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Medium Navy: A Trilateral Capability Building for HA/DR in Asia Pacific

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Abstract

Navies should invest not only for defense but also for responding effectively and efficiently to “Humanitarian Assistance/Disaster Relief (HA/DR) Operations”. Asia Pacific is one of the most vulnerable regions to disasters which require urgent HA/DR operation by navies. For this reason, capability building is emerging as a new area for HA/DR operations as region’s navies’ short term goals. Considering wide area of the region, foreign HA/DR contribution is crucial to handle with widespread human, material, economic or environmental losses and impacts of disasters. This study examines the response of navies to Indian Ocean and Japan earthquake. The lessons taken from these disasters initiated the regional and foreign commitment with their navies to prepare for such tragic events. In this regard, this study recommends a trilateral HA/DR path for medium navies: 3Bs, Build HADR Platforms + Build Logistic Centers + Build Cooperation.

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1. Introduction

Asia-Pacific is the most affected and prone region considering the increasing number of natural disasters in the world. Examining the last ten years, the total number of reported disasters in this region equals to 55 percent of the total number of reported disasters throughout the world. [1] Between 1970 and 2011, almost 2 million people were killed in disasters, representing 75 percent of global fatalities. In the context of economic damage, the numbers are almost the same. For instance, Asia-Pacific region accounted for 80 percent global economic loss due to disasters in 2011, especially due to climate related disasters. [2] US Navy and other regional navies (India, Indonesia, Japan, Australia, Thailand) played a key role in responding these disasters by aircraft carriers, amphibious ships, helicopters and other sealift / airlift capabilities. The main role of these navies is reducing the gap of pain, [3] namely, reinforcing domestic relief efforts with outside help. [4] Understanding the importance of this issue has led to new cooperation initiatives focused on HA/DR, thereby resulting in development of proactive humanitarian assistance approach. In case of a disaster, the demand of help is at its peak within the first three to four days. In this time frame people can be evacuated and rescued with less casualty. Such demand of quick response requires the presence of navies near the disaster area with the convenient platforms for humanitarian assistance and disaster relief, in other words sea basing for such operations. Even this mission requirement can prove the necessity of proactive understanding in HA/DR. HA/DR operation has three components considering both reactive and proactive approach: Capabilities, namely platforms, logistic centers, and cooperation. Indian Ocean Earthquake, Japan Earthquake and Typhoon Haiyan proved the importance of size in navies for HA/DR. The US Navy has become more effective in responding these disasters by the time with this aforementioned advantage. The challenging part is to cover all these aspects with medium/medium sized navies. The answer may lie in acquiring multi-mission platforms and establishing a network of logistics centers from Djibouti to Indonesia with the approval of the countries and their communities.

In this regard, the aim of this study is to suggest a trilateral model in conducting HA/DR for medium navies. For understanding the needs of such a comprehensive approach, lessons learned from HADR operations of Indian Ocean Earthquake and Japan Earthquake will provide invaluable source of information. Geographical characteristics of the region and probable effects of climate change on its densely populated coastal parts should be taken into account in determining the components of such a model.

2. Theory

2.1. Disaster

A disaster is an event that seriously disrupts a society which often involves widespread human, material, economic, or environmental losses and impacts, which exceeds the ability of the affected community or society to cope with using its own resources. [5]

A leading source for disaster information is the Federal Emergency Management Agency (FEMA). According to FEMA, a disaster must result in a minimum of 100 deaths/injuries or result in over \$1 million worth of damage and there must be some form of substantial damage or high impact in order for relief efforts to be granted. [6]

2.2. Humanitarian Assistance and Disaster Relief

Human Assistance is the provision of long-term support to help alleviate suffering and aid in recovery. Disaster Relief is defined by its immediacy. HADR aims to relieve suffering due to the occurrence of a disaster and to aid in recovery. HA consists of activities conducted to relieve or reduce human suffering, disease, hunger or privation created by conditions that might present a serious threat to life or that can result in property damage or loss. [7]

“Foreign Humanitarian Assistance” (FHA) is “programs conducted to relieve or reduce the results of natural or manmade disasters or other endemic conditions such as human pain, disease, hunger or privation,” and that such missions are “limited in scope and duration. [8]

2.3. Medium Navy

Medium navy has widespread maritime interests and is dependent on the oceans for wealth generation. She prefers to deploy her smaller and less capable naval forces in coalitions, or as part of a standing security alliance. Medium navy participates in partnership exercises. Her country is dependent on the use of regional waterways, chokepoints to sustain trade, thus she should have the capability to establish security on these geographies. [9]

3. Natural Disasters in Asia Pacific

3.1. The Indian Ocean Earthquake

The Indian Ocean tsunami of 2004 was the result of the fourth-largest earthquake worldwide since 1900. The tsunamis ensuing the Indian Ocean Earthquake destroyed cities and coastal areas in Indonesia, Sri Lanka, Thailand, India, Malaysia, Myanmar, Bangladesh, the Andaman and Nicobar Islands, the Maldives, the Seychelles, Somalia, Tanzania, and Kenya. The U.S. Geological Survey has estimated the human toll at 157,577 people killed, 26,763 missing, and 1,075,350 displaced. [10] In Indonesia, the tsunami destroyed more than 25% of Aceh Province's villages along with much of the transportation and communications infrastructure. [11]

3.2. Japan Earthquake

Japan was hit by a 9.0-magnitude earthquake in 2011. The subsequent tsunami, traveling as far as 6 miles inland, left nearly 20,000 people dead, produced approximately US\$300 billion of property destruction, and delivered damage to the Fukushima Dai-Ichi Nuclear Plant that resulted in an evolving radiological crisis. [12] The disaster displaced over 136,000 people, destroyed over 4,500 buildings, and damaged 71 bridges, over 3,500 roads, and 26 railways.

3.3. Disaster Traits

These two disasters have consequences that should be responded in an emergency as most other disasters. What makes them different from other disasters is the tsunamis ensuing the earthquake. Such a disaster trait destroys coastlines and renders airports, harbors and bridges useless and results in an inaccessible geography from land, but accessible from sea within the first days of the disaster. In addition, such disasters include all other basic disaster traits shown in the figure 1.

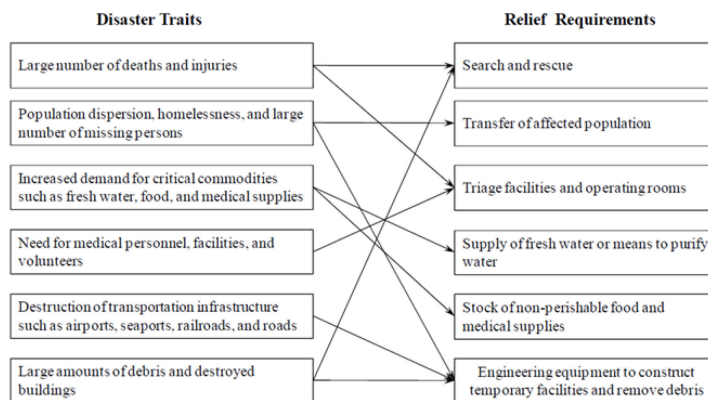


Figure 1. Basic Disaster Traits and Relief Requirements. [13]

4. Why is Asia Pacific vulnerable to disasters?

Top ten nations with the largest populations and the highest proportions of population living in low-lying coastal areas include seven nations from Asia Pacific: [14] China, India, Bangladesh, Indonesia, Vietnam, Japan, Thailand, and Philippines. Considering this large population in coastal areas, a high proportion of people are prone to disasters, especially related by sea such as cyclone and tsunami. In addition to the threat to peoples' lives, the stability of economy is tied to coastal areas because they include most developed cities playing an important role for Asia Pacific's economic life. Moreover, the rise of sea level may affect the region within an era. The projected map of 2100s in the context of people flooded annually [15] show the level of threat to the region: Most of the region probably will have floods around 2100s changing in effect. The rivers in the monsoon Asia Pacific are also a threat to population and economy considering the disasters and sea level rise. [16] All these circumstances and projections render the region vulnerable to disasters and make the conduct of HADR operations inevitable.

5. Navies Role in HADR

5.1. Reactive Human Assistance and Disaster Relief Operations

Navies have played a major role in responding disasters in Asia Pacific region over the past two decades. Cargo airplanes were also one of the players in these HADR operations. On several occasions, helicopters have been at the forefront in distributing aid to those affected by major disasters. [17] Tsunamis eradicating the connection of the disaster area on land render the helicopters crucial assets. Even the aid sent by cargo airplanes, the distribution of it can be done only by helicopters in such disasters. Thus, navies need platforms that can carry a number of helicopters to provide help in a sustainable manner.

To determine the capabilities required for HADR more in depth, naval response to Indian Ocean Earthquake, and Japan Earthquake will be examined.

5.2. Indian Ocean Earthquake / Tsunami

For 2004 Indian Ocean tsunami, the USN deployed full expeditionary strike groups which resulted in tasking several cruisers and destroyers to support the HADR mission. USN participated in Operation Unified Assistance with 25 ships, providing a "sea-base" for operations ashore. The sea base consisted of all varieties of ships, including especially the aircraft carrier (CVN), the amphibious carriers (LHA/LHD), amphibious landing and dock ships (LSD/LPD), high speed vessels (HSV), hospital ships, and supply ships. [18] 57 helicopters and 45 fixed-wing aircraft contributed to the operation. [19] Such a force was achieved ten days after the disaster. In addition, USNS MERCY treated over 9,500 patients from February to June. The deployment of this hospital ship was almost a month after the disaster. [20] Due to the earthquake and tsunami, 95 bridges were inoperable and land access was limited, so air access became crucial for HA/DR mission. Thus the center of gravity was "helicopter vertical lift" for the humanitarian mission in Indonesia. [21] Sea-based helicopters such as CH-53, CH-46s (heavy lift helicopters) proved absolutely crucial in delivering humanitarian supplies and moving injured people to hospitals. [22]

Other than the U.S. military forces, 18 military forces provided assistance for the Indian Ocean. [23] For assisting Indonesia, Sri Lanka, and Thailand, forces from a coalition of Australia, Japan, Singapore, Russia, France, and Malaysia participated in this HADR operation. Singapore had sent the tank landing ship *Endurance*, supported by helicopters, as well as troops; while Germany, Britain, and China had each sent medical teams.[24]

5.3. Japan Earthquake

Over the course of the operation, 16 U.S. naval ships and eight Military Sealift ships provided assistance and disaster relief efforts in and around the affected coastal areas of Japan. Military Sealift ships were engaged in relief supply transfer to responding U.S. naval ships.

The U.S. naval platforms involved included one Nimitz Class Aircraft Carrier, one Wasp Class Amphibious Assault Ship, one Blue Ridge Class Command Ship, one Harpers Ferry Dock Landing Ship, two Whidbey Island

Dock Landing Ships, several cruisers, and destroyers. Military Sealift vessels include replenishment and support ships and one high-speed vessel. Other countries, including China, Indonesia and Israel, provided military personnel as part of their civil-led search and rescue, disaster response and medical teams. In addition, Japan Maritime Self Defense Force ship, helicopter-carrying destroyer JS Hyuga, provided a sea base for the disaster response. [25]

Like the Indian Ocean Tsunami, this tsunami also had rendered most of the airfields in and around the disaster zone inoperable, and undamaged facilities such as Tokyo's commercial airports and the American Yokota and Atsugi airbases were relatively far from the relief operations. The distances from the functioning airfield to the disaster zone limited the on-station time and mission effectiveness of rotary wing aircraft flying from those bases. Therefore, the sea-base provided invaluable services in the first days after the disaster. [26] Aside from that the first forward air hub ashore was established in Yamagata, Japan. However, the severe winter weather and mountainous terrain between Yamagata and the disaster zone meant that the sea base would continue to be an important hub for air operations. [27] In this HA/DR operation, command and control centers manned bilaterally, which was effective and provided a model for the future responses to such contingencies. There was another option discussed: to establish a regional HA/DR logistics hub in Japan. [28]

5.4. Proactive Human Assistance and Disaster Relief Operations

According to Geoffrey Till, proactive HA/DR is the deployment of naval forces to needy places before disaster strikes, thereby alleviating its potential consequences. [29] A more comprehensive and contemporary explanation was added to the literature: regular engagement with foreign nations to deliver medical treatment, train first responders, and complete selective public works projects. [30] This understanding resulted in regional maritime partnerships, including non-governmental organizations in Asia Pacific region especially after 2004 Indian Ocean Earthquake. Between 2004 and 2007, the deployment of hospital ship USNS MERCY and amphibian ship USS PELELIU to Asia Pacific initiated the Pacific Partnership Exercise. Until now, Pacific Partnership Exercises reached 250,000 patients and completed 170 engineering projects with the active participation of the naval assets from US, Japan, Australia, New Zealand, Malaysia, and France. [31] One of the hospital ships of the US Navy, USNS MERCY played an important role in these exercises beginning from 2004. Similarly, USNS COMFORT, the other US Navy hospital ship, conducted humanitarian assistance in Africa and South America. [32]

In addition, China deployed PEACE ARK on its first overseas operation, an 88-day first mission to the Gulf of Aden to provide medical care to the People's Liberation Army Navy personnel conducting counter-piracy operations and humanitarian services to residents in Djibouti, Kenya, Tanzania, Seychelles, and Bangladesh in 2010. [33] One more example to proactive HA/DR is Humanitarian Assistance and Disaster Response and Military Medicine Exercise (HADR & MM EX) named as Komodo Joint Exercise [34] involved all 10 ASEAN countries along with ASEAN's eight partner dialogue nations: Australia, China, India, Japan, New Zealand, Russia, South Korea, and the United States in 2014. Another good example to proactive HADR is the pre-positioning of assets. Each year United Kingdom pre-positions a warship and fleet auxiliary in the Caribbean for the hurricane season. In 2007, HMS PORTLAND and RFA WAVE RULER participated to disaster relief efforts of Hurricane DEAN. [35]

Such international and regional proactive humanitarian assistance deployments can enable to reduce the response time for reactive HA/DR missions: the more proactive humanitarian assistance the less response time and the less casualty after the disaster. Another contribution of proactive approach is understanding and experiencing geography and culture. Devoid of knowledge about these dimensions of this region can reduce the effectiveness of reactive HA/DR operations. With a large number of the world's population living in close proximity to the coastline, Asia Pacific is a suitable environment to establish partnerships from sea. A smart navy can do it only with one platform having HADR capabilities such as vertical lift, speed to station and medical assistance.

In short, proactive HA/DR helps navies cope with challenges of Humanitarian Logistics System mentioned by Stavridis: the culture and geography of the region, technology and the collective professional training. [36]

5.5. Essential Capabilities and Platforms for HADR

These two disasters and navies' response to them taught navies core capabilities to conduct HADR operations. The coastline of disaster area and sea level after the disaster renders the draft of platforms important. Deep draft platforms without enough helicopter / vertical lift capability are not likely to support HADR operations. Thus, shallow draft is more preferable for such missions. The JHSVs and small landing crafts are advantageous in this respect, but with less or no helicopter lift capability. The emergency of disaster relief operation requires that navies reach the disaster area within few days at least. In this context, vessels like JHSV come to forefront with speed to station capability. These three capabilities helicopter / vertical lift, shallow draft and speed to station can be evaluated as the utmost important ones considering the experiences lived and analysis done after these disasters. To meet one of these capabilities, large organic helicopter/vertical-lift capability (LHD/LHA) and reduced helicopter capability (LPD/LSD) platforms are practical ones. But their speed to station capability is much less than JHSV. Their advantage lies in performing heavy lifts ship to shore, sea base either for landing crafts and helicopters. [37] In addition, their cost is changing between two to three billion dollars. Unfortunately, there is no platform that has the aforementioned trilateral capability. Other than these capabilities, medical facilities, cargo handling, humanitarian supplies, shipboard portable water, and surge berthing are indicated within the scope of any HADR operation. [38] LHDs and LPDs can meet these capabilities to a great extent. Especially for medical facilities, navies need hospital ships. In spite of their largest hindrance is their slow speed to station, they are valuable assets in regions with limited health infrastructure and with low acceptance of military / naval power existence. Supply Ships are the backbone for the sustainability of the HADR operation and recovery of the disaster zone. [39] Hospital ships are essential assets for proactive HADR, but in terms of reactive HADR they are slow and the transfer of needy people for medical assistance is a complex issue to handle during the first weeks of any disaster response.

While USS LINCOLN performed as a command and control ship during the Indian Ocean Earthquake [40], Yakota Air base was designated as the Operational Command Center and USS REAGAN served as the afloat C2 center during the Japan earthquake. [41]

5.6. Regional HADR Capabilities and Platforms

The 2004 Indian Ocean tsunami was a cornerstone for the navies in the region because they realized they didn't have capabilities such as vertical airlift, medical assistance, cargo handling, and speed to station. In other words, they didn't have enough LHD/LPDs, hospital ships, supply ships and collective training experience. After this disaster, there has been an increasing regional commitment to modernizing amphibious forces. Indonesia and Thailand procured new LPDs. For instance, Indonesia purchased five 11,400-ton Makassar class LPDs, one equipped as a hospital ship. They have a crew of 126 and can carry up to 400 troops as well as five helicopters. [42] Thailand procured a modified variant of the Singapore-designed Endurance class, which can carry two helicopters and carry up to 500 troops. [43] Myanmar and the Philippines are planning to purchase LPDs from Indonesia. Singapore has four 8,500-ton Endurance-class LPDs which were used effectively during the 2004 tsunami. [44] Australia is currently inducting its new pair of 26,000-ton Canberra class LHDs based on the Spanish Juan Carlos I class. South Korea is also considering to purchase an amphibious landing ship based on Juan Carlos I class. Japan plans to have a large amphibious landing ship, bigger and more capable than the 14,000-ton Osumi class LPDs by the end of 2020s. [45] China is said to begin constructing the first Type-081 landing helicopter dock, similar to the French Mistral class. Currently, PLAN has two Type-071 Yuzhao class LPDs. [46] Even though most of the ASEAN navies are deemed small, they began to build amphibious capabilities by LPDs. Navies of the region have four hospital ships, one of which is Indonesian and others belong to PLAN. Two PLAN hospital ships are about 24 years old. Only Daishandao-class hospital ship, Peace Ark is a purpose-built hospital ship in Asia Pacific.

So what is missing part for multinational HA/DR and what is the opportunity in terms of platforms to respond more effectively to such disasters? The missing part is the establishment of C2/Logistic Centers which have capabilities to respond especially tsunamis. By time, exercises conducted in terms of proactive HA/DR may provide this crucial element of multinational HA/DR operations. And the opportunity lies in designing and building new platforms that meet the demands of a disaster in this region.

6. A Trilateral HADR for Medium Navies

The lessons taken from Indian and Japan earthquakes taught navies the importance of proactive and reactive HADR operations. The success of reactive HADR operation lies in exercising with other navies beforehand. Another important factor is the logistics of such an operation. To reinforce HADR operations the smart way is to build logistic centers /networks from which navies can transport necessary humanitarian assistance to disaster area. Besides that logistic centers can provide logistics to medium navies especially if the HADR operation takes long to conduct. The cooperation is the strategic component of HADR and the logistic centers is the operative part of it. And the last part, tactical one is new HADR platforms to reach the disaster area with enough initial medical and humanitarian assistance. In short, the formula can be explained as “Medium Navy HADR = Build HADR Platforms + Build Logistic Centers + Build Cooperation” (Figure 2).

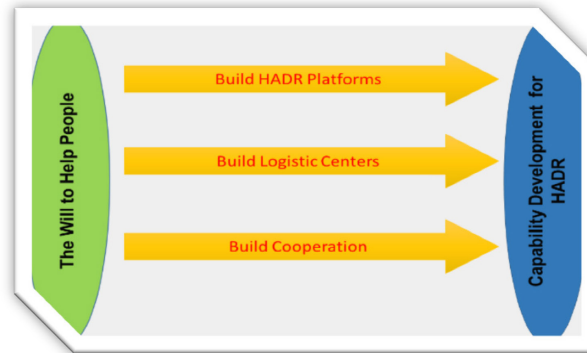


Figure 2. A trilateral HA/DR path for medium navies: 3Bs

6.1. A New Platform, HA/DR Task Force

Medium Navies need at least one LHA/LPD and one platform that can directly provide humanitarian assistance to ashore even without helicopter airlift capability. The need for LHA/LPD is clear. LHA/LPDs can be used as command control centers to conduct any HADR operation before establishing any C2 center ashore. These platforms are indispensable if the navy doesn't have an aircraft carrier. The other benefit of LHA/LPDs is vertical airlift, a necessity due to inoperable roads and airfields after tsunamis and earthquakes in the vicinity of the disaster area. However, LPD/LHAs need amphibious vehicles or helicopters to establish connection with the shore. In addition, high sea state and geographical impediments such as shallow water and narrow waters impede these platforms from accessing to disaster area. For this reason, new platforms, which can access to disaster area in spite of high sea state and geographical impediments, need to be built in the midterm if you want to have a say for HADR operations under these circumstances. The characteristics of these platforms include 2-3 helicopters onboard, speed to station, shallow draft and ability to load around 600-800 tons of supplies/a troop of 500 personnel.

6.2. Logistic Centers

Logistic centers are crucial to provide sustainable aid to needy regions after any disaster. Air transportation can help mitigate the need for maritime transportation. However, taking into account that Asia Pacific is a disaster area, air transportation will not be able to transport the humanitarian assistance and personnel without the help of maritime transportation. For this reason, investing in ports that can be used as logistic centers is a wise step for proactive HADR.

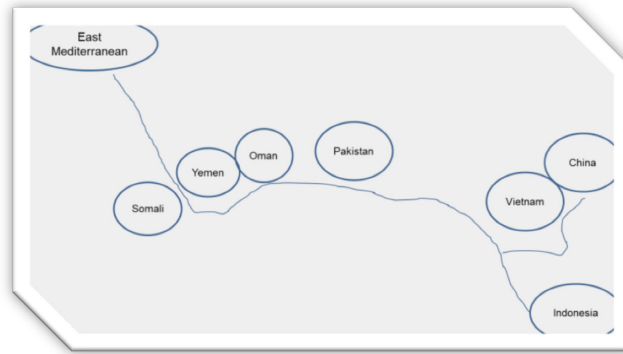


Fig. 3. Transportation Path from East Mediterranean to Asia Pacific

In figure 3 the probable transportation path from East Mediterranean to Asia Pacific is seen. In this transportation path, Somali, Yemen, Oman, Pakistan, Vietnam, Indonesia and China are probable hub centers for humanitarian assistance both for proactive and reactive HADR. From these countries, Salalah (Oman), Mogadishu (Somali), Karachi (Pakistan), Ho Chi Minh (Vietnam), Jakarta (Indonesia) and Tianjin ports were selected as possible logistic centers. From previous studies, a list of transshipment port selection factors scrutinized. [47] To decide which of these are the most appropriate for HADR, a Multi Criteria Decision Making model AHP (Analytic Hierarchy Process) is used. This method is one of the mostly used methods in many fields of application. In order to use AHP, the most important criteria are determined to evaluate the alternative ports.

Table 1. Criteria in Selecting HADR Ports

Criteria	Sub-criteria
Country	Socio Political Stability
	Natural Disaster Risk
Port	Port Infrastructure
	Port Size
	Port Security
Transportation	Access to Major Shipping Routes
	Geographical Location

The criteria are classified under three main clusters and these are named as main criteria. Then sub-criteria are determined for every main criterion. The main criteria are ‘Port Infrastructure, Port Location and Port Security’. Under these main factors, seven criteria chosen that can affect the selected port. (Table 1) To get the expert knowledge, multi-criteria decision making using the BPMSG Analytic Hierarchy Process (AHP) Online System was used. [48]

According to current results, socio political stability, risk of natural disaster and access to major shipping routes are the most important sub-criteria. In figure 4, the initial results of the evaluation of alternative ports are seen: Tianjin, Salalah and Karachi are more viable ports as logistic centers according to expert knowledge.

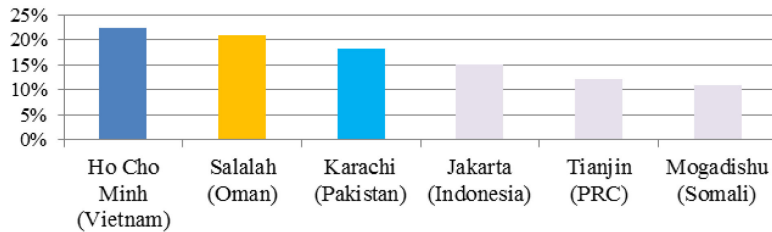


Fig. 4. Evaluation of Ports

6.3. Cooperation

Medium navies probably will not be able to participate to exercises such as Pacific Partnership taking place each year with a platform. For this reason, one smart way to take benefit of such exercises is deployment of personnel to distinct platforms to participate HADR exercises in the region. This kind of experience is important; however, by time such gain is going to diminish and doesn't have a lasting effect in terms of preparedness to HADR operations in order to respond disasters reactively. In the midterm or in the long run, cost effective platforms as mentioned under the title "A New Platform" has the potential to take benefit of the experience of the personnel that have been/will be commissioned to be a part of the aforementioned proactive HADR operations. Another gain from these platforms in the context of cooperation is their yearly deployments to regions ranging from West Africa to East Asia. With these platforms, humanitarian assistance, including the medical assistance, can be transported to a number of countries in any region. With these ambassadors at sea, port visits can be evaluated as a chance to improve regional cooperation in the context of naval exercise and capability development with the support of national defense industry. Only one platform can create the effect of Turkish Maritime Task Group (TMTG) Barbaros' Circumnavigation of Africa, with less budget and with less personnel. TMTG or similar deployments don't decrease the role of HADR platforms' contribution as a soft power, vice versa. The acceptance of frigates by the public depends on navies' contribution to countries by humanitarian assistance even when they really don't need it as much as they do during any disaster. For cooperation, these HADR platforms should focus on medical/humanitarian assistance, maritime security exercise, situational awareness on the perspective of region's culture and language, the interaction with public and cooperation on defense industry.

7. Conclusion

Asia Pacific is prone to natural disasters which involve widespread losses in terms of human, economy and environmental impacts. Such disasters can exceed the ability of the affected community or society to cope with their own resources. In the context of navies' contribution, no single navy can respond effectively to such disasters. Therefore, cooperation is inevitable.

To be more efficient in responding disasters especially in a wide region like Asia Pacific, proactive institutions, logistic centers, HA/DR platforms should be built and exercises should be conducted beforehand. Foreign HA/DR contribution can reinforce such capabilities, namely platforms, logistic centers, and cooperation. The lessons taken from Indian Ocean and Japan earthquakes proved the importance of capability building in these three areas. The possibility of such disasters in low-lying coastal areas increase the importance of navies' role because there is no other option within the first days of the disaster to reach needy people.

HA/DR operations conducted especially from 2000s taught navies the importance of helicopter/vertical lift, shallow draft and speed to station capability. These capabilities render inaccessible places accessible especially within the first days of the disaster. This enables navies to save human lives in low-lying coastal areas. They can also be used as C2 centers when the establishment of C2 center is not proper considering the lack of control and

risks on land. In addition to these platforms' role in HA/DR operation, they can be used also as soft power in the peace time by providing humanitarian/medical assistance and military/social education in different regions of the world.

Indian Ocean earthquake, directing navies to procure LPDs, is a turning point for the navies in Asia Pacific region. Amphibious forces have been reinforced by about 6 LPDs, which can conduct HA/DR operations, procured by Australia, Indonesia and Thailand. Singapore, Japan and China have LPDs, and Myanmar, South Korea and Philippines are planning to purchase LPDs both for amphibious and HA/DR operation. LPDs are valuable assets both for amphibious and HA/DR operation. However, they do not enable the agility (speed to station) and shallow draft even though they provide vertical/air lift capability.

Cost effective solutions can be found by building new HA/DR platforms which have helicopter/vertical lift, shallow draft and speed to station capabilities. Forward deployment of such a platform can create the effect of a Maritime Task Group with less budget and with less personnel. These future HADR platforms can also help increase situational awareness on the perspective of region's culture and language, the interaction with public and cooperation on defense industry. Cooperation should be reinforced by forward deployment of personnel to distinct platforms to participate HADR exercises in the region. Aside from that deployment of personnel for a few years to Asia Pacific navies or to platforms operating in this region can increase cooperation and knowledge about region's culture and language.

Supply ships are inevitable part of a HA/DR task force/group. However, in such a wide region sustainability of any HA/DR operation requires the establishment/coordination of logistic centers. The multi criteria decision making process, AHP provided assistance to evaluate the criteria and determine more viable ports that can be used as logistic centers for future HA/DR operations in the region. According to expert knowledge, Ho Cho Minh, Salalah and Karachi were selected as more powerful candidates based on seven criteria aforementioned in the study.

In conclusion medium navies have the opportunity to establish a new HADR task force comprising 1-2 new HADR platforms, 1 LPD/LHD and network of logistics by regional logistic centers. This task force can contribute to HA/DR operation reactively and proactively throughout the region by cooperation in terms of multinational exercises and forward deployment of personnel and HA/DR platforms as ambassadors at sea and ports. This is smart power for the region.

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