons (CCW)
2. International Maritime Organization (IMO)
3. NATO's Operation Active Endeavor
4. NATO's Maritime Situation Awareness Initiative
5. US Maritime Domain Awareness
6. Finland's work in the Baltic Sea
7. US Container Security Initiative (CSI)
8. US Immigration and Customs Enforcement (ICE)
9. National Nuclear Security Administration (NNSA) Secure Freight Initiative (SFI)
10. US Customs and Border Protection (CBP)
11. US Department of Homeland Security (DHS)
12. Customs Trade Partnership Against Terrorism (C-TPAT)
13. UN Office of Drugs and Crime (UNODC)
14. NATO Chemical, biological, Radiological and Nuclear Defense, Harbor/Vessel Protection, Critical Infrastructure Protection, Information Sharing and Threat Assessments
15. EU's European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (FRONTEX)
16. Global Initiative to Combat Nuclear Terrorism
17. Proliferation Security Initiative (PSI)
18. UN Security Council Resolution (UNSCR) 1540
19. Container Security Initiative (CSI)
20. Afghan Mission network could be used as a guide

To provide a platform for pursuing these objectives it is proposed that a dialogue and exchange of

engagement activities and lessons learned be initiated between relevant national and international organizations and agencies. The goal would be the development of a cooperative stepped approach to the development of a regional maritime security strategy and engagement in response to the continuing and evolving maritime security threats. An initial step could be the agreement of enhanced information sharing which could assist in achieving the goal of bolstering maritime security efforts already in place by both national governments and international organizations and agencies.

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INVESTIGATING SEA PIRACY: CRIME SCENE CHALLENGES

By Professor Henri Fouche, University of South Africa

Introduction

During the last century, not much prominence was given to attacks on ships at sea. In any event nowhere near the prominence given to every incident in which an aircraft was attacked by terrorists or hijacked. Is it because the safety of seafarers are not regarded as important or is their safety just overlooked due to the routine nature of their mundane task of moving the lifeblood of the world's economies between diverse destinations on such a regular basis without fanfare?

Pilfering of cargoes and opportunistic theft by dock workers has always been part of the seafaring scene and was very seldom given prominence.

Armed attacks on ships at anchor or steaming in territorial waters also lacked wide coverage, perhaps due to the low key level of violence which accompanied such attacks up until the twenty-first century.

In 2005, attacks on ships carrying food aid to Somalia prompted the United Nations Security Council (UNSC) to call on states, operating warships and aircraft in the vicinity, to assist in thwarting such attacks and culminated in UNSC resolutions¹ permitting states to enter the sovereign territory of Somalia in pursuit of pirates.

The world community woke up to the realisation that attacks against ships off Somalia had reached a record level in terms of the number of incidents and the level of accompanying violence. What also stunned the world community was the seeming inability of the collective might of states and coalitions navies, drawn together by the UNSC's call for assistance, to eradicate or contain this scourge. Part of the failure to eradicate the problem arose from the seeming inability of states to initiate prosecutions against many of the captured pirates, purportedly due to lack of jurisdiction. This led to the realisation that the key to the successful prosecution of suspected pirates lies in adopting a law enforcement approach, in which an investigative phase is included. It is during this phase that the foundation is provided for a criminal case and usually determines whether the case can be taken to court once the suspected perpetrator has been arrested. The urgency

to adopt a robust law enforcement approach which will lead to the successful prosecution of apprehended suspected pirates is underlined by a report, issued by Lang (2011:21), special advisor to the secretary-general of the United Nations on legal issues related to piracy off the coast of Somalia, in which it is reported that as of May 2010, more than 90% of the pirates captured have not been prosecuted. The national police forces of states are responsible for preparing the criminal case for court, whether their members took the initial statements or collected the evidence on board the attacked vessel or not. There will thus have to be a great deal of transnational coordination between police forces to secure the presence of witnesses for the trial and to ensure that the chain of custody of evidence is maintained, particularly where evidence is transferred between ships or aircraft, so as to ensure that the evidence presented in court is admissible. Worldwide, 193 national police forces are members of the International policing organization (Interpol). The authors believe that Interpol, which has the largest membership of police forces worldwide, would be the international organization best suited to coordinate the investigation of piracy cases by providing the necessary communication and liaison between national police forces for the preparation for a trial which would include, amongst other, the securing of the presence of witnesses from other countries. In December 2010, the European Union (EU) council adopted a decision² which recognizes the key role played by Interpol in providing the link between military intervention and the investigation and prosecution of pirates. Interpol's history in regard to combating maritime piracy is now briefly discussed.

The role of Interpol in combating sea piracy

In 1985, Interpol adopted a resolution³ in which it undertook to deal with maritime piracy as part of a specialized group within the then Police Division to co-ordinate and enhance co-operation in combating international terrorism. The anti-terrorism branch or TE branch as it was commonly known began

1 UNSC resolutions 1816 and 1851 (2008)

2 EU Council Decision 2010/766/CFSP: 7 December 2010. Available at [www.interpol.int/PR107/2010/News & Media releases](http://www.interpol.int/PR107/2010/News%20&%20Media%20releases)

3 AGM/54/RES/1 (Washington DC 1985)

operating in 1987 and dealt with matters relating to terrorism, firearms and explosives, attacks and threats against civil aviation, maritime piracy and weapons of mass destruction, and for a number of years Interpol's website indicated that maritime piracy was dealt with by the antiterrorism branch. Various co-operation agreements with role players in the maritime sector followed.



In 2001, Interpol hosted the first international conference of offenses committed at sea. It was at this conference that a recommendation was made to the general secretariat to establish a project in order to centralize the information on piracy and other serious related crimes committed at sea. This was the start of Project BADA which was to become Interpol's main vehicle in the fight against piracy (Interpol 2009: 2).

Yet as late as 2005 Interpol had no operational, concrete activities against piracy. During the previous year (2004), Interpol's Project BADA database had only 30 incidents on record compared to the 329 incidents reported and analyzed by the International Chamber of Commerce's (ICC) International Maritime Bureau (IMB) piracy reporting centre (Interpol 2009:2).

Clearly as the problem of piracy intensified, particularly in the Horn of Africa region, it became apparent that Interpol, as an international policing agency, would need to play a greater role in what was a transnational crime with rapidly developing links to organized crime.

In 2008, in response to UNSC resolution 1816, a hastily gathered task force of warships from different alliances and states soon began apprehending suspected pirates. Due to the lack of political motivation or legislation, many of the arrested pirates were subsequently released without being prosecuted.

This led to the realisation that the successful prosecution of pirates would require a law enforcement approach in which the investigations of the pirate attacks are led by law enforcement officers of states national police forces. In November 2008, at an International Symposium on maritime security and crime held at the World Maritime University, Malmo, a call was made for a law enforcement approach to be adopted and applied by regional task teams to deal with the investigation and prosecution of suspected Somali pirates apprehended at sea (Fouche 2010). This approach was endorsed by the secretary general of Interpol, Mr. Ronald Noble, in May 2009 when he proposed the creation of an investigative task force based in the region of the Horn of Africa with the aim of providing the link between military interventions that resulted in the arrest of suspected pirates and their subsequent prosecution (Interpol 2009). This was followed up by a commitment from Interpol to develop police and judicial investigative and prosecution capabilities on a regional level.⁴ Between 2009 and 2011, Interpol began building a database of fingerprints, photographs and DNA of suspects known to be involved in piracy. During this period, lobbying behind the scenes by members of Interpol's General Secretariat (IPSG) led to two UN Security Council resolutions,⁵ urging member states to co-operate with Interpol to secure successful prosecutions, being adopted unanimously by the UNSC within a period of 6 months. Key to the implementation of these resolutions is the importance of collecting evidence with guidance from Interpol. In 2011, Interpol formed an Incident response team to assist national police forces with the evidence collection at maritime crime scenes. To provide assistance with preserving the integrity of the evidence left behind at the crime scene, Interpol also developed a Maritime piracy task force which is augmented by a Command and Co-ordination centre which supports any of the 193 member countries with advice on the recommended best practices and protocols for preserving evidence or other physical clues in the pursuit of an investigation of an incident.⁶

The primary purpose of an investigation

According to Gilbert (2010: 34), criminal investigation is a logical, objective, legal inquiry involving a possible criminal activity. Gilbert points

4 Interpol fact sheet COM/FS/2010-12/DCO-03 available at www.interpol.int

5 UNSC 1950 (2010) and UNSC 1976 (2011)

6 BMP4 Best Management Practices for Protection against Somali Based Piracy (BMP4)—August 2011

out that such an enquiry if properly conducted should be able to establish if a criminal violation as defined by a code or statute occurred, the date, time and place where the crime occurred, who the individuals were who were involved in the planning, execution and after effect of the misdemeanors, whether there are witnesses to the criminal activity present, if there is evidence of the criminal offence, the method of operation and manner in which the crime was perpetrated, and if there is an indication of guilt or innocence to aid prosecuting authorities in determining a verdict.

Clark (2004: 5–6) describes criminal investigation simply as the process followed to establish whether an act may be labeled a crime and if it is the collection of evidence to determine who is responsible and how they will be dealt with by the criminal justice system.

Preliminary crime scene investigation

Gilbert (2010: 80) describes a crime scene as a location at which a suspected criminal offence has occurred. The processing of a crime scene is one of the most important phases of the investigation. It allows the investigator to focus on the search for physical evidence. According to Gilbert, all crime scenes, to a variable degree, contain physical evidence that may be visible to the naked eyes or so small that it can only be detected by a microscope. Physical evidence comprises of all objects and material found in connection with an investigation that are instrumental in discovering the facts. The investigator should always be able find evidence at the scene of the crime, linking the perpetrators to the crime scene and possibly connecting them to the elements of the crime. This belief is based on Locard's principle of exchange that when two objects come into contact with one another, an exchange of materials between the two objects occurs (Saferstein 2004: 5). According to Weston and Lushbaugh (2006: 9), Edmond Locard, founder of the Institute of Criminalistics in Lyon, France, believed that suspects introduce items of evidence into the crime scene and remove items with them on leaving the scene. This exchange of trace elements involves items such as hairs, fibers, dirt, dust, blood, body fluids, skin cells and other materials. The International Maritime Organization (IMO) Code of Practice for the investigation of crimes of piracy and armed robbery against ships⁷ stresses that a detailed forensic investigation of the crime scene offers investigators the best opportunity of gleaning crucial information and

evidence which may lead to the solving of the case. The Code of Practice also advises investigators to take advantage of the full range of specialist services available to them.

Pena (2000: 75–76) defines the term physical evidence as including any physical thing found at the crime scene or found at another place, but which has a direct relationship with the scene, the suspected perpetrator or the victim. He emphasizes that the manner in which the physical evidence is located, collected, handled and preserved will be a determining factor in establishing the guilt or innocence of an accused.

Saferstein (2004: 62) lists various types of physical evidence commonly found on a crime scene. This includes bodily fluids like blood, semen and saliva, documents, drugs, explosives, fibers, fingerprints, hair, other impressions like tire tracks, paint, powder residues, serial numbers, soil and minerals, tool marks and wood and other vegetative matter.

The IMO Code of Practice points out that the recovery of forensic material from a crime scene has the potential to provide evidence to identify the perpetrators. Such evidence is also required to link the suspected perpetrator to the elements of the crime.

The collection and examination of physical evidence by detectives and forensic analysts usually have two purposes namely identification and comparison.

Identification has in its purpose the determination of the physical or chemical identity of a substance with as near absolute certainty as existing analytical techniques will permit, whereas a comparison analysis subjects a suspect specimen and a reference specimen to the same tests and examination for the ultimate purpose of determining whether or not they have a common origin (Saferstein 2004: 64).

In laymen's terms, this means being able to place the suspect on the crime scene at the time the crime was committed.

Processing the crime scene

The preliminary investigator's task is concentrated on three basic elements of investigation:

- Searching the crime scene
- Collecting and preserving evidence found at the crime scene
- Locating and interviewing witnesses at the crime scene

(Weston and Lushbaugh 2006: 5)

⁷ IMO Resolution A.1025(26) adopted on 2 December 2009

Saferstein (2004: 34–46) supports this and emphasizes its importance by listing steps to be taken when processing a crime scene.

- Secure and isolate the crime scene. This is important to avoid further contamination of the crime scene and protect its integrity so that the evidence collected can be presented for prosecution later.

- Recording of the crime scene. This is done by means of photography, sketches and notes.

- The systematic search for evidence.

- The collection and packaging of physical evidence. Again, this is important so that the integrity of the evidence value is maintained.

- Maintaining the 'chain of custody'. It is important to prove the continuity of possession of a piece of evidence in court. This means in reality that every person who handled or examined the evidence must be accounted for.

Lang (2011: 23) emphasizes this by stating that the collection and production of evidence in prosecutions is made difficult due to the breaking in the chain of evidence, especially when it is transferred between aircrafts or ships.

- Obtaining of reference samples, when possible.

- Submitting of the evidence to laboratories for further analysis.

Evidence collection directives



United Nations Convention on the Law of the Sea (UNCLOS)

Article 100 of UNCLOS imposes a duty on states to co-operate fully in the repression of piracy on the high seas.



Convention for the Suppression of Unlawful Acts against Maritime Navigation (SUA)

The States party to the SUA convention recognize the need to develop international co-operation between states in creating and implementing practical measures for the prosecution and punishment of perpetrators of unlawful acts against the safety of maritime navigation. Article 8 of the SUA convention defines the roles and responsibilities of the master of a ship, the flag state and the receiving state in delivering any person believed to have committed an offence under Article 3 of the convention to the authorities of any other state party to the convention (Article 3 includes the hijacking of a ship). Article 12 places an obligation on state parties to assist one another in connection with criminal proceedings brought in respect of offences including, amongst other, the hijacking of a ship. Such assistance includes the obtaining of evidence at their disposal necessary for the proceedings. This obligation would imply that any evidence subsequent to relevant court proceedings would need to be protected from contamination by the master of the vessel for such evidence to be admissible in court proceedings.



United Nations Security Council Resolutions

UNSC 1816 (2008) and 1851 (2008) calls upon all states to co operate in the investigation and prosecution of persons responsible for acts of piracy and armed robbery off the coast of Somalia.

UNSC 1918 (2010) endorses the duty of states to cooperate in repressing acts of piracy and calls on

states to consider prosecution, pointing out that the failure to prosecute Somali pirates undermines the anti-piracy efforts of the international community.

UNSC 1950 (2010) and 1976 (2011) calls on all states to co-operate in the investigation and prosecution of all persons responsible for acts of piracy and armed robbery off the coast of Somalia. The resolutions welcome the work of the International Maritime Organization (IMO) and Interpol in providing guidance to seafarers on preserving crime scenes following acts of piracy and provide that seafarers be given the opportunity to give evidence in criminal proceedings. The resolution also underlines the importance of continuing to enhance the collection, preservation and transfer of evidence of acts of piracy to the relevant prosecuting state with guidance from Interpol. Resolution 1950 also urges states to make their citizens and vessels available for forensic investigation as appropriate at the first port of call immediately following an act of piracy or armed robbery at sea on release from captivity.

UNSC 2020 (2011) expresses grave concern at the extended range of the piracy threat into the Western Indian Ocean and adjacent sea areas and recognizes the need to investigate and prosecute not only suspects captured at sea, but also persons who incite or intentionally facilitate piracy operations and includes persons who plan, organize, facilitate or finance and profit from pirate attacks.

The resolution takes cognizance of and expresses appreciation to the IMO and shipping industry for the development of guidelines, best management practices and recommendations to assist ships to prevent and suppress piracy attacks off the coast of Somalia and the Gulf of Aden.

United Nations Security Council:

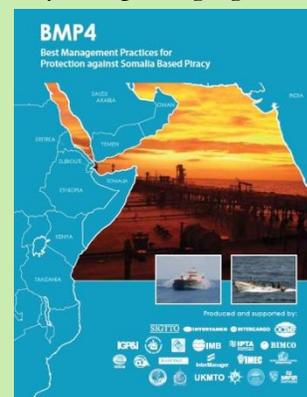
report of the special advisor to the secretary-general on legal issues related to piracy off the coast of Somalia⁸

Proposal 20 of the special report reiterates that evidence must be identified and gathered if perpetrators of piracy are to be successfully prosecuted. The proposal calls for the establishment of special regional teams to investigate piracy by, amongst other, analyzing the crime scene and taking fingerprints and DNA samples immediately after a hijacked vessel has been released by the pirates.



International Maritime Organisation (IMO) code of practice for the investigation of crimes of piracy and armed robbery against ships⁹

The purpose of the code of conduct referred to in UNSC resolution 1950 is to provide member states with guidelines to facilitate the investigation of the crimes of piracy and armed robbery against ships. On 23 May 2011, guidelines to be read in conjunction with resolution A.1025 (26) were issued by the IMO via MSC./Circ.1404. The guidelines reiterate that the capture, prosecution and sentencing of pirates and armed robbers is probably the most appropriate deterrent action available to governments and provides further guidelines designed to assist with statement taking from victims and the securing of the crime scene and recovery and packaging of exhibits.



Best Management Practices for Protection against Somali Based Piracy¹⁰

The fourth version of the Best Management Practices for Protection against Somali Based Pirates (BMP4) contains guidelines, designed and endorsed by industry, to assist ship operators and masters of ships transiting the high-risk areas. The guidelines provide advice to masters on a range of operational practices which include the possible monitoring and recording

⁸ UNSC S/2011/30 Annex to letter dated 24/01/2011.

⁹ Resolution A.1025(26)

¹⁰ BMP4. August 2011. Witherby Publishing Group Ltd. Edinburgh. ISBN:978 1 85609 505 1

For the purpose of this article, a forensic investigator can be regarded as the person responsible for identifying and collecting forensic evidence comprising trace elements at the crime scene.

Detective

Charles Dickens introduced the word detective in a novel *Bleak House* in 1853. This was the first time that the word detective, which universally became the accepted designation for referring to an investigative law enforcement officer, appeared in print (Gilbert 2010: 8). For the purpose of this article, detectives are regarded as the persons who were responsible for identifying potential evidence for collection by the forensic investigators on the scene and for taking statements from victims as well as fingerprints of victims for elimination purposes.

Profile of responders

The six participants responsible for collecting forensic evidence (forensic investigators) consisted of three commissioned officers and three non-commissioned officers. The commissioned officers' service in law enforcement ranged between 17 and 32 years of which between 8 and 25 years were as forensic investigators. The non-commissioned officers' service in law enforcement ranged between 6 and 20 years of which between 2 and 10 years were as forensic investigators. All six of the participants indicated that they had previously processed physical evidence at major crime scenes and all had at some stage been in charge of processing evidence at a major crime scene. For all six participants, the forensic investigation on the VLCC was the first time that they had processed a major maritime crime scene.

The 10 participants responsible for taking statements and fingerprints (detectives) consisted of three commissioned officers and seven non-commissioned officers. The commissioned officers' service in law enforcement ranged between 23 and 40 years of which between 19 and 27 years were as detectives. The non-commissioned officers' service in law enforcement ranged between 15 and 30 years of which between 7 and 29 years were as detectives. All 10 of the participants indicated that they had previously attended major crime scenes and nine of the detectives had at some stage been in charge of investigating a major crime scene. For all 10 participants, the forensic investigation on the VLCC was the first time that they had processed a major maritime crime scene. The

overall commander of the operation was among this group of participants.

Methodology

For the purpose of data collection, the authors employed a self-administered qualitative questionnaire for the six forensic investigators and 10 detectives as a way of getting information directly from the participants in each of the two categories. This method is based on an established questionnaire—a set of questions with fixed wording and sequence of presentation (Bless and Higson-Smith 1995: 107) and was completed by each of the participants. The questionnaire consisted of openended questions relating to the challenges encountered by the participants and allowed them to freely relate their experiences and perceptions during the investigation, the differences they experienced between processing a major terrestrial crime scene and a major maritime crime scene, the challenges they encountered at the major maritime crime scene and the challenges they considered to be unique to processing such a crime scene. Provision was also made for comments by the participants regarding what they believe may assist in establishing best practices for dealing with future major maritime crime scenes. The responses from the two categories (forensic investigators and detectives) were grouped thematically, and reported on in the findings, to allow for comparison between the experiences of the forensic investigators and the detectives participating in the same investigation of a major crime scene in a maritime environment, taking into account that their experience could assist in establishing best practices for dealing worldwide with major maritime crime scenes.

Findings

In response to a question as to how in their experience processing physical evidence at a major maritime crime scene differed from processing physical evidence at a major terrestrial crime scene, the six participants (forensic investigators) responsible for the processing of physical evidence at the crime scene indicated that:

- Crime scene contamination by the victims and other role players responding to the incident earlier resulted in evidence being lost (first responders from a warship who boarded the hijacked VLCC, after its release, destroyed some evidence, including the aluminum ladders and grappling hooks used by the

perpetrators of the hijacking to board the vessel, by throwing them overboard).

- Access to equipment and the availability thereof was hampered due to the location of the crime scene at sea.

- The humidity was much higher at sea level and equipment and substances packed by the team in Pretoria, situated at 3,400 m above sea level, was in some instances not ideal.

- Team members' performance was not optimal due to some instances of motion sickness. This had not been anticipated beforehand.

- The environmental conditions were bad and there was no protection on deck from conditions such as strong wind which blew pieces of evidence overboard as soon as they were disturbed. This was exacerbated by the continuous movement (rolling) of the vessel.

- Communication between team members was hampered due to poor cell phone signal strength off the coast and there were no handheld radios available for communication between team members.

- The vessel's crew members had to stay aboard and could not be removed out of the crime scene during processing and interviews as would normally be the procedure at a terrestrial crime scene.

- Although the crime scene had been occupied for a long period due to the hostage taking, much of the incriminating evidence had been discarded by simply having been thrown overboard.

In response to the same question, the 10 detectives' responses indicated that the differences that they had experienced were:

- There are no standing operating procedures (SOP) in place for such events. This lack of SOP's resulted in a lack of or poor communication and misunderstanding between the owners, ships agents, law enforcement, Interpol and first responders who had already boarded the vessel and not adhered to crime scene management principles.

- The establishment of a command centre at sea was more challenging as it had to be established on the vessel which effectively was the crime scene.

- The control of the scene, however, was easier as there were no crowds to control.

- It was more difficult to access the crime scene and to get the investigators and their equipment aboard the vessel.

- Difficulty in cordoning off many different scenes over a large area. Far more planning and control had to be exercised in regard to the crime scene.

- Contamination at the scene is maximized because space and movement is limited at a maritime crime scene.

- A limited time window to process the crime scene which is already contaminated.

- The need to be self-contained once aboard vessel/crime scene.

The forensic investigators experienced the following challenges while processing evidence at the maritime crime scene:

- The scene was already contaminated resulting in a huge loss of possible evidence (up to 80%)

- Moisture had affected and degraded some evidence such as fingerprints and DNA particularly on the decks where it had come into contact with seawater. Difficulty was experienced in accessing the scene at sea.

- Limited space was available to transport equipment to the scene.

- Time constraints could have resulted in evidence being overlooked.

- Marking the position of exhibits for capturing was difficult due to the continuous motion of the vessel.

- Motion sickness affected the performance of team members.

- The equipment taken aboard was more suitable for processing terrestrial scenes (cameras and reagents were affected by moisture and weather changes. Reagents not properly packed were affected by moisture due to humidity. Lenses became covered in moisture and no lens cleaning tissues were available.)

- Processing was interrupted and had to be stopped when the vessel was affected by rough weather.

- Time for processing was much too short and members had to rush processing. In many cases, collection was limited to merely 'bagging and tagging' and documentation.

- Large quantities of evidence could not be processed and had to be left behind (equipment, bedding, clothing, empty containers, etc. dumped by perpetrators) due to lack of time and space on the police boats.

Challenges experienced by the detectives in response to the same question were:

- Owners need to be first aboard to talk to the crew which resulted in further contamination.

- The need to clean the vessel. The mess left behind by the perpetrators after 58 days of occupation had to be cleaned for health and safety reasons and so that the offices and spaces which had been occupied could be utilized to continue the voyage. A team was sent aboard the vessel in Durban to replace all the mattresses and further clean up the debris of the occupation. On the one hand, these necessary actions hampered the investigation by removing potential evidence, and on the other hand the presence of the cleaning team further contaminating the crime scene which comprised the entire vessel.

- Non-adherence to crime scene management principles by military personnel who boarded the vessel after its release. Exhibits were dumped in the ocean by the military first responders.

- The crime scene was 2 to 3 months old and there was a challenge to get evidence after the vessel had been cleaned.

- Availability of witnesses due to handover to new crew and witnesses having to conduct necessary technical tests to the vessel. Very limited time period in which to take statements. The victims were traumatized and could barely speak English. The time restraints before the commencement of the investigation and uncertainty/lack of information concerning the nationalities of the crew resulted in interpreters not being available to interpret during statement taking. The statements were thus of necessity taken down in English, without the assistance of interpreters.

- Insufficient background information as to events or suspects was available beforehand. Statements taken by first responders were not available.

- Disorientation on board the vessel (crime scene) due to unfamiliar surroundings.

The forensic investigators considered the following challenges to be unique to processing a major maritime crime scene

- The difficulty to take control, secure and protect the scene.

- The limited time available to process and document the scene (due to having to avoid costly delays to the vessel's owners).

- Communication between team members and victims due to language barriers.

- Limits on the use of equipment such as flash photography, electrostatic dust lifter and other specialized equipment due to safety regulations on board the vessel.

- Time exposures during photography were difficult. The vessel was stopped and was lying head to wind beam on to the sea and rolling, making the platform for the time exposure camera unstable and causing blurring.

- Maintenance of used equipment such as recharging of batteries was difficult and availability of power with compatible current (220 V in this instance) a challenge.

- Team members had not worked together before and did not know each other's abilities and skills which could have resulted in instructions not being carried out.

- Due to time restraints, evidence collection needs to be selective to achieve outcome-based processing, resulting in some evidence not being able to be processed. For this to be successful, there needs to be continuous communication between members of the task team.

- The fact that the vessel itself is the crime scene and anything beyond the vessel is lost as physical evidence unless that physical evidence can be linked back to the vessel.

- The perimeter of the processing area cannot be extended.

- Cameras are not allowed in some areas for safety reasons. The vessel was fully laden which resulted in vapors in the atmosphere presenting a fire hazard preventing the use of cameras utilizing batteries and flashlights. To overcome this, a spheron scan 360°×180° capturing device can be utilized. This and similar devices can operate in low lighting conditions and can be operated without an additional light source.

- Lack of information about place of certain occurrences and the lack of preservation of evidence therein.

- Totally different terrain to work in. Everything is steel.

- Changing weather conditions make work difficult

In response to the same question, the detectives found the following challenges to be unique to investigating a major maritime crime scene:

- Planning and processing of the crime scene. Planning normally takes place at the scene. In this instance, planning for every possible contingency had

to be done before arrival at the crime scene, that is, the vessel.

- Gaining access to and controlling the crime scene at sea.

- The crime scene was already contaminated and there is a possibility of further contamination due to lack of maneuverability in confined spaces and amount of equipment needed to be self-sufficient at the scene.

- Jurisdiction and legality. Misunderstanding of the role, competencies and jurisdiction of the task team by ship ownership and management. The master of the vessel is effectively in control of the crime scene and in a position to dictate to the task team.

- The size of the team necessary to conduct the investigation effectively and efficiently is limited and dictated to by logistical and safety factors and confined by time constraints.

- Unfamiliar modus operandi of the suspects and the number of suspects involved.¹³

- Terminology used to refer to persons, places and procedures on board the vessel.

- The size of the crime scene.

The forensic investigators believed that the following may assist in establishing best practices for dealing with processing of physical evidence at future major maritime crime scenes:

- Team members should be provided with timely information of the extraordinary nature of the crime scene for example whether the vessel was used as a mother ship and the nature of the crimes that can be expected to be encountered at the scene. This is necessary to establish the desired outcomes which are not only to identify and link the perpetrators to the crime scene by way of trace elements, but to connect them to the elements of the crimes committed.

- Equipment must be packaged in protective packaging and must be easily identified and readily accessible.

- Proper communication and lighting equipment must be available.

- Standard operating procedures (SOP) must be in place.

- Team members should know one another. Training should be given to task team members and regular exercises held.

- Team members should be issued with correct personal protective equipment.

- Team members must be aware of their rights and powers at the crime scene (for example if necessary can a door be broken down)

- Effective processing can only be done if there is sufficient time at the disposal of the processing team.

In response to the same question, the detectives believed that the following may assist in establishing future best practices:

- International SOP should be established for dealing with future incidents.

- Military personnel on warships need to be sensitized regarding crime scene management principles and securing and safeguarding of physical evidence such as DNA, fingerprints and equipment used by pirates.

- A permanent task team consisting of investigators and experts from law enforcement as well as the prosecuting authority needs to be established to react on an ad hoc basis. The investigation should be court driven from the onset with a view to securing convictions of perpetrators after properly establishing the areas of jurisdiction.

- Team members should be provided with suitable attire.

- A designated port and area within the port should be identified to process vessels declared crime scenes.

- Task team should be self-reliant in terms of logistics such as food and water.

- Ships crews need to be thoroughly briefed in advance how to deal with evidence identification and protection after being released.

- The team leader should have access to sufficient readily available funds to deal with contingencies which may arise such as the need to hire a helicopter or civilian boats to assist with transporting large amounts of evidence.

- Prior contact with probable prosecuting authorities to ensure successful prosecution in instances where legal proceedings need to be instituted in countries other than those where the investigators are based.

Observations/recommendations by author

The authors of this article make the following observations and recommendations:

- The principles of investigation remain the same for a maritime crime scene as for a terrestrial scene. The

¹³ The use of hijacked vessels as 'mother ships', the use of the automatic identification system (AIS) and satellite telephones, the boarding methods and subsequent methods used to gain control of the vessel.

difference in domain and the resultant challenges inherent to the maritime domain, however, need to be taken into account by detectives and forensic investigators in their preparation for and processing of the maritime crime scene.

- Equipment used by investigators should be carefully chosen, keeping in mind the environmental challenges that exist. This includes lighter equipment that is waterproof, or waterproof containers that will be able to protect expensive equipment.

- It would be advisable to use the same group of investigators for this type of investigation. This would create a speciality team that would be prepared for the challenges typically associated with a maritime crime scene. A permanent maritime crime scene management team, consisting of specialists in various forensic and investigative fields, is therefore advisable. The team should also have a database available with the details of interpreters who can be called up at short notice. It would also be useful to have data on doctors and trauma councilors available for call up at short notice.

- A Troika approach using the investigator, prosecutor from the flag state/ prosecuting country and intelligence in a combined effort is also recommended when conducting the investigation of the crime scene of maritime piracy. The IMO Code of Practice points out that investigators should be aware that the laws governing offences committed at sea may allow for legal proceedings in countries other than those where the investigation was conducted. It is also recommended that it be made mandatory for ship owners to lay a criminal charge in the flag state against the perpetrators to enable Interpol to issue red notices for arrest and extradition to the prosecuting state (for an Interpol red notice to be issued, there needs to be a valid arrest warrant in the country requesting extradition).

- Resources in the form of equipment and finances should be permanently available for this team. Resources from regional or flag states could be pooled to ensure that there is always a team knowledgeable in the maritime environment ready at hand to conduct such investigations.

- A directive or protocol for the identification and protection of evidence on maritime crime scenes should be developed and distributed to all role players involved.

- Guidelines need to be established for investigators to follow when dealing with traumatized victims. The IMO Code of Practice for the investigation of crimes

of piracy and armed robbery against ships points out that investigators should be aware that the witnesses they are dealing with are likely to be exceptionally distressed, particularly if they have been subjected to violence, been held hostage for long periods and been in fear of death. The code emphasizes that investigators should take cognizance of such factors and consequently the need to deal emphatically and patiently with such witnesses if they are to elicit all the relevant facts during interviewing.

- Better communication with the shipping industry regarding the protection of a crime scene is of vital importance to ensure the integrity and evidential value in court of physical evidence collected on a maritime crime scene.

- Training with regard to the handling of a crime scene and evidence should also be given to other armed forces and navies, as these forces are often the first responders on such vessels after they have been released by pirates.

- Adding to this, better communication between law enforcement and the military should be established. (In the case of the Irene, investigators only became aware of the actions of military first responders on the vessel after its release, when interviewing the crew.)

- Interpol's current resources should be extended beyond ground-level law enforcement to military personnel and ships so that they can have access to its fingerprints, DNA, nominal and pirate photo album databases and services.

- It would be advisable to have the option of air transport available for the team to board the vessel, prior to it docking at a harbour, thereby avoiding further contamination of the crime scene by third parties

Conclusions

Successful prosecution of perpetrators of piracy requires detailed evidence collection according to pre-planned procedures. There is an urgent need for specially trained evidence collection teams, knowledgeable in the maritime domain and with all the necessary equipment including protective clothing, adapted if necessary for the environment, to be available to conduct forensic investigations on ships which have been released after being hijacked by Somali pirates. It would be advantageous to have a person from the potential prosecuting authority as a member of the team. Such investigations should be conducted in a port or sheltered anchorage. The ship would need to be available for a sufficient amount of

time to allow for a thorough investigation. The teams would need to hold exercises regularly to provide team members the opportunity of working together, familiarizing themselves with the layout of various types of vessels, testing the suitability and availability of equipment and getting to know each other's abilities and skills. Communication before, during and after the operation is crucial. Before the operation between the owners, ships agents, the master of the ship and the team leader (as much information as possible should be made available regarding the alleged offences, the method of operation of the perpetrators, the composition of the crew in order to arrange interpreters, the estimated time of arrival, and all information which would assist with the investigation), during the operation between team members themselves and with the ships management and after the operation between the parties responsible for the preparation of the case for prosecution and the prosecuting authority of the state in which the trial is to take place (with regard to availability of witnesses and evidence and admissibility of evidence). Crime scene management principles in relation to the protection of possible evidence needs to be observed by first responders from military units as well as wherever possible by the master and crew of the hijacked ship. Ships masters and crews need to be conversant with the best management practices, provided by the shipping industry and international organizations such as the International Maritime Organization (IMO) and International Chamber of Commerce (ICC) International Maritime Bureau (IMB), relating to evidence protection.

Every effort should be made, by all role players across the globe, to assist in procuring the successful prosecution of the perpetrators of the crime of piracy.

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MARITIME SITUATIONAL AWARENESS & MARITIME INTERDICTION OPERATIONS AS STRATEGIC CRITICAL ENABLERS SUPPORTING THE ALLIANCE MARITIME STRATEGY IN AN ERA OF AUSTERITY

By Cdr Grigorios Nousias, GRC (N), NATO Defense College Student

Introduction

The concept of nations "sea power" is not new, its roots stems from ancient times. Themistocles was the founder of sea power, advancing Athenian sea-power under his guidance, Athens was to become an essentially maritime power during the 5th century BC. Taking a huge step forward and turning our minds on a later era, Alfred Thayer Mahan, a United States Navy flag officer, geostrategist, and historian, had the same concept of "sea power", that countries with greater naval power will have worldwide impact; this concept had an enormous influence in shaping the strategic thought of navies across the world.¹

Scope of the article

As of today in a globalized era, the Alliance holds the scepters of the essential source of stability in an unpredictable world, and its maritime strategy sets out the ways through which maritime power could help resolve critical challenges facing the entire world now and in the future.

However, scrutinizing today's and past case studies as well as the Alliance's maritime strategies we note that maritime strategic solutions cannot stand alone in the real world as a philosophical approach. They need tools and enablers in order to be implemented in an effective, efficient and affordable way. This paper briefly examines ways to minimize the gap between the Alliance Maritime Strategy and the implementation of it throughout the full range of available missions in the maritime environment now and in the future, taking into consideration that we are in the middle of an era of austerity where available critical assets can play a significant role in shaping and transforming the Alliance Maritime Strategy as a whole.

Alliance Maritime Strategy Approach

In the past few years the events that have occurred demonstrate through analysis, that collective security (NATO's Strategic task) is unattainable without the security of the seas. As we all know, the maritime environment includes trade routes, choke points,

ports, and other infrastructures such as pipelines, oil and natural gas platforms as well as trans-oceanic telecommunications cables. It is more than evident that Allied nations are facing daily a wide range of potential threats that could disrupt the finely balanced interdependence of a globalized economy. At the same time climate change is having, and will continue to have, a huge impact on energy security, and the access to food and water will be a critical factor for stability, let alone other energy sources.

The basic issues for maritime security and stability for the Alliance will remain the same as in the past, these are briefly:

- a. Freedom of navigation, canals and international straits;
- b. Protection of critical infrastructure such as pipelines, oil and natural gas platforms, marine resources and the environmental safety;
- c. Counter Proliferation of criminal and terrorist activities, including the transport and deployment of weapons of mass destruction; and
- d. Diminishing of the growing range and rate of pirate attacks.

The Alliance has already identified the main strategic solutions and contributions for the safe execution of maritime operations and activities, namely:

- a. Deterrence and Collective Defense;
- b. Crisis Management;
- c. Cooperative Security (outreach through partnership, dialogue and cooperation); and
- d. Maritime Security.

The above four mentioned strategic means of the Alliance's Maritime Strategy have been considered and signed by all NATO nations as the ultimate solutions for any maritime issue. Delving a little deeper we should analyze further the above referred core values of the Alliance's Maritime Strategy in order to fully understand the ideas and more importantly become better acquainted with the gist of the Alliance's Maritime Strategy approach.

¹ http://en.wikipedia.org/wiki/Alfred_Thayer_Mahan

“Deterrence and Collective defense, is extremely important and necessary for NATO’s solidarity and mutual commitment. NATO’s significant maritime capabilities are a key component in deterring aggression”². No viable solution to the maritime environment can be finalized if there is no use of deterrence and collective defense.

In parallel, the “Alliance Crisis Management strategy could include conflict prevention, demonstration of resolve, crisis response operations, peace-enforcement, embargo operations, counter-terrorism, mine clearance, and consequence management, often in austere operating conditions”². Additionally, maritime forces can play a critical enabling role in arms embargo and interdiction operations.

Concurrently, the Alliance’s maritime activities provide an important contribution to NATO’s policy of outreach through partnerships, dialogue, and cooperation. They offer valuable opportunities to prevent conflicts and develop regional security and stability through dialogue, confidence-building, and increased transparency. Finally, Maritime Security is one of the four core values supporting the Maritime Strategy and can be considered as a viable entity to the global efforts of the Alliance to keep trade routes open, free, fast and effective for the sake of navigation and the nations around the world.

Strategic deficiency

The above mentioned emerging threats need a strategic approach to deal with them, including defining new courses of actions and new rules. This approach is the “Alliance Maritime Strategy”, but there are deficiencies in the capability of conducting rapid actions in order to ensure that deterrence, collective defense, crisis management, cooperative security and maritime security can take place. It has been seen in the past few years that NATO is not so rapid in applying effective maritime strategies. An example is the phenomenon of piracy and the lack of collecting real time maritime surveillance information in a rapid manner in order to execute fast and effective maritime security operations. However, and taking into account that piracy phenomenon has not been effectively diminished or real time maritime surveillance data is not a part of our strategic lives, we can easily conclude that this strategy needs something more than is currently missing. We have to use all available strategic resources, thinking and knowledge differently, instead

of further enhancing NATO’s maritime strategic approach to a level that its implementation will be unbeatable in the future; this is the ultimate challenge for us. The above notions can only be conducted in the framework of a comprehensive approach or by the Alliance alone, in order to protect Allies’ strategic interests, to mitigate the risks of illegal or threatening activities, and to protect security and stability.

Strategic Critical Enablers

The above mentioned concept, or future strategic approach to Alliance’s Maritime Strategy can, possibly, be applied to the real world only by using key strategic factors, which are underpinned by Maritime Situational Awareness (MSA) and Maritime Interdiction Operations (MIO).

Recent Maritime Situational Awareness (MSA) has grown new demands that have arisen far beyond the traditional military threats. MSA has only recently but not yet fully, been implemented in order to realize the goal of information superiority in the maritime environment for improved effectiveness in planning and conducting operations. We need to widen and deepen our knowledge in this area of interest, and share data and information with other allies in a proper and more applicable manner. These operations are focused on illegal migration, proliferation of weapon of mass destruction, narcotic trafficking, terrorism, piracy and armed robbery, smuggling, the protection of national resources, energy security, the prevention of environmental impact and safeguarding sovereignty. The Comprehensive Approach is also a key factor for a successful strategy to secure the maritime domain to face all these threats³. If we do not decide to support the Alliance’s Maritime Strategy using this Strategic MSA approach, reach levels of mutual and productive co-operation among nations, and overcome legal differences, then the Maritime Strategy is going to fail.

On the other hand the - old fashioned - but precious Maritime Interdiction Operation concept (MIO) is the cornerstone of the required efforts for an effective strategy, that could help resolve critical challenges facing the Alliance now and in the future. MIO in our era should be in full alignment with Mahan’s terms which is "to prevent the entrance of needed supplies, and being therefore a blow against communications."⁴ For us, we should link MIO as the only modern, legal, logic way for a defensive blockade strategy.

From official unclassified NATO publications we

² Alliance Maritime Strategy, http://www.nato.int/cps/en/SID-41426331-6494A785/natolive/official_texts_75615.htm

³ DEVELOPING A EUROPEAN INTERAGENCY STRATEGY FOR MARITIME SECURITY OPERATIONS A PAPER SUPPORTED BY THE CHIEFS OF EUROPEAN NAVIES, <http://www.chens.eu/products/MSO%20Strateev.pdf>

can extract the definition of MIO which is “an operation conducted to enforce prohibition on the maritime movement of specified persons or materials within a defined geographic area”⁵. MIO is normally restricted to the interception and, if necessary, boarding of vessels to verify, redirect or impound their cargoes in support of the enforcement of economic or military sanctions. Units engaged in MIO normally exercise the right to perform the following:

- a. Interrogate vessels for reasons other than safe navigation
- b. Send armed boarding parties to visit vessels bound to, through, or out of a defined area;
- c. Examine each ship’s papers and cargo;
- d. Search for evidence of prohibited items;
- e. Divert vessels failing to comply with the guidelines set forth by the sanctioning body; and
- f. Seize vessels and cargo that refuse to divert.

MSA and MIO are the two Strategic Critical Enablers that our nations can afford in order to apply a concrete Alliance Maritime Strategy. Without these key factors the Alliance Maritime Strategy will not be realized by current NATO commanders who are trying to provide solutions and safeguard the maritime environment.

Strategic Applications

Nowadays, NATO has two main maritime operations that have been developed in compliance with Alliance’s maritime strategy: Operation Active Endeavour (OAE) and Operation Ocean Shield.

Operation Active Endeavour (OAE)⁶ is NATO’s “savior” operation towards maritime terrorists with the primary goal to conduct maritime operations in the assigned area of operations and demonstrate NATO’s resolve to help deter, defend, disrupt and protect against terrorism. It is designed to prevent the movement of terrorists throughout the Sea Lines of Communication, especially in the Mediterranean Sea. Through Active Endeavour, NATO has gained valuable experience of maritime interdiction operations and more broadly contributed to maintaining peace, stability and security in a strategic region. In this operation NATO is executing the MSA and MIO as critical enablers to support the Alliance’s Maritime

Strategy. Nations have already demonstrated this capability but with two defects. First, MSA is not being executed in a real time manner as it is unable to cover the whole spectrum of Surveillance efforts, whilst on the other hand navies are using MIO approach in order to acquire all relevant on site information.

In the case of NATO’s, Operation Ocean Shield⁷, we all know that since 17 August 2009, NATO warships and aircraft have been patrolling the waters off the Horn of Africa. Their mission is to contribute to international efforts to counter maritime piracy whilst assisting regional states in augmenting their own ability to conduct effective maritime surveillance and interdiction. Operation Ocean Shield cooperates closely with other naval forces including US-led maritime forces, EU naval forces and national actors operating to counter the threat of piracy in the region. On 19 March 2012, the North Atlantic Council extended the operation until the end of 2014. It is hereby significant to note that EU or other single actors in the area are using MSA and MIO to the full extent in order to support the strategic effect of the operation and a perfect example of this is that they are using satellite assets either for real time MSA capabilities or for executing and supporting real time MIO operations via reachback⁸. In this way they can apply the strategic effect to the maritime security operation and be more proactive than NATO forces in the area.

MSA & MIO as Critical Enablers

But how specifically are MSA and MIO critical enablers to implement the full range of tasks stemming from the Alliance Maritime Strategy?

As we know, NATO’s Strategic Concept is the fundamental political level document from which the maritime strategic guidance originates. One level below, at the strategic level, the Alliance Maritime Strategy has been agreed by all NATO nations and is the fundamental document. In this document we have seen above this comprises basically of four roadmaps or ways to execute our NATO strategy (Deterrence and Collective Defense, Crisis Management, Cooperative Security and Maritime Security).

MSA and MIO underpin each one of the above mentioned core values as follows:

4 Alfred T. Mahan, quoted in Karl A Rader, Blockades and Cvbberblocks: In search of Doctrinal Purity

5 ATP-71 ALLIED MARITIME INTERDICTION OPERATIONS.

6 Operation Active Endeavour, <http://www.manp.nato.int/operations/ActiveEndeavour/Endeavour.htm>

7 Operation Ocean Shield, <http://www.aco.nato.int/page208433730.aspx>

8 Specifically, this arrangement allowed forward-deployed forces to converse directly with centers of operational or analytical expertise wherever they existed <http://www.thefreelibrary.com/Global+distributed+ISR+operations%3a+the+changing+face+of+warfare-a0201712342>

Deterrence and Collective Defense: MSA and MIO contribute actively to deterrence and collective defense in support of operations in the maritime, land and air environment. Without MSA and MIO, no deterrence neither collective defense can take place since we would miss the proactive approach (MSA – real time information) and MIO (way of showing our level of authorized force).

Crisis Management: It is directly linked to the support of operations such as embargo or other type of crisis management situations (e.g. Non Combatant Evacuation Operations – NEO) and they are capable of providing secure sea control and denial to any potential actor. No MSA or MIO applications can have a serious effect on the application of NATO's crisis management system causing it to fail.

Cooperative Security: MSA and MIO contribute to building partner capacity, exchanging information, cooperative security and interoperability. They are actively contributing to training, exercising and implementation of all aspects of support to partners' capacity building by improving their capabilities. Additionally, in this way, MSA and MIO contribute to the Alliance Maritime Strategy through the Comprehensive Approach, which is succeeded by the developed relationships with relevant national and international actors. Moreover, in the current age of severe financial austerity, the Alliance Maritime Strategy contribute, in a way, to Smart Defense by encouraging multinational cooperation in a common training field, supporting the Cooperative Security ideas, and acting proactively, taking away the crisis escalation which lead to costly wars.

Maritime Security: MSA and MIO are also closely related to and support Maritime Security Operations (MSO) tasks "Maintaining the ability of NATO's maritime forces to undertake the full range of maritime interdiction missions, including the support of law enforcement and in preventing the transport and deployment of weapons of mass destruction"²

We cannot claim that we are able to minimize the phenomenon of counter piracy without first applying MSA and MIO critical enablers to support the Alliance Maritime Strategy.

From the above, we clearly understand, not by interpretation but by direct quotation, through the analysis that MSA and MIO are closely related and linked in support of NATO's Alliance Maritime Strategy.

Conclusion

The need to meet the threats of the modern global security environment necessitates a strong Alliance. This reflects the fact that NATO is facing a wide range of potential threats, most of them in the maritime realm. The Alliance's Maritime Strategy, in concert with NATO's Strategic Concept, sets out the ways that maritime power could effectively face all upcoming modern threats, maintaining a secure and safe maritime environment.

MSA and MIO should be considered as the only effective critical enablers in the Alliance's resources to implement the full range of tasks stemming from the Alliance Maritime Strategy. Without MSA and MIO a huge strategic gap arises. The strategic implementation of the above mentioned ideas is not a futuristic approach but if realized, can add meaning and value to the maritime strategy, and in doing so transfers a humble but existing solution to the Alliance, especially in an era of austerity where the application of new ideas and concepts is not cost effective. MSA and MIO have been around for years. The concepts are not new. By applying the strategic aspects of these to the Alliance Maritime Strategy we can effectively and positively conclude that NATO's strategic approach to maritime environment can be a spear capable of perforating all terror acts and render NATO to the absolute strategic power in the maritime environment.

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NEW TECHNOLOGIES IN MAINTAINING SEA CHARTS AND NAVIGATIONAL PUBLICATIONS

By Professor Josip Kasum

1. INTRODUCTION

Sea charts and navigational publications are the main tools designed for navigation. They are produced by hydrographic institutes or related hydrographic organizations in various countries. [4]. Hydrographic activities are performed by differently called institutions, such as institutes, departments or bureaus. A general term used in this paper, referring to national hydrographic organizations, will be the term hydrographic organization. Accuracy and volume of the data in sea charts and navigational publications are important for the security and the safety of navigation [5]. Maintaining the accuracy is achieved through the procedure of regular updating of information published in sea charts and navigational publications [6]. Nautical divisions, nautical departments and nautical bureaus of hydrographic organizations print monthly or weekly publications with updates for sea charts and navigational publications. The authorised nautical divisions, departments or bureaus of hydrographic organizations also act as national coordinators for maritime safety information relating to *Navigational Warnings (NW)*. The activity is performed according to the Maritime Safety Information (MSI) standards published in the joint manual of the International Hydrographic Organization (IHO) and the International Maritime Organization (IMO) in relation to the World-wide Navigational Warning Service (WWNWS) - (IHO/IMO - WWNWS - No.53.), and in conformity to the requirements of the Global Maritime Distress and Safety System (GMDSS) [7]. Mariners and nautical divisions, departments or bureaus of hydrographic organizations need accurate, timely and exact information. Information may be gathered through standard or non-standard methods. The standard method of gathering information is a hydrographic survey. A non-standard method of gathering information, further on referred to as reambulation [8,2], includes all other procedures of hydrographic organization not included in a hydrographic survey. However, the data in sea charts and navigational publications do not always correspond to the actual state or to each other. Therefore, it is necessary to be familiar with the process of maintaining sea charts and

navigational publications. There are two procedures of maintaining sea charts and navigational publications: maintaining performed by hydrographic organizations and by distributors and users. The process of maintaining of sea charts and navigational publications in hydrographic organization follows the procedures of gathering information, analysing information and publishing information. Information is gathered from international and national sources. The international sources are notices to mariners, sea charts and navigational publications and exchange of information. National sources are internal and external. Internal sources are hydrographic survey and reambulation, while external sources are official correspondence and exchange of information. Information analysis is done in nautical departments, divisions or bureaus of hydrographic organizations and it includes procedures of examining the accuracy and the selection of data to be used and distributed. Publishing is done in weekly or monthly editions of notices to mariners. On the basis of publicised information, regular maintenance of sea charts and navigational publications is done in the hydrographic organization by recording updates [9]. Hydrographic organizations publish the updated information in notices to mariners. The information needs to be changed, verified, accepted or rejected [4]. Being the publishers of sea charts and navigational publications gives them the right and the obligation to do so. There is not any precisely elaborated method for verifying and updating information in sea charts and navigational publications. Verifying and updating procedures are the result of the own practice of hydrographic organizations. The maintaining process is equal both for users and distributors, but it differs from the one in hydrographic organizations. The process relates to regular receiving of notices to mariners and updating the information on the basis of the published data. Users and distributors receive with trust notices to mariners and insert changes. They cannot influence the maintenance data and cannot change them. Their only right and obligation is to accept them as originally received [10]. Hence, after sea charts and navigational publications have been printed, only the maintaining procedure affects their accuracy [11, 2]. The accuracy of sea charts and navigational

publications may be presented as a function of time and maintenance. In the course of time the accuracy of sea charts and navigational publications changes and decreases. The accuracy of sea charts and navigational publications (P_{kn}) depends also on maintenance and is shown as a function:

$$P_{kn} = f(t, P_o) \quad (1)$$

where (t) denotes time and (P_o) maintenance procedure. The more accurate the updating data are, the longer will sea charts and navigational publications be used. It may be concluded that the process of maintaining sea charts and navigational publications determined and implemented at various hydrographic organizations is similar [12]. However, the problem of different data in sea charts and navigational publications and the actual state will still remain. It is, therefore, assumed that the difference may be decreased and accuracy increased if new source of maritime safety information in the maintenance procedure is found and the number and the quality of maritime safety information are increased [13, 2].

2. NEW SOURCE OF MARITIME SAFETY INFORMATION

The program “*Google Earth*” may be considered as a new source of maritime safety information. This programme allows for a 3 Dimension (3D) display of the Earth’s surface and the space. The development of the version 5.0 “*Google Earth*” allows also the display of the sea. The display of this programme consists of several different satellite images subsequently joined. This allows for the selection of a desired part of the Earth’s surface. The selected part may be enlarged, so that relatively small details may be displayed. From the point of reambulation and hydrographic survey it may be concluded that the coastline, the sea and other objects important for the safety of navigation may be viewed without the actual inspection of the site. The inspection of the coastline and the sea is especially important in navigation along hazardous areas and in those where the last hydrographic survey or any other control of the accuracy of the displayed area done by a hydrographic organization was conducted several decades ago, which is still common worldwide [14]. It is expected that properly interpreted result of the comparative analysis of “*Google Earth*” display on a sea

chart or navigational publication would reduce costs of hydrographic organizations allocated for the examination of coastline and the sea in search of possible differences. Therefore, it is proposed to develop a new methodology.

3. THE PROPOSAL OF METHODOLOGY

Land survey datum is used as the elevation basis for a survey. It equals to the mean level of the sea and is determined by using the data obtained in a procedure of continuous measuring of its tides by means of tide gauge stations during the period of several years. When producing sea charts and navigational publications, the measured depths and heights cannot be reduced to the mean sea level due to the effects of sea tides and increased possibility of errors. In order to reduce the possibility of wrong depth readings, the measured depths should be reduced to a lower level. In hydrographic survey, the depth and the height of the measured items are reduced to a determined reference level. It is lower than land survey datum and is the basis used for reducing the measured depths. Owing to different hydrographic circumstances in various parts of the Earth, the height datum is variously determined. By implementing the analysed methodology that may be part of reambulation planning, it is assumed that the analyses information content of sea charts and navigational publications will be reduced to the level of a sea chart, i.e. to height datum. The implementation of the control of coastline and the sea by means of “*Google Earth*” will be explained through theoretical approach and practical hypothetic example. The theoretical approach will start from the hypothesis that the information content included in a particular testing area in “*Google Earth*” display may be determined as a set of elements A:

$$A = \{a_1, a_2, a_3, \dots, a_n\} \quad (2)$$

It is then assumed that the information content, displayed, in terms of the position, in the identical testing area of the hydrographic organization display, may be determined as a set of elements B:

$$B = \{a_1, a_2, a_3, \dots, a_n\} \quad (3)$$

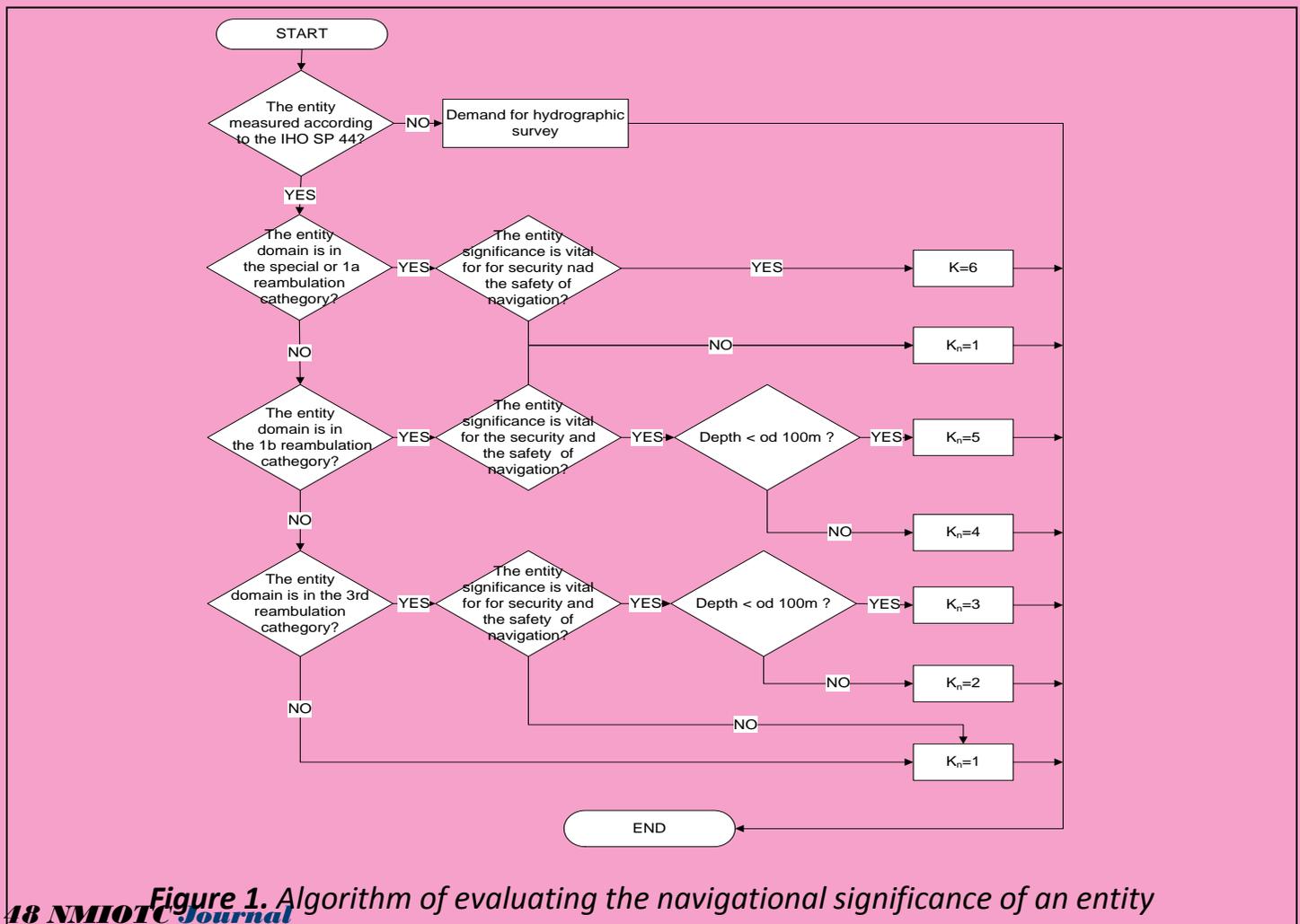
Information content of sea charts shows the actual state in the nature. If the sea charts of the same area produced by different producers and/or sources are

compared, it may be concluded that they contain, or should contain, the same elements, since they represent real state. Therefore, in order to detect possible differences for the display determined as the set of A elements and the display determined as the set of B elements the difference of sets may be determined.

$$A/B = \{x | x \in A \wedge x \notin B\} \quad (4)$$

Two conclusions may be made from the difference of sets. If there is no set difference it means that there have been no changes in the state of the analysed area in the period between the publication of the sea chart or the navigational publication and the view taken from the “Google Earth” programme. This may affect the decision of the hydrographic organization in terms that it is not necessary to control the actual state through a standardized hydrographic survey or through any other valid field procedure. If there is a set difference it means that there has been a change of the state of the analysed area in the period between the

publication of the sea chart or the navigational publication and the view taken from the “Google Earth” program. This may affect the decision of the hydrographic organization in terms that it is necessary to control the actual state through a standardized hydrographic survey or through any other valid field procedure. This means that a change was detected without creating the cost for the field procedure. Also, the uncertainty is eliminated or reduced. The observed change may be an incentive for the hydrographic organization to examine the part of the analysed information content. The navigational significance of the observed change will surely affect the decision on a potential field confirmation, as not every change has the equal significance for the safety of navigation. When determining the navigational significance of the observed change, i.e. a change in the part of information content, an algorithm may be used (Figure 1). For a better layout of the navigational significance algorithm, the determinant of the entity properties will be used instead of the determinant of the data properties. Each entity of a sea chart or/and navigational publication is determined by one or more



18 NMIOTC Journal **Figure 1. Algorithm of evaluating the navigational significance of an entity**

pieces of information, such as: position, depths, heights and other properties of the sea, for which the determinant of the entity properties is used. In order to differentiate the estimate ratings of the navigational significance of data or a set of data, i.e. of the (entity) change, which is important in making managing decisions of the hydrographic organization, it is necessary to determine the range of estimate ratings of the entity's navigational significance (K_n), as [8]:

- insignificant (1),
- less significant (2),
- significant (3),
- more significant (4),
- very significant (5) and
- extremely significant (6).

The rating insignificant (1) is attributed to the areas of the special, first a, first b and third category of reambulation, when the data properties are not vital for the security and the safety of navigation or when they do not belong to any of the reambulation

categories. The rating significant (2) is attributed to the areas of the third category of reambulation when the data properties are vital for the security and the safety and the security of navigation and when the depths are over 100 m. The rating significant (3) is attributed to the areas of the third category of reambulation when the data properties are vital for the security and the safety of navigation and when the depths are under 100 m. The rating more significant (4) is attributed to the areas of the first b category of reambulation when the data properties are crucial for the security and the safety of navigation and when the depths are over 100 m. The rating very significant (5) is attributed to the areas of the first b category of reambulation when the data properties are crucial for the security and the safety of navigation and when the depths are under 100 m. The rating extremely significant (6) is attributed to the areas of the special and first a category of reambulation when the data properties are crucial for the security and the safety of navigation.

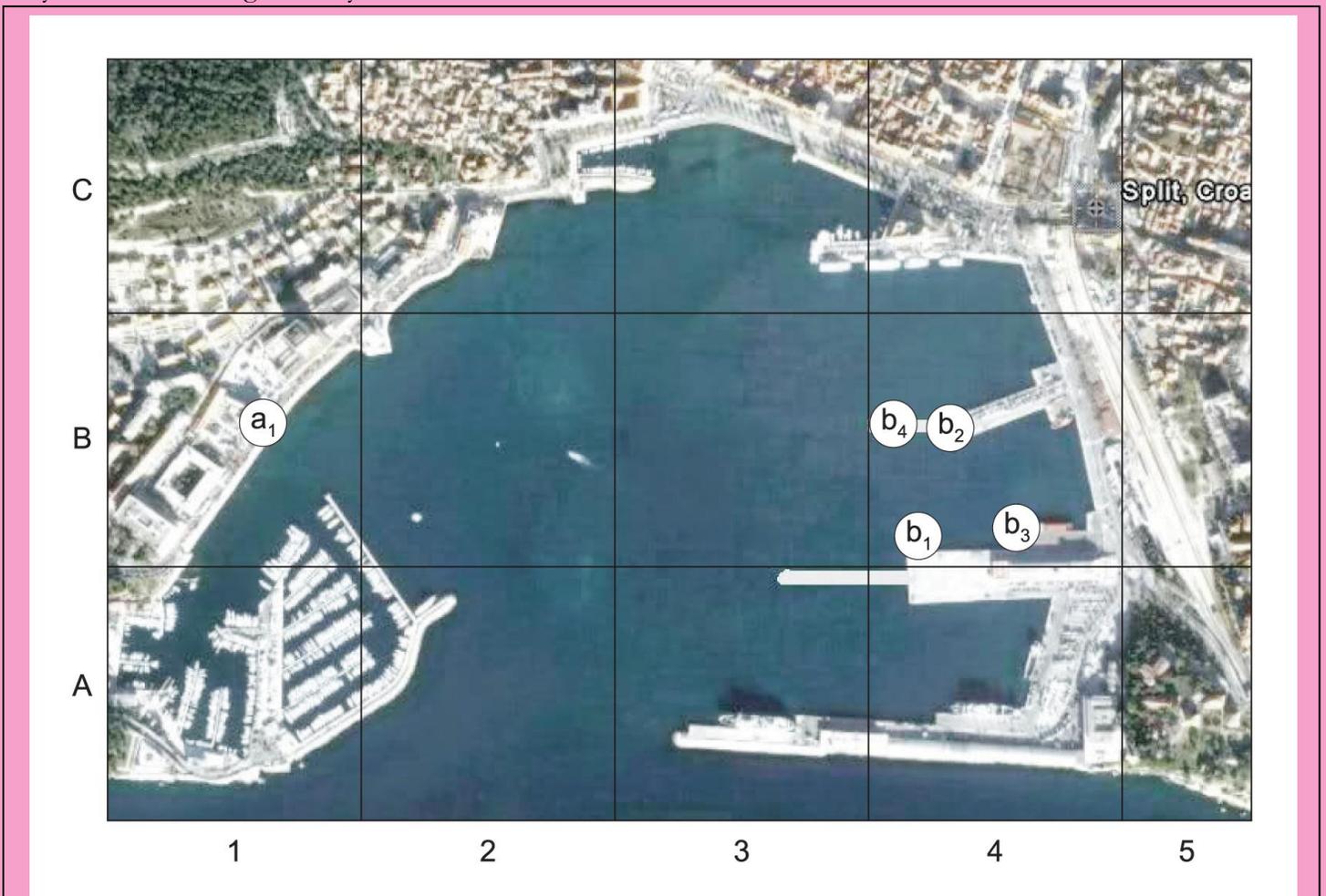


Figure 2. Google Earth display of the Port of Split (2011); Source: Google Earth

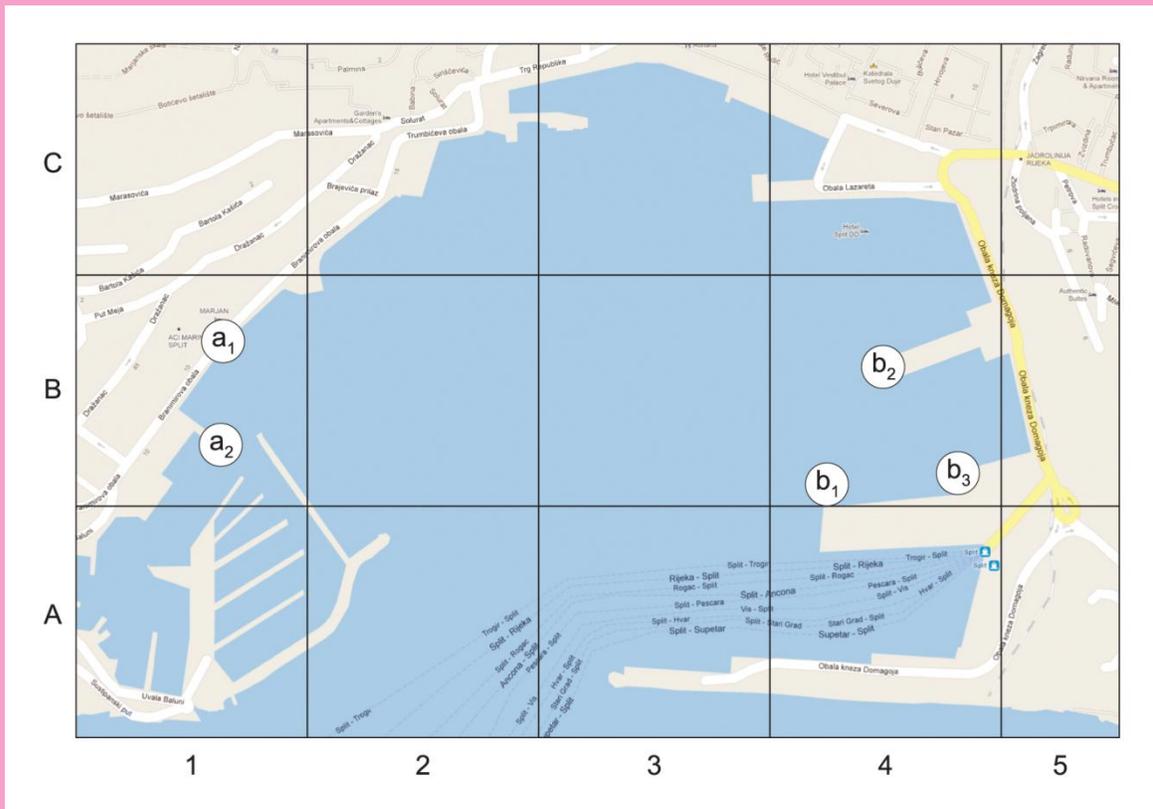


Figure 3. Hypothetical plan of the Port of Split published by the authorized hydrographic organization - vector display (2009); Source: by the courtesy of HHI, Split, Croatia

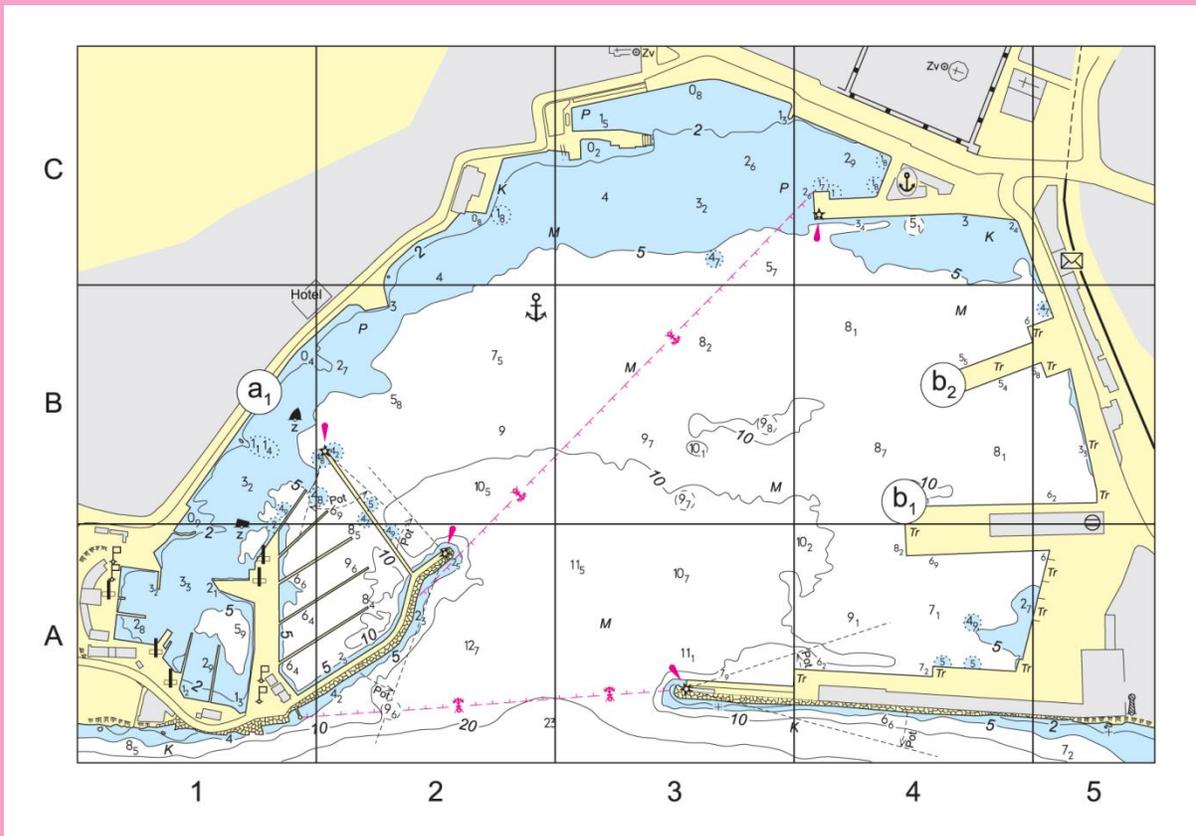
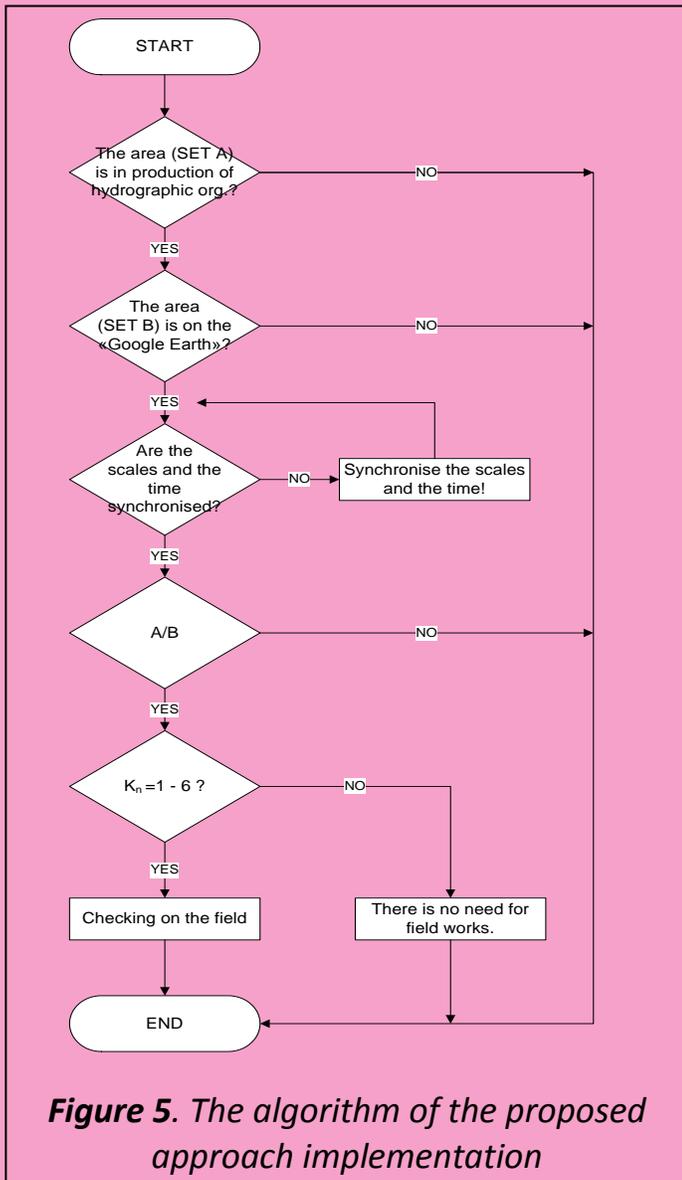


Figure 4. Hypothetical plan of the Port of Split published by the authorized hydrographic organization - raster display (2007); Source: by the courtesy of HHI, Split, Croatia



It may be concluded that the necessity to control the observed differences increases with the higher evaluated significance of the entity. Practical implementation of theoretical assumptions may be explained if the plan of the Port of Split is considered, by comparing the “Google Earth” display of the Port of Split and the plans of the Port of Split shown in hypothetical display in edition/s published by the authorized hydrographic organization. The scales of both displays are synchronised. The testing area network of a determined area unit is added onto the “Google Earth” display (Figure 2) and onto various plans of the Port of Split published by the hydrographic organization (Figures 3 and 4). The testing areas are marked by alphanumeric labels.

The testing areas to be analysed, B1 and B4, are selected, on which the entities of navigational significance $K_n = 1$ are marked. Testing areas are

allocated the following value and compared. Testing area B1 (set A) and testing area B4 (set B) contain the information contents of the plan shown in the programme “Google Earth” (Figure 2.). Testing area B1 (set C) and testing area B4 (set D) contain the information contents of the plan shown in Figure 3. Testing area B1 (set E) and testing area B4 (set F) contain the information contents of the plan shown in Figure 4. Hence, the defined sets contain the following elements:

$$A = \{a_1\} \quad (5)$$

$$B = \{b_1, b_2, b_3, b_4\} \quad (6)$$

$$C = \{a_1, a_2\} \quad (7)$$

$$D = \{b_1, b_2, b_3\} \quad (8)$$

$$E = \{a_1\} \quad (9)$$

$$F = \{b_1, b_2\} \quad (10)$$

The mathematical operation of set difference led to the results and conclusions:

$$A/C = \{\emptyset\} \quad (11) - \text{No changes}$$

$$C/A = \{a_2\} \quad (12) - \text{Coastline shape changed}$$

$$A/E = \{\emptyset\} \quad (13) - \text{No changes}$$

$$E/A = \{\emptyset\} \quad (14) - \text{No changes}$$

$$C/E = \{a_2\} \quad (15) - \text{Coastline shape changed}$$

$$E/C = \{\emptyset\} \quad (16) - \text{No changes}$$

$$B/D = \{b_4\} \quad (17) - \text{Coastline shape changed – pier extended}$$

$$D/B = \{\emptyset\} \quad (18) - \text{No changes}$$

$$B/F = \{b_3, b_4\} \quad (19) - \text{Coastline shape changed – pier extended}$$

$$F/B = \{\emptyset\} \quad (20) - \text{No changes}$$

$$D/F = \{b_3\} \quad (21) - \text{Coastline shape changed – pier reconstructed}$$

$$F/D = \{\emptyset\} \quad (22) - \text{No changes}$$

As we can see, the change is evident. For instance, in cases with observed set differences (12, 15, 17, 19, and 21,) the change is considered exceptionally important for the safety of navigation, since the assessment of

navigational significance of the observed changes in the state of the entity is: $K_n = 1$. In reality, the changes are the extension of the pier, which is either not inserted in the sea chart – plan or wrongly presented [15]. This is surely a valid indicator to the hydrographic organization to organize field works and conduct hydrographic and perambulation measurements, which will allow for creating maritime safety information. The changes will then be included in Notices to Mariners published by hydrographic organizations and afterwards added, through standardised procedures, to the information content of official sea charts and navigational publications. It may be concluded that the observed process in this methodology need to be followed. Therefore the developed management process will be shown in the algorithm of the implementation of the proposed approach (Figure 6).

In order to implement optimally the analysed methodology it is necessary to develop, in further scientific studies, adequate programme solutions and the implementation of, for instance, mathematical modelling of compared areas, vector graphics, system dynamics, modelling etc., aimed at faster implementation and increased reliability of the entire process.

CONCLUSION

The products of hydrographic organisations, such as sea charts and navigational publications, are the main tools designed for navigation. Sea charts and navigational publications are produced by hydrographic institutes and other related organisations in various countries. The accuracy and the volume of the data shown in sea charts and navigational publications are important for the security and the safety of navigation. Maintaining the accuracy is achieved by regular updating of information published in sea charts and navigational publications. Hence, the accuracy of sea charts and navigational publications depends on their maintenance, and it is functionally related to the necessary time and maintaining procedure. Hydrographic organizations conduct hydrographic survey and reambulation in order to obtain data important for maintaining sea charts and navigational publications. These are relatively costly procedures and therefore rarely conducted. It is reasonable to expect that by implementing the proposed methodology and the programme “Google Earth” such costs of hydrographic organizations will be decreased. Further development of the methodology and its implementation could

significantly increase the security and the safety of navigation.

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FISHING FOR FOOD SECURITY SOLUTIONS

By LTC (Ret) Phyllis Mihalas, Ph.D.

Introduction

Achieving food security in its totality continues to be a challenge not only for the developing nations, but also for the developed world. The difference lies in the magnitude of the problem in terms of its severity and proportion of the population affected. In developed nations the problem is alleviated by providing targeted food security interventions, including food aid in the form of direct food relief or indirectly through subsidized food production. These efforts have significantly reduced food insecurity in these regions. Similar approaches are employed in developing countries but with less success. The discrepancy in the results may be due to insufficient resource base, shorter duration of intervention, or different systems most of which are inherently heterogeneous among other factors.

Food security; a situation in which all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active healthy life¹; is affected by a complexity of factors. These include unstable social and political environments that preclude sustainable economic growth, war and civil strife, macroeconomic imbalances in trade, natural resource constraints, poor human resource base, gender inequality, inadequate education, poor health, natural disasters, such as floods and locust infestation, and the absence of good governance. All these factors contribute to either insufficient national food availability or insufficient access to food by households and individuals.

A root cause of food insecurity in developing countries is the inability of people to gain access to food due to poverty.² While the rest of the world has made significant progress towards poverty alleviation, Africa, in particular Sub-Saharan Africa, continues to lag behind. Projections show that there will be an increase in this tendency unless preventive measures are taken. Many factors have contributed to this tendency including the high prevalence of HIV/AIDS; civil war, strife and poor governance; frequent drought and famine; and agricultural dependency on the

climate and environment. Food security on the continent has worsened since 1970 and the proportion of the malnourished population has remained within the 33 to 35 percent range in Sub-Saharan Africa.³

A Military Response?

The U.S. Navy is first and foremost a fighting force with a defined national defense mission, but when disasters strike, Navy assets are quickly and efficiently delivered to provide foreign humanitarian assistance and disaster relief (FHA/DR) to those affected. The Navy's Maritime Civil Affairs and Security Training Command (MCAST) located in Virginia Beach, VA is one of the responding organizations.

MCAST does this by providing highly trained Sailors who deploy with the specific intent of building relationships and goodwill on the ground. Some of those teams are deployed to East Africa to support Combined Joint Task Force – Horn of Africa; one of their newest projects is to prove the concept of supporting Food Security issues through Fish Civic Action Projects (FISHCAP).

In the early stages of development, a MCAST Functional Specialist (FSp) Maritime Assessment Team traveled to Kenya where they conducted aquaculture assessments together with Kenyan fisheries to determine best opportunities for organizations to support increasing food security and economic development in the Kenyan littoral regions.

“Using the military in the right way is what’s important,” said Ertharin Cousin, currently Director, World Food Program (formerly U.S. Ambassador to the United Nations Agencies for Food and Agriculture in Rome). “In global humanitarian philosophy, there is a requirement that there be a distinction between humanitarian and military activities. In light of the severe humanitarian disasters over the past few years, it has become evident that the military has unique skill sets and tools that can be easily deployed and provide much-needed assets to humanitarian actors. Working in a supportive role with humanitarian agencies can help yield solutions.”

1 Cornell University, U.S. Plant, Soil and Nutrition Laboratory

2 Cornell University, U.S. Plant, Soil and Nutrition Laboratory

3 Ibid

“We send maritime civil affairs teams down range to combatant commanders who need the access, influence and information that only we can provide,” said Capt. Frank Hughlett, MCAST Commanding Officer. “Our Sailors develop crucial relationships and build goodwill by understanding the problems of the local population and assisting them the best they can. In this role, they are able to provide ground truth to the regional commanders, enabling them to make better informed operational decisions.”

Food Security



*Ambassador Ertharin Cousin, Director
World Food Programme*

To date, MCAST has steadily increased its ability to provide an impact during their deployments by rigorously evaluating the successes and failure of each mission. Recently, MCAST identified food security as an area where they might be able to tailor their efforts to achieve a greater impact.

“Food security has a major impact on the stability of a region, which is always a concern for [Department of Defense],” said Lt. Michael Brock, the mission lead for the recent FISHCAP assessment. “Lack of food security could gravely affect an environment’s stability, so our goal is to assist with food security, especially in that region.”

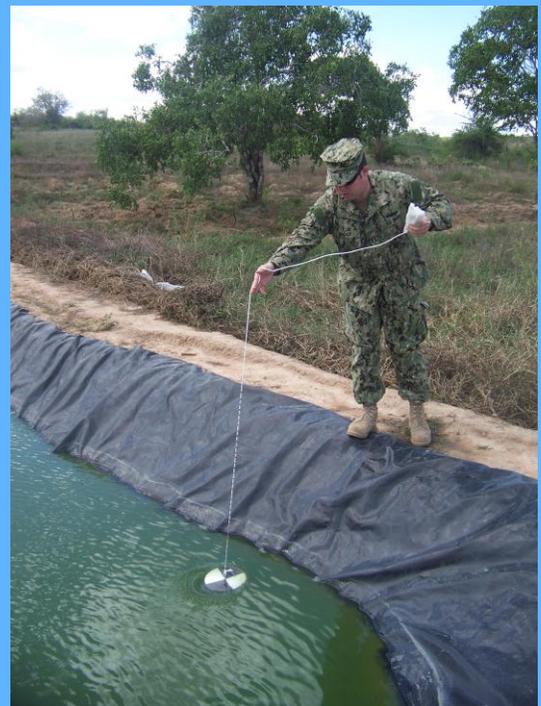
This is primarily because people in many developing nations still do not consume enough quality nutritional food to ensure optimal growth rates, or worse yet, to survive at all. In Kenya, Lt. Erik Hedval, MCAT 111 OIC, notes that diets are less than optimal in the southern coastal region where his team is operating.

“Most of the people who live along the coast in the villages live on one meal a day with meat,” said Hedval. “The rest of their daily intake is vegetable-based. That meat is either fish, goat or chicken. If

they’re not able to get fish cheaply, then they have to go spend more money to buy goat or chicken.”

This is a quandary for Kenyan residents because, according to Embassy Kenya’s post report, an estimated 50 percent of the population lives in poverty and is unable to afford sufficient nutrient-rich food on a regular basis. The plight of citizens in many developing countries is similar. The World Food Program (WFP) recently declared that 925 million people do not have enough of the right food to eat, and that 98 percent of the hungry live in developing countries. Unfortunately, hunger is not only widespread, but according to Cousin, it disproportionately affects the most vulnerable in society, namely women and children.

“Food security is the access and availability of sufficient nutritional food to meet an individual’s daily



Lt. Michael Brock measures water turbidity with secche disk in Kenya during the first fisheries civil action project conducted by Maritime Civil Affairs and Security Training command.

requirements,” said Cousin. “So, food security for a child is very different than for an adult, because the micro-nutrient requirements for a child are much different than for an adult. We know now that in the first thousand days of a child’s life, from conception to the age of two, that 40 percent of their brain develops.

So, if a child is only getting empty calories, she or he will not develop fully, either mentally or physically.”

Developing Aquaculture

MCAST had begun research to determine if aquaculture might be one answer to the question of how to provide more nutritional food to the people of Kenya. Matt Creelman, a support contractor and an expert on fisheries and maritime resources, notes that



A view of a local fish farm in a Kenya coastal community

fish farming seems to be a good fit for what MCAST does and has the potential to have an impact on food security in Kenya.

“These aquaculture ventures fit right in with what maritime civil affairs does,” said Creelman. “It’s only been recently that teams have been given the latitude to go out and explore these ventures. A year ago, we began giving our teams maritime training that included an introduction to fisheries, and part of that was aquaculture. That seems to be helping quite a bit.”

Due to overfishing in the coastal areas, fish farming offers the ability to supplement dwindling ocean catches with pond-raised freshwater fish like tilapia.

“On the coast, fish is the major source of food,” said Hedval. “This includes business such as hotels, as well as families. It’s the most abundant, cheapest and easiest to get. However, since I’ve been here and have talked with people on the coast, it appears that the amount of fish coming in from coastal fishing has decreased significantly over the last few years. Whereas

before, a fisherman would come back in with a thousand kilos of fish, now they’re only coming back with a few hundred. A lot of this is the result of overfishing along the reefs and coral areas within three miles of the coast. The aquaculture program has been brought in to the coast to help bridge the gap that overfishing has had on the supply of food here.”

The government of Kenya has been funding aquaculture since the 1970s, but the initiative met with limited success. Academic institutions like Oregon State University have joined non-governmental organizations (NGOs) including Aquaculture Without Frontiers to breathe life new life into the program by bringing new technologies and process advances to the program. Where MCAST think they might be able to make a difference is in helping to ensure that the program is not only funded and technologically current, but that it is sustainable throughout a fish farm’s lifecycle. This begins with a presence on the ground that can look at all the processes involved and identify the gaps.

“What I’m finding is that it’s a combination of the government of Kenya coming in full-bore to the south coast and saying that we’re going to build these fish farms,” said Hedval. “The farmers say, ‘great, I want you to build one on my location.’ Then, other than a small bit of business training that they get from the government of Kenya, that’s all they’re really getting. They don’t have the education necessary to successfully go about the business aspect of fish farming.”

In addition to the analysis that Hedval and other MCATs are performing in-country, the recent assessment trip to Kenya allowed all involved parties to meet and coordinate on potential ways that they can help bring MCAST resources to bear on the problem. It was a fact finding trip to gather facts about the program that the government of Kenya has put together, they spoke with district fisheries offices about what they provide to the individual fish farmers and learned about some gaps between the district fisheries offices and the fish farmers. A network of NGOs that specialize in aquaculture will help solve the gaps so that the fish farmers actually have a much better understanding of what they’re doing, how they can do it better, share a few best practices along the way and make this program a sustainable program. Once that happens, now we’re starting to affect food security in a positive manner.

Lt. Angela Doerr, one of MCAST's marine resources and fisheries functional specialists says that facts gathered on the trip will assist with future operations. "We'll analyze all the data to identify specific needs of fish farmers and fisheries. Then, we'll work with experts in aquaculture as well as in development to help build connections between the local population and outside resources."

If the efforts in Kenya prove fruitful, MCAST will export the program to other developing nations where they performs a civil affairs role. Ultimately, the command is about building relationships that better enable regional commanders to execute their



Lt. Angela Doerr, a marine resources and fisheries functional specialist, checks water conditions at a local fish farm in a Kenyan coastal community.

operational missions, and helping to solve food security problems will certainly have that effect.

Partnering for food security programs

Cousin, meanwhile, understands that helping people become more food secure is a means to an end for the Navy, but welcomes their assistance nonetheless.

While the military is not a humanitarian organization, it can support humanitarian actors by performing targeted humanitarian roles and provide much-needed help, notes Cousin. As she has recently transitioned from her role as Ambassador at the U.S. Mission to

the U.N. in Rome to her new position as the Executive Director of the WFP, she concludes that "the military often has tools that those communities can benefit from. So the opportunity that we have is to use the military, the tools that they have, the skill sets that they have, in a way that doesn't violate traditional humanitarian principles and that brings the kind of sustainable value that's necessary for these farmers to move forward. What that means in many of these situations is developing relationships and the military is getting much better at that, at coming in and working with the communities and developing relationships

"If we can figure out the missing pieces in the fish farming picture in Kenya, then create an exportable model for aquaculture in developing nations, MCAST will better be able to provide the strategic impact that positive public will gives to regional commanders,"

with the communities"

The new food security focus provided by MCAST will better enable their MCATs to positively affect their host communities. The resulting good will translate to an increase in the stability and security in their respective regions. This is, after all, the goal at MCAST, said Hughlett.

"If we can figure out the missing pieces in the fish farming picture in Kenya, then create an exportable model for aquaculture in developing nations, MCAST will better be able to provide the strategic impact that positive public will gives to regional commanders," said Hughlett. "We're optimistic. We have the right people working on the problem and it's only a matter of time before we can say that we helped with the global problem that is food insecurity."

LTC (Ret) Phyllis Mihalas, Ph.D., is the Senior Advisor to the Commanding Officer, MCAST. In 2007, LTC Mihalas retired from the U.S. Army after 28 years in the U.S. Army with a specialty in Civil Affairs, which included a deployment as the CIMIC Officer to the UN Mission in Ethiopia and Eritrea. Dr. Mihalas has been with MCAST for four years and support actively NMIOTC's training and transformational activities for the last two and a half years.

REGIONAL CAPABILITY BUILDING TRAINING SOLUTIONS

By *BGEN Theodosios Dourouklis, GRC N, ACOS JETE*

“The training solutions rely on the will of the individual member-states to pool means and capabilities in order to build regional capacity. ACT, as the training solutions Subject Matter Expert, can and will be used as a coordinating authority connecting all the necessary stakeholders.”

To argue this thesis I will first of all provide some definitions in order to establish the regional capability context for the Alliance. This will then allow me to

provide the JETE perspective and some practical implications of it. I will conclude with the advantages NATO receives from this policy.

I won't bother you on a lengthy definition of what a “region” is. Suffice to say that “region” is what anyone wants it to be. That is to say define a characteristic and you have a region: geographical area, ethnicity, religion, language, culture, demography, development, economy, ethnography, geopolitics, health, history, the list is endless. It is therefore evident that “region” is an inherently political term. Similarly “Capacity Building” refers to sovereign functionality (judicial, agriculture, transportation, security, armed forces, etc.) and is also a political term.

In order to narrow the perspective of both we must accept the guidance provided by North Atlantic Council. “Regional” made its debut in the previous strategic concept (Washington Summit 1999) as part of the risks and challenges to security that the Alliance was to face. “Capacity-building” was introduced by Lord Robertson in the context of the NATO – Russia relationship communiqués of the early 2000s. Since then these political terms have been grouped together and have formed a political tool for the Alliance. It is a transformational milestone in our common history; a departure from a predominantly military organization to a political one combining other manifestations of member-state power. Finally it was a tool that allows NATO to “escape” its geographic confines and project non-military might in order to assist failing states. Why? In order to prevent a challenge to global security that these states pose. So one might consider this approach as a “risk reduction” measure. As it stands now, NATO's Defense Ministers have directed that Regional Capacity Building should be conducted within means and capabilities at a minimum.

But enough of the pol-mil level. The strategic level is what you want to hear and especially how training fits into this context. It is apparent that education, training and exercises are enablers for all and any capability building let alone capacity-building.

Since the economies of scale facing the member-states it is not unreasonable that the means and capabilities dedicated towards capacity-building are to

be kept to a minimum. So, the strategic challenges to the delivery of RCB include the creation of appropriate political and legal frameworks, as well as locating funding for those activities beyond 'means and capabilities'. This because RCB within means and capabilities would not require additional NATO funding, but would be dependent on the willingness of member-states to use their assets to support these activities under a NATO flag. So, the building block for regional capabilities is bilateral cooperation which leads to multinational training opportunities.

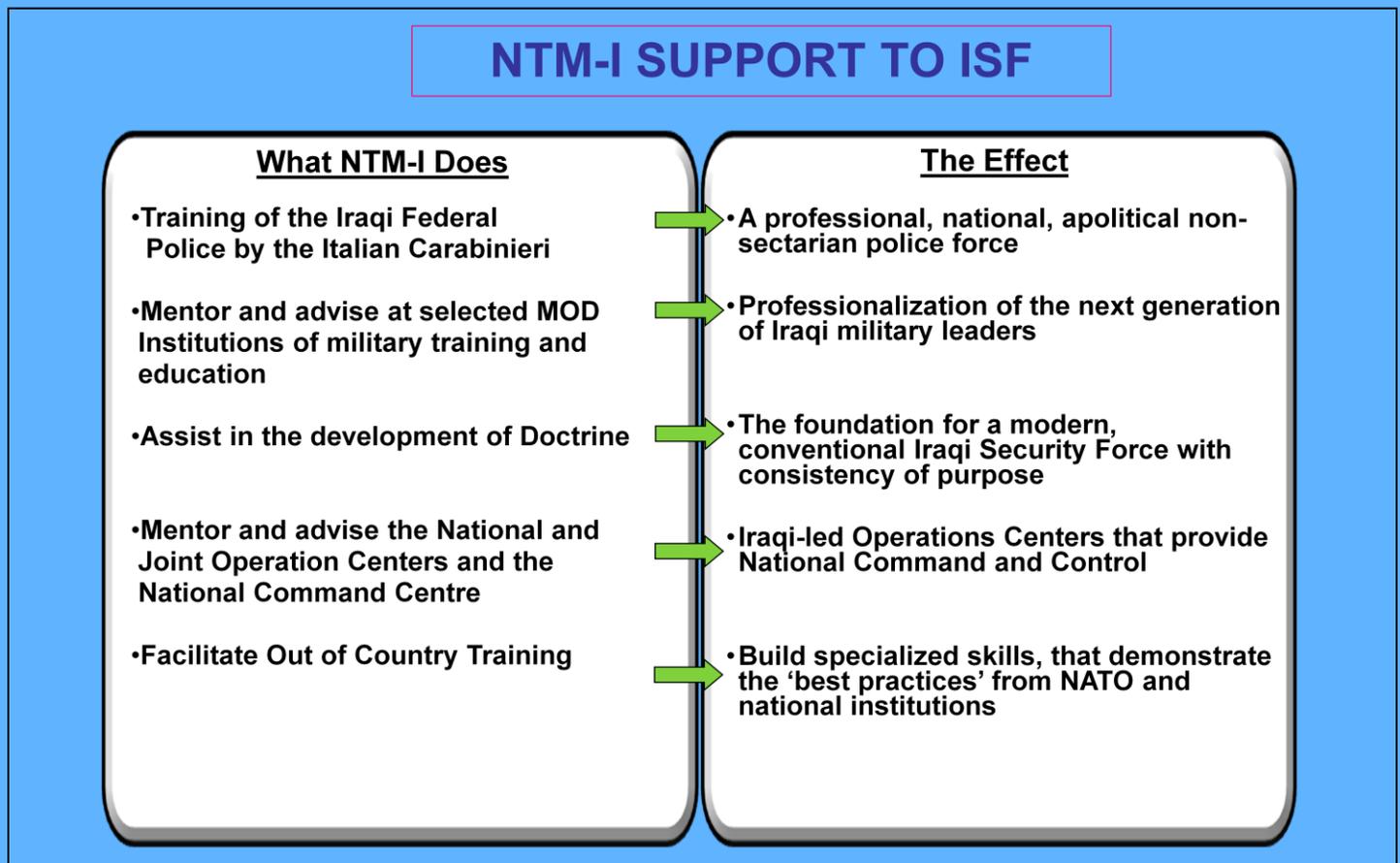
We therefore consider that building capabilities through multinational and innovative approaches is one way to develop regional capacity. To that end, ACT has the lead for the Multinational Approaches Task Force (MNA TF), which represents functional and planning domains and NATO's civilian and military staffs. This task force provides and explicit and systematic focus on multinational cooperation to compliment and support arrangements embodied within the NATO Defense Planning Process. The task force is broken down into five functionally focused working groups:

- Capability Initiatives and Organization of forces
- Acquisition

- Operations and Maintenance
- Preparation of Forces (or training) and finally,
- Innovative Solutions

This task force has already developed 46 recommendations where multinational collaboration could be leveraged to provide more effective, efficient and affordable solutions for the alliance. This type of pooling and sharing of resources can be duplicated on a smaller scale to develop regional capacities.

Finally the nature of the maritime environment offers unique opportunities and should be taken advantage of. NATO ships regularly port-visit either as part of their NATO tasking or as part of their national tasking. As such they can be used as agents of delivering RCB. Also this implies that the maritime operational commanders have a stake in RCB; ergo in the NATO purview of the Joint Force Commanders. The major drawback is of course that only the JFCs can regulate a steady flow of visiting ships in a specific region but it is also restricted to the units provided by the troop contributing nations. This is the challenge posed by the "means and opportunities" RCB policy. Therefore RCB has a tangent in ACO as well as in ACT and Bi-SC coordination / synchronization is required.



So what steps has NATO taken towards RCB?

First, NATO has mounted two regional capacity-building training missions NTM-I and NTM-A.

Currently, NTM-I focuses its efforts in three key areas. The first is the professionalization of Army officer training and education. NATO advisors and mentors are shaping the future leadership of the Iraqi Army, at all levels, from the Basic Officer Commissioning Course, to the Joint Staff and Command College, the Iraqi War College, and the Iraqi National Defense College. To date, over 200

armed forces, and that the NCO corps as a concept is one that is not always well understood in all militaries, especially in institutions, such as the ISF, that have a history of vastly different doctrines and traditions. NTM-I is working in close partnership with Iraqi counterparts to bring about a sea change in attitudes towards the empowerment of the Iraqi military's NCO cadre. Finally, the crown jewel of the NTM-I mission is training to support the professionalism of the Iraqi Federal Police Forces. Recognized as NATO's flagship program, this Carabinieri-led training has produced a dramatic transformation in the Iraqi Federal Police,

NTM-A SUPPORT TO ANSF

What NTM-A Does

- Support development of Branch and Speciality schools
- Support development of Officer and NCO Education facilities
- Mentor and advise at selected MOD Institutions of military training and education
- Courses to develop literacy and vocational skills
- Develop enduring institutions, self-sustainable systems and enablers
- Facilitate Out of Country Training

The Effect

- A professional, effective and self-sustainable military and police force at the required strength
- Professionalization of the leadership
- Professionalization of the next generation of Afghan military leaders
- Skilled personnel able to execute necessary support functions and operate the systems to sustain the force
- Self-sustaining and professional forces
- Build specialized skills, that demonstrates the 'best practices' from NATO and national institutions

Iraqis have attended specialized training abroad in NATO schools in support of this goal, and this is critical to developing specialized skills in a rapidly maturing security force. Complementing this professionalization is a program to assist the ISF in the development of a new military doctrine in keeping with a modern, professional, and democratically led armed forces. A second key focus area is building an effective, professional and empowered senior non-commissioned officer (NCO) corps. As any military audience would agree the senior NCO ranks play a critical role in maintaining professionalism of the

formerly the National Police. The Federal Police are now a highly respected, professional, apolitical security force. Most recently and of particular importance for the future development of a national-level, a-political security force, over 200 Zerevani officers from Northern Iraq have been trained on the Carabinieri courses as part of a plan to integrate them with Federal Police Forces. The goal of integration is to improve security while reducing regional ethnic tensions. The Carabinieri training is a prime example of how NATO training activities contribute to the professionalization of the Iraqi Security Forces at multiple levels and, in

doing so, contribute to broader goals of promoting stability in Iraq.

On the other hand NTM-A's main objectives are to: grow the force, increase the quality of the force, and build foundation to professionalize the force. It achieves these via four lines of development: Multinational and Multifunctional (coordinating 49 nations in partnership with the Government of the Islamic Republic of Afghanistan, of which 30 are troop contributors), Trainers, Instructors, Educators and Advisors (for: Ministries of Interior and Defense, Afghan Army – Police – Air Force, Logistics – Medical – Infrastructure Systems and finally Schools and Academies), engaging non-governmental and International organizations (operating from: 70 training sites in 21 provinces and in 2 host nations that have initiated training programs on the following subjects: Armor – Artillery – Human Resources – Signals – Infantry – Engineer – Legal – Military Police – Logistics – Religious/Cultural Affairs – Intelligence – Finance) and finally, Out-of-Country training (Nations that have hosted this training have included Italy, Turkey, the United Arab Emirates, the United Kingdom, and the United States. Other nations have provided trainers and funding in some cases, such as France and Japan, respectively).

Second, JFC Lisbon formed the Informal Training Awareness and De-confliction (ITRADE); established to gain awareness and de-conflict potential training being provided by forum stakeholders to regional partners.

Then there is a range of naval opportunities provided to RCB within means and capabilities which includes: training and mentorship during NATO ship port visits, basic exercises with regional navies and coastguards, sea-rider programs, offering places on existing NATO training courses, the development of bespoke training events and/or the deployment of NATO military training teams (MIT) to name a few. The effect of such activities is limited to building on existing national/regional capabilities. These capabilities are in most cases currently deficient in the required fields of: maritime awareness, professionals and education, infrastructure and means to engage effectively in prevention and deterrence of piracy.

In this context the NMIOTC is ideally suited to provide support for RCB; it can provide both training and mentorship for regional navies and coastguards, it can offer sea-riders via their Mobile Training Teams, seats in its training programs or even tailored-made training in the field of MIO and counter-piracy. It is

therefore a useful resource with which SACT can provide coordination and synchronization functions to RCB.

Based upon its training and mentorship credentials NATO has a range of capabilities which are readily exportable in support of Regional Capacity Building.

NATO has significant experience gained from the accession and integration of new Alliance members, NATO's current training missions (NTM-I, NTM-A), and the tools available within existing Partnership Programs such as PFP, MD and ICI.

In addition, NATO can draw upon 60 years of effective multinational interoperability, and it has training structures which can be tailored to the specific requirements of regional actors.

Finally, NATO peacetime staffs provide an unmatched level of continuity on which to build the critical personal relations with regional stakeholders.

Brigadier General Theodosios Dourouklis was born in Agiasma of KAVALA, on 18 April 1960. He entered in the Hellenic Military Academy (Evelpidon), in 1978, graduated in 1982 and was commissioned as Second Lieutenant in the Infantry. During his career BGEN Theodosios Dourouklis served as Officer and Commander in Infantry Units, as Staff Officer in National, International and NATO HQs of Brigade, Division and Corps and as trainer and instructor in the Military Academy and Staff College. Among others positions, he was appointed as Commander of 558 and 506 Mechanized Battalions, Commander of 1/38 Mechanized Regiment, Deputy Commander in XXI Armored Brigade, Deputy Chief of Staff and Chief of Staff in D'Corps. Moreover, he participated as a member of the nucleus staff, with the aim to prepare the inauguration of the SOUTH EASTERN EUROPE BRIGADE (SEEBRIG), where served in the following time as Training, Ops and Planning Staff Officer. In addition, he was appointed as Chief Support of NHQTi, in TIRANA (ALBANIA). Brigadier General Theodosios Dourouklis studied in all respective Hellenic Army courses and schools of his Branch and in the War and National Defense College, as well. Upon relevant decision of the Supreme Military Council, on 9 Mar 2010, Colonel Theodosios Dourouklis, was promoted to Brigadier General and appointed as Director of Studies, in the Hellenic National Defense College and aftermath as JETE in ACT HQs.

NATO AND IMO WORK TOGETHER TO BUILD REGIONAL CAPACITY TO COUNTER-PIRACY

Press Release



The recent training of 15 maritime law-enforcement officers from the Western Indian Ocean region at NATO's Maritime Interdiction Operational Training Centre (NMIOTC) in Crete marks a new era of cooperation with the International Maritime Organization (IMO).



The training, which was developed and funded as part of the IMO's regional counter-piracy program, the Djibouti Code of Conduct, was the first phase of a program aimed at creating small, skilled law-enforcement teams within the maritime law enforcement forces of the region.

Starting with a course in March 2012 to train the trainers, follow-up courses are already scheduled in 2012 whereby those trainers will return to NMIOTC with their core national teams to use NMIOTC's skills



and facilities to produce effective maritime interdiction teams. This pattern will be repeated for those regional countries seeking to develop their maritime law enforcement capability.

At the same time, IMO will also be running other courses for these teams in boat handling and, for team leaders, the legal aspects of conducting arrests at sea and the protection of evidence. Much of this will be done through the regional training coordination mechanism established through the Djibouti Regional Training Centre portal: www.edumar.org

Philip Holihead, Head of IMO's counter-piracy implementation unit, said: "We are very pleased with the results and positive response that the first course has generated, and are confident that it will mark the start of a long and fruitful partnership to help the regional countries to counter the threat of piracy".



FIRST COMBINED NMIOTC TRAINING OF TEAMS FROM DIFFERENT COUNTRIES

By LCDR A. Gobjila, ROU (N) and LT G. Georgiev, BGR (N)

Following an US Naval Forces Europe request, in the period 5-9 March 2012, NMIOTC conducted its first combined training of Boarding Teams from two different nations – Bulgaria and Romania. The event was sponsored and coordinated by USA. This type of training is challenging both to organize and to conduct, since it has to cover both navies' needs, yet to be equally beneficial to the teams. The composition of the groups added further complexity to the trainers and planners: the Romanian Navy sent a complete team from one ship (ROS REGELE FERDINAND), while Bulgarian Navy sent people from various units with different expertise.

The first step was to coordinate bilaterally between USA and Bulgaria, USA and Romania, then to start working on the traveling, accommodation and training arrangements with NMIOTC. These coordination and organization activities started in the early December 2011.

Once the teams arrived, on the 4th of March, one of the most important tasks was to make sure that all these different personalities will work together to achieve the training objectives. In order to make this happen the NMIOTC trainers mixed the trainees for the practical modules "RHIB Insertion", "Small Skiff Investigation" and "Tactical Sweep". That helped these young people to cross from "my country only" thinking to a multinational one. The hurdles of operating in a multinational environment, from the language barriers, through the different SOPs and even through the interpersonal relationships forged "in the heat of the action" were tackled and acknowledged by the students, as well as the instructors as the training progressed.

Being the first combined training involving two different teams from two nations, trained at NMIOTC grounds, the activity was closely monitored and the lessons identified were duly noted and addressed as the training developed. All of the issues were discussed amongst NMIOTC instructors and the US observers, and a way forward was established to pave the way for

future events of such type. The course included theoretical and practical modules from the standard Boarding Team NMIOTC Training (Modules 2000 and 3000) as well as Counter-Piracy Training (Module 7000).

The inclusion of the Counter Piracy training was requested by the Romanian Navy due to the upcoming deployment of ROS Regele Ferdinand with Operation Atalanta into the Somali Area. In this respect, the Small Skiff Investigation Module, with the ability to use a real life pirate whaler (donated to NMIOTC by the Dutch Navy), was a real success. The possibility to train as close to reality was appreciated by both teams.

The usage of simguns and simmunition greatly enhanced the training. As the trainees commented, being on the other side of a loaded gun puts everything in perspective. Onboard the training ship ARIS, completely geared, locked and loaded, the teams had the possibility to practice the "force on force" scenarios prepared by the Sea Trainers. All the possibilities were intensively trained, from a simple compliant boarding to a full scale opposed boarding. The situations created by the instructors tested the ability of each student to cope with the reality of being fired upon.

On Friday 9th March the trainees conducted Final Tactical Exercise during which all the participants were organized in two mixed boarding teams, each including personnel from Bulgaria and Romania. These teams executed RHIB Insertion and search of a suspect vessel in a multi-threat environment. The success of the FTX proved that all the national differences had been overcome and having military personnel from one country under the low level tactical command is working well.

LCDR A. Gobjila, ROU (N) and LT G. Georgiev, BGR (N) currently work in Education and Training Directorate of NMIOTC as subject matter experts to exercise planning and simulation sections.

The **NMIOTC MIO Journal** is a professional publication of NATO Maritime Interdiction Operational Training Centre, aiming to serve as a forum for the presentation and stimulation of innovative thinking on NATO Maritime Interdiction related issues such as doctrine, concepts, force structure, employment and readiness.

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