

Hospital Ships: A Transformational Necessity for Japan*

CDR Kenneth R. SPURLOCK

Executive Summary

Due to its unique geographic location and characteristics, Japan has the unfortunate fate of being the frequent victim of a wide array of natural disasters. The country and its citizens are subject not only to the countless earthquakes associated with the “Ring of Fire,” but also associated tsunamis, typhoons, torrential rains and even volcanic eruptions. Japan’s large-scale disaster vulnerability is further exasperated when one takes into account bioterrorism and the possibility of pandemic infections.

As a result of several tragic disasters within the last 15 years which required large-scale responses such as the Hanshin earthquake, the Tokyo Sarin gas attack, and the Indian Ocean earthquake/tsunami, Japan has increased its awareness of disaster crisis management and made constant improvements in its response capabilities. Lessons learned from these unfortunate events have provided the impetus to modernize Japan’s disaster response capabilities and make disaster response a Self-Defense Forces (SDF) mission in the FY 2005 National Defense Program Guidelines (NDPG). Unfortunately, a majority of Japan’s efforts remains focused on the local level and still do not effectively utilize the assets of the SDF. Furthermore, SDF procurement remains centered on high cost/high tech systems that do little to support this recognized deficiency. As a result, Japan’s disaster response capability remains inadequate in three areas: medical support, coordinated command and control, and large-scale transport/evacuation.

Despite the approval¹ of the Security Council and the Cabinet for specialized disaster relief capability as noted in the FY 2005 NDPG, Japan’s SDF has yet to develop sufficient means to respond to large-scale disasters. Even though this is believed to be one of the main reasons for the existence of the SDF² and the only capability intended to be used in direct support of the citizens, directly affecting their safety and welfare, Japan’s procurement of necessary equipment for this purpose remains unidentified and unfunded.

One possible solution may be the acquisition and utilization of hospital ships, which may not only fulfill Japan’s domestic needs but also provide enhanced security to the region without the fear of arms escalation. Unlike the high cost/high tech systems that Japanese leadership continues to pursue, hospital ships are a low cost means that provide a much needed capability. Modern hospital ships can be built on various types of hulls and most have various multipurpose characteristics that are desperately needed by Japan to secure its domestic, regional and global interests. In this light, hospital

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¹ Approval is implied with the approval of the NDPG by the Diet.

² Japan Ministry of Defense, *Defense of Japan 2007* (Tokyo: Intergroup, LTD, 2007), p. 589.

ships may prove to be the transformational platform that moves Japan from a localized supporter to an international security leader without compromising on the ideals of its Peace Constitution or non-offensive posture. While Japan must maintain its traditional hard power defense capability, it must also address new security concerns, which may be best dealt with through soft power means.

Through the review of recent large-scale natural disasters, their lessons learned and the involvement of the SDF, this paper will illustrate the need for hospital ships, remaining shortfalls in SDF procurement towards disaster relief missions, and the utility of the platform. Additionally, it will show how the procurement of hospital ships can not only transform the SDF, benefit Japan and strengthen the US-Japan Alliance, but also serve as a new medium to engage China and truly enhance the security of the Asia region as well.

Introduction

“Japan is under the conditions that are prone to natural disasters such as earthquake, typhoon and volcanic eruption and in the event of unconventional disasters such as nuclear disasters... utilization of the SDF Capabilities may become necessary.

In such circumstances...Japan will maintain an adequate force structure consisting of defense force units and people with specialized capabilities and expertise who can conduct disaster-relief operations in any part of Japan in order to deal swiftly with large-scale and special-type disasters, where protection of life and property is needed...”³

-Vision for the Future Defense Capability-Role of the Defense Capability

Due to its unique geographic location and characteristics, Japan has the unfortunate fate of being the frequent victim of a wide array of natural disasters. The country and its citizens are subject not only to the countless earthquakes associated with the “Ring of Fire,” but also associated tsunamis, typhoons, torrential rains and even volcanic eruptions. Japan’s large-scale disaster vulnerability is further exasperated when one takes into account bioterrorism and the possibility of pandemic infections.

As a result of several tragic disasters within the last 15 years which required large-scale response such as the Hanshin earthquake, the Tokyo Sarin gas attack, and the Indian Ocean earthquake/tsunami, Japan has increased its awareness of disaster crisis management and made constant improvements in its response capabilities. Lessons learned from these unfortunate events have provided the impetus to modernize Japan’s disaster response capabilities and make disaster response a Self-Defense Forces (SDF) mission in the FY 2005 National Defense Program Guidelines (NDPG). Unfortunately, a majority of Japan’s efforts remains focused on the local level and still do not effectively utilize the assets of the SDF. Furthermore, SDF procurement remains centered on high cost/high tech systems that do little to support this recognized deficiency. As a result, Japan’s disaster response capability remains inadequate in three areas: medical support, coordinated command and control, and large-scale transport/evacuation.

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³ Ibid., p. 127.

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large-scale disasters. Even though this is believed to be one of the main reasons for the existence of the SDF⁵ and the only capability intended to be used in direct support of the citizens, directly affecting their safety and welfare, Japan's procurement of necessary equipment for this purpose remains unidentified and unfunded.

One possible solution may be the acquisition and utilization of hospital ships, which may not only fulfill Japan's domestic needs but also provide enhanced security to the region without the fear of arms escalation. Unlike the high cost/high tech systems that Japanese leadership continues to pursue, hospital ships are a low cost means that provide a much needed capability. In this light, hospital ships may prove to be the transformational platform that moves Japan from a localized supporter to an international security leader, without compromising on the ideals of its Peace Constitution or non-offensive posture.

Through the review of recent large-scale natural disasters, their lessons learned and the involvement of the SDF, this paper will illustrate the remaining shortfalls in SDF procurement towards this new mission. Additionally, it will show how the procurement of hospital ships can not only transform the SDF, but benefit Japan, the US-Japan Alliance and the Asian region as well.

A. Background: Recent Disasters and Large-Scale Crises

Within the last 15 years, Japan and the surrounding area have suffered through devastating disasters and tragic losses. For some, it seems as though the destruction, frequency and severity continue to increase without any sign of relief. Given the large population and density of living space in Japan, any disaster or disease has the potential to be catastrophic. Regardless of Japan's best made preparations and attention to public safety, these events challenged the limits of all agencies involved and as a result, provided the impetus to change for the better.

(1) Great Hanshin Earthquake

The Great Hanshin earthquake on January 17, 1995 was Japan's single most devastating natural disaster since the Great Kanto earthquake of 1923.⁶ Measuring 7.2 on the Richter scale and lasting nearly 20 seconds, this modern disaster claimed 6,434 lives, wounded 43,792 people, destroyed 249,180 buildings, displaced over 300,000 families and cost over \$100 billion in damages.⁷

Extensive earthquake damage to existing infrastructure (roads, rail systems, communications, public services and hospitals) made response efforts incredibly difficult and prolonged. Damage also complicated timely communication to central government authorities further hampering coordination, decision-making and allocation of resources. Requests for assistance quickly overwhelmed local authorities, rescue teams and medical services. The delay of the central government to engage the SDF only prolonged the suffering. "Officially designated rescue agencies such as fire departments and the SDF were responsible for recovering at most one quarter of those trapped in collapsed

⁵ Japan Ministry of Defense, *Defense of Japan 2007*, p. 589.

⁶ Kathleen Tierney, *Emergency Response: Lessons Learned from the Kobe Earthquake*, available from <http://www.udel.edu/DRC/preliminary/260.pdf>, accessed December 18, 2007.

⁷ Kobe City website, Hanshin-Awaji Earthquake, available from <http://www.city.kobe.jp/cityoffice/48/quake/higai.html>, accessed January 4, 2008.

structures...”⁸ leaving the majority (over 75%) of the efforts to civilian volunteers and community residents. Criticism of the central government’s failings and ineffective response increased as non-governmental organizations, business and foreign governments arrived on scene to provide assistance. It seemed as though the *yakuza* and 7-Eleven were more capable than the government in meeting the victims’ needs.⁹

Criticisms increased when it was learned that initial international aid from the United States, United Kingdom, South Korea and even Mongolia were either delayed or turned away for what appeared to be little more than bureaucratic reasons. The reluctance to accept foreign aid was rooted in three sources; national pride, multi-layered Japanese bureaucratic decision-making and Japanese red tape.¹⁰ The focus of the relief effort was lost when medical treatments needed to be tested to account for Japanese “uniqueness” and quarantine regulations for rescue dogs prevented foreign aid from providing assistance.¹¹

(2) The Matsumoto and Tokyo Subway Sarin Gas Incidents

The Aum Shinrikyo Sarin gas attacks of June 27, 1994 in the Tokyo suburb of Matsumoto and March 20, 1995 in the Tokyo Subway was a precedent-shattering episode in the history of modern terrorism.¹² Although poorly executed, these attacks had been the first use of chemical substances in a terror type attack in a modern urban area. In Matsumoto, seven people were killed and over 500 were hospitalized. As for the Tokyo Subway incident, there were 12 casualties and 1034 injured, 50 people seriously.

The Sarin agent was released on three separate subway lines prior to the morning rush hour. Since each casualty occurred at different stations and they were reported separately, they were initially treated as unrelated incidents. Injury reports and requests for assistance were duplicated, causing a near panic situation. Emergency services had difficulty not only sorting out the cause of the attack but also coordinating a response. Ambulances transported 688 patients, and nearly five thousand people reached hospitals by other means. Roughly 80% of those treated at hospitals were the “worried well,” and 135 were medical personnel who were contaminated during treatment of patients.

“Japanese historical and cultural reluctance to prepare for or even discuss terrorism was reflected in the underdeveloped consequence management capabilities...”¹³ The Tokyo Metropolitan Fire Department, who was responsible for providing first aid to the victims and selecting the hospitals, found their systems quickly overwhelmed. Even though only the SDF had contingency plans for dealing with a WMD incident, their involvement was limited and mostly involved in the decontamination phase.¹⁴

⁸ Tierney, *Emergency Response*.

⁹ Glen Fukushima, “The Great Hanshin Earthquake,” *JPRI Occasional paper* (March 1996); available from <http://www.jpri.org/publications/occasionalpapers/op2.html>, accessed April 2, 2008.

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² D.W. Brackett, *Holy Terror: Armageddon in Tokyo* (New York: Weatherhill, 1996), p. 53.

¹³ Robyn Pang, *Consequence Management in the 1995 Sarin Attacks on the Japanese Subway System*, BCSIA Discussion Paper 2002-4, ESDP Discussion Paper ESDP-2002-01, John F. Kennedy School of Government, Harvard University, February 2002, p. 11.

¹⁴ Pang, *Consequence Management in the 1995 Sarin Attacks on the Japanese Subway System*, p. 24.

(3) Indian Ocean Earthquake: Tsunami

Exactly one year following the Bam earthquake in Iran of December 26, 2003, the fourth deadliest,¹⁵ second largest recorded earthquake,¹⁶ followed by history's deadliest tsunami¹⁷ struck off the west coast of Sumatra, Indonesia. The impact was spread throughout the Indian Ocean region with over 14 countries affected. According to United Nations' reports, 229,866 people perished, 14,100 were missing, and 1,126,900 people were displaced. Total damage from the earthquake/tsunami was estimated to be over \$10 billion.¹⁸

The longest and most demanding international disaster relief effort by the SDF commenced within 24 hours after receiving a formal request from Thailand for assistance.¹⁹ Maritime Self-Defense Force (MSDF) units returning to Japan following an anti-terrorist support mission were immediately diverted to assist. Three ships proceeded directly to Thailand and commenced search and rescue operations. Ten days later, the Government of Japan (GoJ) approved the dispatch of relief units to Indonesia. Two C-130s were dedicated to air lift operations, personnel transport and delivery of relief supplies to various locations. The Ground Self-Defense Force (GSDF) Emergency Medical team arrived in theater 20 days after the earthquake and began treatment five days later. The majority of large-scale relief materials required transport by sea, which arrived in theater 28 days after the earthquake.²⁰

(4) Avian Flu: Pandemics

Born from a viral strain that originated in East Asia in 1997, H5N1 or avian influenza has been linked to the death of over 15,000 chickens in Yamaguchi prefecture. Although no human deaths were reported in Japan, the flu had been identified as the cause responsible for over 20 deaths throughout Asia. Since the infection in Yamaguchi prefecture, three more outbreaks were identified, ranging from Kyushu to Kyoto. It is believed that the virus was brought to Japan by migratory birds from infected Asian countries. The easily mutating virus can affect birds, livestock and humans. Researchers throughout the world have yet to develop a vaccine. Since it is questionable if a vaccine can be developed, this new influenza might become a pandemic. Therefore, to prevent the virus from infecting humans, bird-to-bird transmission must be stopped.²¹ Although the SDF was not immediately required for disaster relief, they assumed the responsibility of collecting disposing of the contaminated carcasses, and ensuring the area was decontaminated. Over 45,000 birds were infected within a period of two weeks.

¹⁵ Most Destructive Known Earthquakes on Record in the World -Earthquakes with 50,000 or More Deaths, United States Geological Survey, available from http://earthquake.usgs.gov/regional/world/most_destructive.php, accessed December 22, 2007.

¹⁶ Registering 9.3 on the Richter scale and lasting nearly 10 minutes, Walton, Marsha, "Scientists: Sumatra Quake Longest Ever Recorded," available from <http://edition.cnn.com/2005/TECH/science/05/19/sumatra.quake/index.html>, CNN. May 20, 2005, registering 9.3 on the Richter scale and lasting nearly 10 minutes.

¹⁷ "The Deadliest Tsunami in History?," National Geographic News, updated on January 7, 2005, available from http://news.nationalgeographic.com/news/2004/12/1227_041226_tsunami.html, accessed on December 12, 2007.

¹⁸ United Nations Office of the Secretary-General's Special Envoy for Tsunami Recovery, *Tsunami Recovery: Taking Stock after 12 Months*, available from [http://www.reliefweb.int/rw/RWFiles2006.nsf/FilesByRWDocUNIDFileName/KH11-6Q64Z7-UNSETR-southasia-25may.pdf/\\$File/UNSETR-southasia-25may.pdf](http://www.reliefweb.int/rw/RWFiles2006.nsf/FilesByRWDocUNIDFileName/KH11-6Q64Z7-UNSETR-southasia-25may.pdf/$File/UNSETR-southasia-25may.pdf), accessed January 12, 2008.

¹⁹ Japan Ministry of Defense, *Defense of Japan 2007*, p. 578.

²⁰ Joint Staff Office/Japan Defense Agency (brief), Situation of International Disaster Relief Activities by JSDF for Tsunami, 21 Jan 2005, unpublished brief.

²¹ Kazuo Inoue, "Highly Pathogenic Avian Flu," July 2004, available from <http://www.cdc.gov/ncidod/EID/vol10no7/04-0116.htm>, accessed January 25, 2008.

B. Self-Defense Force Roles

(1) Domestic Disaster Relief Activities

From its creation as the National Police Reserve in 1950, disaster relief was considered a key mission for Japan's forces. In 1954, the Self-Defense Forces formally defined a mission to protect Japanese citizens with Article 83 of the Self-Defense Forces Law. The law authorized utilization of SDF assets to assist local governments for emergency response to natural disasters.²² As a result of the Self-Defense Forces' significant contribution and constant support in disaster relief situations, the Japanese public has come to believe that it is the primary purpose for the existence of the SDF.²³ The 1995 National Defense Program Outline (NDPO) listed "...the response to large scale disasters and various other situations," as one of the three primary roles of the SDF. Later in 2004, this priority was modified to reflect heightened concerns regarding ballistic missile or guerilla attacks and military oriented responses.²⁴

As experienced during the response to large-scale disasters, only the military/SDF possessed the means to properly deal with these emergencies. By its organizational nature, the military is designed to be self-sustaining, rapidly mobile, and able to coordinate complex organizations in crisis. Other government organizations have tried to duplicate facets of the military to suit their immediate needs but most have constrained financial resources and therefore cannot attain the same capability.

(2) International Disaster Relief Activities

With the approval of the Japan Disaster Relief Law (JDR Law) in 1987, the limited use of Japanese relief teams to assist in international disaster relief was permitted. The scope of assistance was restricted to natural and man-made disasters, barring those arising from conflict. The JDR Law was eventually amended in 1992, allowing the use of the SDF for large-scale disaster relief efforts.²⁵

As for humanitarian assistance abroad, while it seems as though the SDF has been freely utilized in both Peace Keeping Operations (PKO) and disaster relief, the GoJ maintains a clear distinction between the two. Japan's primary agency for overseas disaster response efforts is the Japan International Cooperation Agency (JICA) which also contains the Japan Disaster Relief teams (JDR). When a request for assistance is received from another government, JICA provides a recommended deployment composition to the Prime Minister. Usually, the SDF is deployed as a last resort when large assets are required. However, in the case where the SDF deploys in response to such a request, it is operating as part of a JDR team.

According to the Defense of Japan 2005, "... international disaster relief operations conducted by the SDF may take different forms according to factors such as the scale of the disaster, the degree of damage, and the requests of the governments of affected countries or international organizations. The SDF's past record on domestic disaster relief operations indicates possible fields of cooperation to be extended by the SDF overseas for disaster relief. These fields are as follows:

²² Kenneth Pyle, *Japan Rising: The Resurgence of Japanese Power and Purpose* (New York: Public Affairs, 2007), p. 230.

²³ Japan Ministry of Defense, *Defense of Japan 2007*, p. 589.

²⁴ *Ibid.*, p. 470.

²⁵ Japan International Cooperation Agency, Emergency Disaster Relief, available from <http://www.jica.go.jp/english/operations/schemes/emergency.html>, accessed April 14, 2008.

- Medical services, such as first-aid medical treatment and epidemic prevention;
- Transport of goods, patients, and disaster relief personnel by helicopter;
- Ensuring water supplies using water-purifying devices;
- Use of transport assets to carry disaster-relief personnel/equipment to the affected area.

Regional units of the GSDF are assigned duties on a six-month rotational basis, to ensure that they can provide medical, transport and water supply services in a self-sufficient manner anytime the need for disaster-relief operations arises. The MSDF and the Air Self-Defense Force (ASDF) are always prepared to have its fleet and air-support team, respectively, transport supplies to its units or units participating in international disaster-relief operations. The ASDF's air support command is also prepared to provide similar services.²⁶

C. Lessons Learned

As a result of past tragedies, the GoJ and the SDF have learned some costly lessons. Aside from the specific crisis oriented deficiencies, several prevailing problems call for immediate attention and urgently need to be resolved. The most important lesson may be that in a large-scale disaster, all assets must be utilized in a timely manner in order to minimize the loss of life and destruction.

Due to their magnitude, all large-scale disasters quickly overwhelm the capabilities of local responders. The effectiveness of the total response will depend on how well emergency services, local authorities, and regional and central governments have harmonized their preparations and exercised their response procedures. The nationalized command structure of the police and fire departments in Japan must be coordinated and inclusive of other agencies if they are to be effective. All resources must be considered from the initial outbreak of the crisis to the final restoration phase. In general, military assistance is usually only sought as a measure of last resort.²⁷ “Bureaucratic barriers” hindered the immediate recognition and response. *Tatewari*, a term that translates roughly as compartmentalized bureaucracy, describes the stove-piped agencies that comprise the Japanese government. The agencies do not usually work together but rather work separate from or even in competition with one another.²⁸

Other common lessons learned from recent disasters include:

- Local governments must request outside assistance in a timely manner;
- National assets to be prepared to deploy in a timely manner;
- Disaster/Medical command, control and communications lacked coordination;
- Difficulty in incorporating local and national disaster relief efforts;
- Dependency on land transportation for relief/evacuation efforts;
- Medical facilities were also affected by disasters, significantly reducing capability;
- Surge capability inadequate; existing patient care and disaster efforts too great;

²⁶ Japan Defense Agency, *Defense of Japan 2005*, available from http://www.mod.go.jp/e/publ/w_paper/pdf/2005/4.pdf, accessed January 13, 2008.

²⁷ James Schoff and Marina Travayiakis, *In Times of Crisis, Global and Local Civil-Military Disaster Relief Coordination in the United States and Japan*, Institute for Foreign Policy Analysis and Osaka School of International Public Policy, Osaka University, April 2007, p. 7.

²⁸ Pangi, *Consequence Management in the 1995 Sarin Attacks on the Japanese Subway System*, p. 15; Interview with Nozomu Asukai, M.D. PhD, Department of Psychiatry, Tokyo Institute of Psychiatry, November 1, 2000.

- Relief efforts cannot rely on existing infrastructure; roads, rail, water, phones, etc.;
- Timely communication of vital information;
- Emergency responders need to be self sufficient, protected and interoperable;
- Behavioral health preparedness measures and treatment for disaster victims.²⁹

In general, nearly all of the lessons learned can be placed into three categories: 1) robust command and control/communications; 2) medical surge capability above that of local assets; and 3) fast/heavy lift that is unaffected by the casualty (evacuation, decontamination, isolation).

II. Current Situation

“Disasters occur only when humans or human society and a natural phenomenon come into contact. No severe natural phenomena bring about disasters by themselves. The types of disasters experienced by Japan have changed with time. When a defense against one type of disaster has been established, another unexpected form often occurs thereafter. ... Although we cannot avoid disasters, it is possible to decrease their destruction...”³⁰

It is impossible to predict when, where or what type the next disaster will be for Japan, but the odds are stacked against Japan that another devastating disaster will occur. Japan is located in one of the most seismically active regions where 90% of the world’s earthquakes and 81% of the world’s largest earthquakes occur.³¹ On average, Japan experiences about 1,500 tremors every year caused from the shifting plates and volcanic activity from the 75 active volcanoes in Japan. According to the US Geological Survey, over 1,471 earthquakes a year register above 5.0 on the Richter scale and nearly 50 earthquakes occur per day.³² Aside from natural disasters, heightened concerns of new strains of influenza, SARS, tuberculosis or some other type of communicable disease causing a pandemic are also rising every day. Given the range of mobility of today’s society, the ease of infection and the lack of a cure, the outcome of this potential scenario can be especially grave. Other manmade disasters, such as bio-terrorism, nuclear accidents or a dirty bomb, are too large and complex for local authorities to manage. They will require the response of the SDF in order to minimize the damage and loss of life.

A. Changes in Disaster Relief

Compared to other nations, Japan is viewed by others as being well prepared for natural disasters. The frequency, scale and variation of disasters have forced average citizens to contemplate disasters as part of their daily lives. The prevalence of natural destructive forces throughout Japan’s history has shaped the country’s character and has not always been considered negative. Natural disasters represented the temperament of the gods and their favor for those here on earth. (Such as the divine

²⁹ The Sarin Gas Attack on the Tokyo Subway-10 Years Later/ Lessons Learned, available from <http://tmt.sagepub.com/cgi/content/abstract/11/2/103>, accessed February 3, 2008.

³⁰ Shoji Fukii, “Examples of Change in the Types of Disasters Experienced in Modern Japan,” available from, <http://ci.nii.ac.jp/naid/110002674184/en/>, accessed April 13, 2008.

³¹ Pacific Ring of Fire, available from, <http://www.crystalinks.com/rof.html>, accessed April 13, 2008.

³² US Geological Survey, available from <http://neic.usgs.gov/neic/eqlists/eqstats.html>, accessed April 3, 2008.

typhoon that destroyed Kublai Khan's forces as they attempted to invade Japan.) However, since the end of World War II, there seems to be "...a shift in the nation's mentality from a centuries-old Buddhist-based passivity, ...to a belief that Japan's elected leaders can and should make decisions that protect people from the elements."³³

As the result of the tragedies experienced, significant efforts have been made across all levels of government, from national, prefectural to local, to improve Japan's disaster management system. A Minister of State for Disaster Management who reports to the Cabinet Office was created to secure comprehensive and coordinated disaster reduction efforts. A comprehensive contingency plan was created by the Central (national) Management Council, which identified basic countermeasures for various disasters. Separate Management Operation Plans are then formulated by each Ministry and Agency (as well as major public corporations). Finally, Local Disaster Management Plans are created by prefectural and municipal governments.³⁴ Additionally, significant improvements have been made in city planning, (promoting earthquake resilient structures, lifeline improvements, etc.) and disaster forecasting and warning systems.

Japan has always appeared to have a phobia regarding the use of the SDF domestically and abroad. The strict enforcement of civilian control has occasionally resulted in unnecessary delay in their ability to provide timely assistance.³⁵ Following the Hanshin earthquake, the Defense Agency Disaster Prevention Plan was revised, authorizing unit commanders to dispatch forces in limited circumstances, otherwise a request from the local government must be received prior to dispatch.³⁶ Starting in July 2006, the provincial liaison offices in each prefecture were changed to Provincial Cooperation Offices and the SDF established the position of "Civil Protection and Disaster Relief Coordinator" in each office. Additionally, local governments seem to be receptive to trying to facilitate the interaction with the SDF. Over 126 retired SDF personnel familiar with relevant fields to disaster relief have been employed within 43 prefectures and municipalities with the aim of facilitating the interaction between the SDF and the local government in all aspects related to disaster relief.³⁷

B. Developing Missions

(1) Domestic Disaster Dispatch

Within the past 5 years, the SDF has averaged over 853 dispatches within Japan. The past two years have witnessed a significant drop in both vehicle and aircraft dispatches while maritime dispatches have increased over 600% within the last year.³⁸ Even though the SDF has been participating in disaster relief since its creation, its role has been primarily a secondary support role such as debris removal and restoration. However now, some local communities are depending more and more on the SDF as primary responders.³⁹ As the SDF gains experience as a primary response unit to disasters, they have

³³ Bennett Richardson, "Severe Test of Japan's Readiness," *The Christian Science Monitor*, available from <http://www.csmonitor.com/2004/1026/p06s02-woap.html>, accessed April 12, 2008.

³⁴ Satoru Nishikawa, *Progress of Japan's Disaster Management System*, Cabinet Office, Government of Japan, March 1, 2006.

³⁵ Tierney, *Emergency Response*, p. 4.

³⁶ Japan Ministry of Defense, *Defense of Japan 2007*, p. 244.

³⁷ *Ibid.*, p. 250.

³⁸ *Ibid.*, p. 246.

³⁹ Schoff and Travayiakis, *In Times of Crisis*, p. 26.

reduced their response time. Local governments have also realized that when the SDF respond, they did not have to reimburse the national government or SDF for the cost of the dispatch.⁴⁰ Therefore, as public acceptance of the SDF increases, and as SDF proficiency as a primary responder improves and fiscal budgets tighten, one can only assume that the dependency on the SDF will increase.

(2) International Emergency Assistance Activities

Japan's development of JICA as the authority to evaluate international disasters and make recommendations to the GoJ for the type of response has created an open-ended task of providing relief to those in need. Japan's precedence of assisting others is commendable and there is no sign of limiting their involvement. Instead, JICA has been working to increase its effectiveness through education, training and coordination of relief efforts with surrounding areas. JICA credits its success to the timeliness of its response capabilities. Its goal is to supply medical care and supplies when the need is greatest which is within the first 24 hours following the disaster. JICA recommends the use of the SDF in "...large-scale emergencies when they (can) provide heavy-duty logistical assistance with aircraft or ships and help in widespread disease control."⁴¹ Public support for Japan's involvement in international disaster relief efforts is reflected in the 2003 and 2006 SDF surveys where those in favor of relief efforts rose from 40% to 62%.⁴²

C. Current and Future SDF Procurement

"...Regarding the future defense force, Japan will develop highly responsible and mobile defense forces capable of dealing effectively with new threats and diverse situations, and deploy them appropriately in accordance with Japan's geographical characteristics. Japan's future defense forces should be capable of coping with...large-scale and/or special-type disasters."⁴³

"...Japan's defense capability is required to shift its emphasis from pursuing conventional deterrence effects to acquiring abilities to respond to various contingencies at home and abroad..."⁴⁴

"...we will maintain an adequate force structure with defense force units, as well as specialized capabilities and expertise to conduct disaster relief operations in any part of Japan."⁴⁵

Even though the government publicly supports an increased role for the SDF in support of domestic and international disaster relief efforts, it has yet to provide adequate resources to obtain the necessary equipment. While the GoJ acknowledges that, "...a full-scale invasion against Japan is increasingly unlikely,"⁴⁶ Japan's acquisition desires continue to focus on costly high tech platforms such as the F-22 (\$140 million per aircraft), BMD and Aegis upgrades⁴⁷ rather than capabilities-based procurement.

⁴⁰ Ibid., p. 27.

⁴¹ Japan International Cooperation Agency, "Twenty Years of Humanitarian Work," available from http://www.jica.go.jp/english/resources/brochures/2007/pdf/jdr20th_01.pdf, accessed April 14, 2008.

⁴² Japan Ministry of Defense, *Defense of Japan 2007*, p. 590.

⁴³ Ibid., p. 476.

⁴⁴ Ibid., p. 123.

⁴⁵ Ibid., p. 467.

⁴⁶ Ibid., p. 463.

⁴⁷ Japan's interest in the \$120 billion F-22, BMD system upgrades and C4I systems comprise the bulk of the Japanese acquisition inquiries to the United States. This is also reflected in the Contents of Major Programs where less than 7% of the budget is dedicated to response to large-scale and particular disasters. *Defense of Japan 2007*, p. 478.

According to Japanese estimates, defense related expenditures required to execute the FY 2005 NDPG are approximately 24.2 trillion yen (\$24 billion).⁴⁸ The only procurement directly identified for response to large-scale and special disasters are improvements to the US-2 rescue amphibian aircraft and UH-60H rescue helicopter.⁴⁹ As such, less than 7% of the FY 2007 major procurement budget was dedicated to this mission. Other procurements that may be considered related to this effort include the purchase of 15 helicopters, 59,000 tons of ships, and eight transport aircraft but their configurations may limit their utility as disaster relief platforms. While this procurement plan may appear to address an airborne lift capability, it does not seem to consider maritime lift. The ships identified for procurement were two destroyers, one submarine and one oceanographic research ship.⁵⁰ All of these platforms are necessary for Japan's defensive strategic interests but are not adequate for disaster relief platforms.

Some Japanese military planners believe that the purpose of a hospital ship is too narrowly focused to justify the expenditure, especially given the extraordinary budgetary constraints currently placed upon the SDF. However, this argument appears to be one of convenience, as the SDF is comprised of single mission ships (ice-breakers, cable laying vessels, oceanographic research vessels, etc.) and continues to procure other single purpose platforms (US-2). In addition to the traditional procurement, the SDF also has other funding lines which are not clearly specified (efforts for a peaceful and stable international society, \$120 million; Hygiene/opening SDF hospitals to public, \$256 million).⁵¹

D. Shortfalls as for Capability of Disaster Response

Despite the increased emphasis on disaster/humanitarian assistance capabilities and noted success, there are still outstanding shortfalls in Japan's disaster response capability. The individual deficiencies of the various agencies and organizations responsible may not seem important when viewed individually, but as a whole, they reflect a significant weakness that must be addressed. Reviewing the lessons learned, it appears that they are still problematic and need to be resolved. Efforts were made at separate levels without proper oversight, thus preventing a cohesive solution from being formed, let alone resolve the issue. A closer look would reveal that the same deficiencies that were highlighted years earlier still remain.

(1) Organization, Roles and C4I

According to the Disaster Countermeasures Basic Act, the national government (the Cabinet Office and The Minister of State for Disaster Management) has the highest responsibility of creating and implementing a plan for disaster response and recovery. Through the Central Disaster Management Council (comprised of other cabinet members, national organization directors and disaster experts), they are tasked with the main coordinating and decision-making role. This responsibility has been further relinquished to the prefectures where they were tasked with creating and implementing their own disaster plans. While this is thought to give the local governments, who are believed to know the issues surrounding their area the best, a means to tailor a plan to fit their needs, it also creates the

⁴⁸ Japan Ministry of Defense, *Defense of Japan 2007*, p. 476.

⁴⁹ *Ibid.*, p. 138.

⁵⁰ *Ibid.*, p. 480.

⁵¹ *Ibid.*, p. 469.

schism between the national and local plans. Within the last few years, Japan has initiated a series of government reforms, namely government decentralization, which have indirectly affected its disaster preparedness. The Omnibus Decentralization Act of 1999 transferred a significant number of executive powers to local governments. In essence, this flattened the national/local government hierarchy and diminished the authority of the national government to direct a unified course of action. While this change has been implemented well and proven effective in areas with robust economies (i.e. Tokyo, Osaka), it has become a challenge for other localities. Other stressed economies find it increasingly difficult to justify and allocate the enormous funding required to maintain the high level of disaster preparedness required in Japan. Thus, deregulation has inadvertently reduced the ability of the central government to uphold the desired level of disaster preparedness.⁵²

Instead of creating clear roles and responsibilities for disaster relief efforts, the empowerment of local agencies and governments with primary responsibilities has created wasteful redundancy and potential barriers between organizations. For example, at the time of the Sarin gas incident in Tokyo, only the SDF had the equipment and expertise for dealing with such a casualty. Now, the Tokyo Metropolitan Fire Department (TMFD) has created a bio-terror response team that duplicates the same role. However, despite their efforts, the TMFD cannot afford the same equipment or force structure as the SDF and therefore ultimately must call on the SDF if such an incident were to occur. Roles and responsibilities become even more convoluted when JICA utilizes personnel from the Police Agency and TMFD for overseas assistance, a role that traditionally was filled by the SDF. Even though public opinion supports the use of the SDF for domestic disaster relief and the national government has approved a domestic disaster role as an SDF mission,⁵³ there still seems to be a phobia with the utilization of the SDF for this purpose. Furthermore, despite being the only organization that is designed to handle a large-scale crisis, the SDF is routinely excluded from being incorporated in disaster planning.⁵⁴ Even so, the SDF continues to train and build relations with local governments for the time they are called to duty.

Although the relationship between the SDF and other national and local disaster relief agencies has been steadily improving, they still lack a common command and control foundation that enables them to be interoperable. Unlike the United States, Japan does not have a standardized Incident Command System or disaster management system.⁵⁵ This lack of a unified command and control system forces local management systems that not only may be different depending on the political boundaries but on independent parallel disaster management structures of the different agencies. Tokyo and Hyogo-ken for example, have elaborate command and control facilities but since the two were designed independently, outside disaster relief groups must make adjustments to ensure interoperability. Furthermore, the local networks are constrained to land-based infrastructures that are vulnerable to disaster damage, limited in expansion capabilities and not designed to incorporate other dissimilar systems.

⁵² Organization for Economic Cooperation and Development Studies in Risk Management, *Japan: Earthquakes*, 2006, p. 13.

⁵³ As noted in by the approval of the FY NDPG 2005.

⁵⁴ For example, review of the TMFD, Kobe Disaster Risk Management Profile and Hyogo-ken Framework for Action 2005-2015, disaster relief plans make little if any mention of the SDF and how they will be incorporated in the case of a disaster. Instead, emphasis is placed upon coordination with other agencies (Red Cross, Police Agency, commercial industry).

⁵⁵ Schoff and Travayiakis, *In Times of Crisis*, p. 24.

(2) Medical Infrastructure and Surge Capability

During the Hanshin earthquake in 1994 and subsequent Tokyo Sarin gas incident in 1995, it was recognized that disaster resistant medical facilities capable of accepting a large number of disaster victims was critical to Japan's crisis management. Despite this awareness, the situation in Japan has become even more distraught with the closure of 3,344 hospitals since 1998.⁵⁶ Facility closures combined with doctor and nurse shortages are making it increasingly difficult for many large city hospitals to function on a daily level. Last year, Osaka reported over 3,800 cases where ambulances had to call on multiple hospitals to find space availability for their patients. In the worst cases, the ambulances would spend hours trying to find availability, contacting up to as many as 30 medical facilities. Crisis response requires not only treatment of those affected by the disaster but maintenance of those already admitted. If the hospitals are operating at near maximum capacity prior to the disaster, it is unrealistic to believe they could stretch themselves further to care for the disaster victims.

The hospital shortage problem is further complicated when the hospital itself becomes subject to disaster damage. Experiences from the Hanshin earthquake not only demonstrated the structural vulnerability to existing medical facilities, but their dependency upon common infrastructure for their operation. Any disruption to electricity, communications, water or sewage may make the facilities unusable and require additional assistance to evacuate their existing patients. Medical treatment during the Hanshin earthquake was also significantly constrained by the damaged roads and transportation methods. Fallen buildings and roadways, and fires made areas inaccessible and delayed recovery efforts. Many large cities are investing on infrastructure improvements and "earthquake-proofing" their hospitals. The Kobe Disaster Risk Management Profile and the Hyogo Framework for Action 2005-2015 emphasizes the construction of earthquake resilient facilities and hospitals safe from disaster but does not address disaster response. While these preparation efforts are necessary for a comprehensive plan, it is tempting fate to invest in this area alone and not into disaster response. The only hospital facilities that can be assured full operating capacity are those that are not in the vicinity of the disaster when it strikes.

In some cases, hospital facilities may not be necessary for treatment but for containment. As in the Tokyo Sarin gas incident, inability to properly identify the problem and contain the contaminated patients caused 138 doctors and nurses to have secondary contamination. If Japan were to experience another bio-terror incident or nuclear accident, the establishment of safe decontamination and treatment areas will be critical for limiting the number of casualties. The same may hold true for an outbreak of Avian flu or SARS. Although isolation or containment appears to be an infringement of personal liberties, it may be the only means of preventing a potential pandemic from occurring.

(3) Strategic Mobility

"The importance of rapid deployment...using the swiftest possible means of transportation for the deployment of the contingents," was noted in the first lesson learned from the Tsunami Disaster Operations by the JSDF.⁵⁷ Although the commitment to assist was quickly made and an advance

⁵⁶ Doctor Shortage Takes a Toll in Japan, available from <http://afp.google.com/article/ALeqM5i5XP-O252HC9opx-HZ6aKgsXRKjqw>, accessed December 28, 2007; Hospital closure graph from Ministry of Health, Labor and Welfare.

⁵⁷ Col. Kazuhiko Murakami, "The Roles of the Armed Forces in Disaster Relief Operations and Future Challenges," Staff Foreign Policies and Plans Section, J5, Joint Staff Office, Japan Defense Agency (undated), p. 4.

party arrived on scene within days, the true opportunity to maximize the effectiveness of the relief efforts was lost because of the amount of time it took to transport resources from Japan to the areas in need. Aside from commercial transportation, JICA and NGOs do not have the means to transport their equipment to the disaster area. Just as in a wartime scenario, the success of a disaster relief mission is often dependent upon logistical support. In order to be successful, it must be in sync with the operations tempo. Strategic lift problems limit the effectiveness of the relief efforts, prolonging the crisis and suffering. While airlift is the fastest option, it is limited in payload and requires a landing/staging area. Sealift on the other hand, takes more time but can carry significantly greater payload and when equipped with a helicopter, can anchor along any shore for assistance. When units deploy via airlift, they become dependent on the local infrastructure for subsistence whereas sealift detachments are virtually self sufficient, and the crew does not consume the limited resources of the affected area.

Reviewing the SDF enhancement of equipment list for the FY 2007 budget, several helicopters, transport and search/rescue aircraft, and two destroyers are scheduled for procurement. While all are capable of contributing to strategic lift, in addition to their inherent limitations, their primary missions usually preclude them from being used in this manner. For example, although all MSDF vessels have the capability to be utilized in disaster relief, it is interesting to note that of the 24 dispatches by the SDF in 2006 for earthquakes, flooding and storms, not one vessel was dispatched.⁵⁸ The US-2 search and rescue aircraft not only has an extremely limited payload capacity, it requires relatively calm seas to execute its mission.

Although Japan is an island nation, it relies predominantly on ground transportation for domestic disaster response. Renowned throughout the world for its efficient rail system, previous disasters have highlighted its limitations. Rail lines (and roadways) are susceptible to earthquake, flood and even heavy rain damage. To the credit of emergency crews and Japan Railway, lines are usually returned to operation within hours of most incidents, but the volume of traffic during an emergency easily overloads the remaining system.

(4) Self-Defense Forces in Disaster Relief Activities

Despite the best intentions, the SDF cannot efficiently respond to a disaster relief situation, either domestically or abroad, given the current operating restrictions and equipment limitations placed upon it. Although the SDF possesses a significant amount of equipment (water purification, mobile medical units, logistic networks, etc.) that could readily be utilized in a disaster relief scenario, it is fraught with restricting operating procedures and civilian control requirements. The same controls that were created with the intention of preventing the SDF from abusing its power now prevent them from helping the Japanese people in a timely manner. If the civilian authorities cannot comprehend the scale or scope of the disaster and do not request assistance, there is little the SDF can do or initiate.

It is interesting to note that the Anti-Terrorism Special Measures Law⁵⁹ and the Basic Plan⁶⁰ which

⁵⁸ Japan Ministry of Defense, *Defense of Japan 2007*, p. 247.

⁵⁹ Japan's Anti-Terrorism Special Measures Law primarily focuses on humanitarian aspects to include: 1) supply of water, fuel, goods and provisions; 2) transportation of personnel, good and materials; 3) repair and maintenance of services; 4) medical/sanitary services; 5) use of communications facilities; 6) airport/seaport services; and 7) base services/collection and others.

⁶⁰ The Basic Plan is broken into three parts: 1) cooperation and support activities; delivery of supplies, transport, repair/maintenance, medical services, port administration; 2) search and rescue activities; and 3) assistance to affected people as requested by the organization.

authorizes the use and provides guidance to the SDF assets participating in international efforts abroad are in essence the same measures that need to be provided in a domestic natural disaster but cannot due to legal constraints. Furthermore, Japan's reluctance to belong to a cooperative defense impedes any type of permanent commitment to regional security, even if is only humanitarian aid based.

In addition to the authorization difficulties, strangling operating and procurement procedures make the initiation and implementation slow and inefficient. Regardless, the SDF continues to contribute to relief efforts at home and abroad. Strict adherence to cumbersome procedures and manpower intensive operating plans increase the footprint of the SDF in the disaster area and provide delays.

As in the Indian Ocean earthquake's case, the main response took up to a month to arrive due to authorization and mobilization procedures and limited maritime lift capability, whereas the civilian JDR teams arrived within days. Similarly, SDF disaster relief operations are characterized as highly inefficient with an approximate 80:20 ratio for support to responder; compared to the JDR's 20:80 ratio.⁶¹ Of the 882 SDF personnel, 1 fixed wing aircraft, 7 helicopters, 19 vehicles and 3 ships involved with the relief effort,⁶² only 8 doctors and 11 nurses were dispatched.

Even though the SDF has participated in countless disaster relief operations, it has made due with its existing equipment. Aside from BMD/Aegis, the SDF procurement plan resembles a one for one replacement plan rather than addressing the missions/capabilities of the current security environment. In addition to Japan's required defensive force modernization, Japan must also consider non-traditional security needs and procure appropriate systems. Reviewing the lessons learned from previous disaster relief efforts, it appears that what Japan needs is a means/platform to address its shortfalls, and to not pose a constitutional or bureaucratic challenge regarding the legality of its use.

III. Hospital Ships

Considering the lessons learned identified in the recent disasters relief efforts; Japan's need for 1) increased disaster command, control and communication; 2) increased medical capability and 3) heavy lift/isolation/containment capabilities that are self sufficient and not as prone to the effects of disaster damage may be met through the implementation of hospital ships. Furthermore, these vessels may prove to be a transformational platform that unlocks the potential of the SDF for domestic and overseas missions such as allowing the SDF to participate freely in PKOs throughout the region.

Throughout the history of modern warfare, hospital ships have provided a safe haven for injured soldiers and sailors and have been afforded special protections due to their mission. Contrary to other military systems whose role is to neutralize or destroy, the mission of hospital ships are to heal and are, therefore, welcomed throughout the world. Today's hospital ships vary in size, capabilities and operations, but all are recognized for the relief they provide. According to Article 22 of the Protocol Additional to the Geneva Convention of August 12, 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), June 8, 1977, (Hospital Ships and Coastal Rescue Craft), clearly marked and previously designated vessels engaged in the rescue and treatment of injured

⁶¹ Dr. Rosalie Arcala Hall, Civil-Military Cooperation in International Humanitarian and Civil Emergency Activities by Japanese Security Forces in Indonesia.

⁶² As of February 14, 2005, JSDF Disaster Relief Operations in Asia briefing, Joint Staff Office, Japan Defense Agency.

personnel are afforded special protection and it is unlawful to engage them with hostilities.⁶³ Although an international registry is maintained, each ship should update its status prior to a deployment into hostilities. While many nations claim to have hospital ships, a closer look at the international registry of hospital ships will reveal that most are dual purpose military vessels that have medical facilities and are not true hospital ships. Presently, 14 nations have vessels registered as hospital ships as well as 4 non-government states.⁶⁴

A. Today's Hospital Ship

Looking at the current ships listed in the Hospital Ship International Fleet Registry, it is clear that modern day hospital ships are defined by function and exist in a wide variety of platforms. Although the majority of the ships listed in the registry are designed for local search and rescue, and have extremely limited disaster relief capability and only a room designated for medical care. Those owned and operated by the United States and China⁶⁵ possess true hospital capability in every aspect. The Protection of Victims of International Armed Conflicts (Protocol I), June 8, 1977 does not indicate what type of facilities should be maintained, but recommends that vessels used for transport should be over 2,000 tons.⁶⁶ Some of the key benefits for having this mobile capacity are 1) immediate medical treatment capacity is brought to the area needed; 2) it is self-sufficient, self-contained, independent of land-based infrastructure and designed to maintain full capacity in disaster areas; 3) minimizes impact on disaster stricken area (unlike land based crews who must utilize existing infrastructure, thus reducing the availability for those who need aid); and 4) provides a safe and stable area for treatment, isolated from the damage.

For example, the USNS MERCY (T-AH-19), which was converted from a 69,000 ton commercial super tanker, maintains medical and medical support staffs of 956 and 258 respectively. It contains 12 fully-equipped operating rooms, a 1,000 bed hospital facility, radiological services, a medical laboratory, a pharmacy, an optometry lab, a CAT scanner and two oxygen producing plants. USNS MERCY also has a helicopter deck capable of landing large military helicopters, as well as side ports to take on patients at sea. The hospital ship is equipped with two dental surgery rooms with four dental chairs total where routine dental work can be done. These dental surgery rooms can be used in an emergency as regular operating rooms. Additionally, the ship is outfitted with a robust communications suite and briefing rooms which could serve as a disaster command and control center

⁶³ Hospital ships are afforded certain protections but also have certain restrictions as to their employment. For example, hospital ships: Must have easily distinguishable markings (usually white with a red cross) to prevent them from being confused with other vessels; Must be designated at least 10 days prior to entering an area where hostilities are anticipated; Cannot be used in hostile acts or direct support of combat operations (such as troop transport); Article 22, Protocol Additional to the Geneva Conventions of August, 12 1949, and relating to the Protection of Victims of International Armed Conflicts, available from <http://www.icrc.org/ihl.nsf/WebPrint/470-750028-Com?OpenDocument>, accessed December 12, 2007.

⁶⁴ International Hospital Ship Registry, available from <http://www.geocities.com/Athens/Forum/2970/FletReg1.html>, accessed December 13, 2007.

⁶⁵ China's hospital ship, although not as large as USNS MERCY, is newer and very capable for blue water operations. However, given the sensitivity towards Chinese military expansion, deployment and modernization, the Type 920 has yet to deploy for use outside of China. China's contribution to current PKOs has been non-combat troops; primarily logistics oriented personnel.

⁶⁶ International Committee of the Red Cross, available from <http://www.icrc.org/ihl.nsf/WebPrint/470-750028-Com?OpenDocument>, accessed December 12, 2007.

or video teleconference room. While the ship's primary role is to provide immediate medical care to those injured in conflict, it also provides a full-service hospital asset for the use of the government agencies in support of disaster relief and humanitarian efforts.

Similarly, the recently converted AFRICAN MERCY, the world's largest non-government owned hospital ship, is a converted 499 ft/16,500 ton ferry. The ship maintains a medical staff of 400, 80 hospital beds, 6 operating rooms, a dental clinic, x-ray and CAT scan capability, a pharmacy and a classroom for 60 students. Total costs for the purchase of the hull, conversion and outfitting was \$62 million. Remarkably, all funding for the AFRICAN MERCY was attained by donations and the ship has an expected service life of 30 years.⁶⁷

In addition to the existing traditional monohull hospital ships that currently exist, there are several options available for future development to meet the specific needs of Japan. While it stands to reason that the larger the vessel, the greater capability and capacity the ship has to offer, it does not mean that Japan may have other requirements that require a different type of platform. Smaller, higher speed vessels (HSV) or the United States Littoral Combat Ship (LCS) may prove to be more appropriate vessels. Both have large working bays designed for mission modules such as the SDF's Containerized Aeromedical Transport Compartment⁶⁸ which can be transferred from unit to unit as needed. They both include features such as a helicopter landing area, robust communications suite, command and control capabilities, and easy loading access.

Other considerations include building the ship, how it is manned and who pays for it. Most hospital ships are converted from other vessels such as oil tankers, ferries or passenger boats. In the case of the AFRICAN MERCY, conversion costs were approximately one half the cost of new construction. HSV and LCS hulls are approximately \$84 million⁶⁹ and \$120 million, respectively. While the US was studying the feasibility of the HSVs, it leased each hull for approximately \$21 million per year.⁷⁰ When compared to the United States C-17, it is approximately 1/3 the cost and carries 12 times the payload.⁷¹ As far as manning is concerned, it is not necessary for the SDF or a single organization to be responsible for the operation of the ship and treatment of the patients. There is substantial precedence in both the US Navy and MSDF of civilians conducting specialized work on military operated vessels.⁷²

B. Impact on Japan

Hospital ships may prove to be the transitional vehicle that not only enables the SDF to fulfill the disaster relief shortfalls necessary to protect Japan but also the means unlock the full potential of the SDF in humanitarian efforts and PKOs throughout the region. The type and number of hospital ships

⁶⁷ Mercy Ships webpage, www.mercyships.org, accessed on May 9, 2007.

⁶⁸ Japan Ministry of Defense, *Defense of Japan 2007*, p. 247.

⁶⁹ Loc Nguyen, "Structural Design and Comparison Study of Light-Weight, High-performance, Composite High-Speed Vehicles," unpublished paper, Naval Surface Warfare Center, Carderock, MD.

⁷⁰ Harold Kennedy, "Navy's High-Speed Vessel Aids Relief Effort," *National Defense*, June 2005.

⁷¹ Major Kenneth Hickins, Strategic Mobility: The U.S. Military's Weakest Link, commentary, available from, <http://www.almc.army.mil/alog/issues/NovDec02/MS813.htm>, accessed April 13, 2008.

⁷² Research vessels, ice breakers and hospital ships are operated and maintained by the military. The technicians/doctors on board are usually mixed civilian and military. Since these ships are not designed as offensive units, they normally only possess self-defense weapons systems, if armed at all.

employed by Japan will determine what level of domestic and international role Japan and the SDF can play. Hospital ships are not a replacement for current agencies or capabilities but platforms that facilitate disaster relief efforts and significantly enhance overall capabilities. While it is assumed that hospital ships (mechanical hulls) will be procured, operated and maintained by the SDF and staffing may be civilian or mixed, other procurement options such as funding from other ministries or agencies associated with disaster relief should not be ruled out. Along the same lines, manning options should be further investigated to optimize medical treatment, command and control, and interagency cooperation.

If the hospital ships employed by Japan contain similar features as those mentioned earlier, they will ease many of the shortfalls and provide tremendous new disaster relief capability. For example, military/SDF command and control/communications equipment is designed to be rugged, flexible and interoperable. It has an established architecture that is modernizing in unison with other countries' militaries (and therefore organizations). Since it is designed to operate worldwide, it is not tied to one region. Utilizing proven military technologies such as satellite communications, global positioning systems, secure data/voice and communication management systems, the communications and command architectures are designed in conjunction with each other ensuring interoperability. These systems can be implemented to serve as back-ups to existing systems (as in the case of Tokyo or Hyogo-ken) or as primary systems in areas where one is not established. If desired, a nationwide data base could be incorporated to provide a TMFD-like command structure throughout Japan.

It seems inherently obvious that hospital ships will provide additional medical capability but more importantly, it will be above and beyond what is currently in the area. Hospital ships are self-contained, independent, mobile medical units that can be used for treatment, isolation or evacuation. Based from the experiences of USNS MERCY and AFRICAN MERCY, hospital ships serve as a focal point of volunteers who are looking for a means of contributing to disaster relief efforts for immediate and long-term bases. During routine or non-crisis periods, Japanese hospital ships could offer medical treatment to remote areas lacking medical facilities or as part of national campaigns for non-emergent treatments (i.e. immunizations, eye or dental exams, breast cancer, etc.). Operation and equipment costs could be subsidized similar to the AFRICAN MERCY where nearly all of the equipment was donated (from corporations or replaced equipment from modernization). If the need should arise where an isolation facility is required (i.e. early stages of a pandemic), hospital ships can provide a controllable area removed from population centers where those onboard can be monitored and receive medical treatment, maximizing containment efforts and minimizing the chances of further contamination.

Depending on the type of ships selected, hospital ships could also double as heavy lift vehicles which could be used for delivering critical disaster relief materials (i.e. food, clothing, temporary shelters, water making, etc.) and heavy equipment associated with relief efforts of the SDF or other agencies. This would be extremely critical when existing roads and railways are damaged as in the case of the Hanshin earthquake. As a narrow island nation, 100% of Japan is accessible if the hospital ship employs a helicopter.⁷³ Hospital ships could also be used to transport or harbor a large number of personnel if necessary, as in the case of a mass evacuation.

⁷³ Assuming the distressed area is accessed from the side with the shortest distance. The widest portion of Japan is approximately 225 miles wide, and the helicopter operating range over land is 150nm.

In addition to addressing enhanced disaster relief capabilities, hospital ships may have other collateral benefits that might be worth mentioning. If Japan were to decide to build these ships, it could do so freely, without concern of violating Article 9 or going against its Basic Defense Policies. Furthermore, these vessels could be produced nearly 100% indigenously⁷⁴ and even marketed for sale to other countries is so desired. (If sold abroad, this could also create an economy of scale and further reduce the production costs.)

(1) Transformation of the SDF

“Transformation as fundamental change involving three principal elements and their interactions with one another: [1] advanced technologies that, because of the new capability they yield, enable [2] new concepts of operation that produce order-of-magnitude increases in our ability to achieve desired military effects, and [3] organizational change that codifies the changes in the previous elements or enhances our ability to execute our national-security strategy.”

-Major General Deptula, Director Air Force Quadrennial Review, 2001⁷⁵

From the U.S. Air Force point of view, military transformation, “...involves much more than acquiring new systems or reacting to failure. It means actually shaping the course of change through aggressive, integrated and coherent change processes...meaningful transformation (cannot occur) without integrating or expanding capabilities with those of other services and elements of national power.”⁷⁶ To this end, hospital ships should be utilized in conjunction with other SDF and national government assets to improve their disaster relief capabilities. If the SDF incorporates hospital ships into its order of battle, it will be adding a new dimension to its capabilities. While some assets can provide limited medical treatment to disaster stricken areas, hospital ships could provide over 10 times the support with just one vessel.⁷⁷

Given the emphasis the SDF has placed upon domestic disaster response and international humanitarian assistance, this platform could easily become the centerpiece for a new concept of operations and engagement. Because of the positive change in attitude noted throughout various portions of Africa and Asia following the U.S. deployments of USNS MERCY and USNS COMFORT, some have come to believe that this “soft power” has a significant ability to influence the “hearts and minds” of local populations thus contributing to the greater overall military strategy.

If hospital ships are incorporated into the SDF and staffed with a mixed civilian/military medical team, it could provide a much needed avenue for interagency cooperation and greatly improve the efficiency of disaster relief teams in their efforts. Working together on a daily basis on a hospital ship would enable the SDF/other government disaster relief personnel/NGOs to learn more about each other, understand each other’s concepts of operations, and work out differences in a routine manner rather than during annual training exercise or actual casualties.

Although General Deptula’s definition of transformation is usually associated with high technical communication or weapons systems that either are in research and development phases or have just

⁷⁴ With the possible exception of certain communications, command and control equipment.

⁷⁵ Major General David Deptula, “Air Force Transformation Past, Present, and Future: Restructuring of Military Air Force and Defense Systems,” available http://findarticles.com/p/articles/mi_m0ICK/is_3_15/ai_79149944, accessed April 2, 2008.

⁷⁶ Ibid.

⁷⁷ Comparing the level of doctors/nurses and medical staff to that of AFRICAN MERCY.

proven their worth in battle with overwhelming success, it can be used to describe the SDF's potential implementation of hospital ships as well. Assuming that rendering aid to its citizens in large-scale disaster relief situations is consistent with Japan's national security strategy,⁷⁸ and hospital ships qualify as an advanced technology,⁷⁹ hospital ships satisfy all elements of transformation.

(2) Impact on Missions Abroad

Current challenges facing the deployment of the SDF abroad in PKOs surround the use of force or the authorization to carry a weapon. The International Disaster Relief Team Law does not authorize the use of weapons, thus prohibiting the deployment of SDF assets to many areas where security is of concern. However, through the incorporation of hospital ships, the SDF would be able to provide adequate security to its personnel working on the ship and thus participate in a greater number of activities. If conditions proved to be unstable, the ships could depart the area or relocate to a safer haven. Furthermore, if Japan were to incorporate hospital ships into humanitarian efforts, they could potentially become the primary platform for PKOs. If a hospital ship were to come under attack for any reason, there would be overwhelming UN support for immediate action to suppress the aggression. Due to the special legal protections afforded hospital ships, they must remain neutral, employ only defensive systems and shall refrain from participation in hostile acts. These conditions are very similar to those in which the SDF deploy.

Additionally, if hospital ships were operated in a similar manner to SDF research vessels and ice-breakers, it may be possible to deploy with only a SDF operating crew and civilian JDR teams. This would give JICA additional flexibility in selecting its disaster response teams and permit deployment to areas where certain sensitivities regarding use of the SDF/military are high. In addition, the use of hospital ships would provide an enhanced means of getting the most out of the JDR teams' missions. The installed capacity of a hospital ship is far greater than a temporary field hospital. Not to mention the additional capabilities such as transport of goods/personnel, ensuring water supplies, and transport of relief personnel/equipment to disaster areas. Aside from the traditional hospital ship roles, they could also reduce the footprint of the JDR teams on the host nation, act as a command center for operations and a coordination point for other NGOs if necessary.

C. Impact on Others

(1) United States

As the U.S. and Japan continue to evaluate their alliance and security relationships, significant effort has been placed on clarifying the roles and missions of each. The U.S. has encouraged Japan and continues to support the SDF's efforts in international peace-keeping and humanitarian operations. If the SDF were to employ hospital ships, Japan would possess the only allied vessels with privileged right of passage in the region. U.S. hospital ships would take days to weeks to arrive in theater and the cross-utilization of other Navy ships would not be afforded any protections from hostilities.

Even though the U.S. Navy has two 69,000 ton hospital ships-each with over 1,000 beds, they are insufficient to fulfill their primary role as a medical ship in a combat zone and a provider of

⁷⁸ Although not directly stated as one of the two national security goals, it is included in the FY 2005 NDPG.

⁷⁹ While HSVs and LCS are newly developed technologies, hospital ships are generally not considered as such. However, their utilization as an element of power is a new development.

humanitarian assistance. Considering the variety and frequency of disasters in and surrounding Japan, it becomes evident that in an emergency, even with US assets, there is insufficient disaster relief support capability. The United States has always welcomed the addition of any SDF capability and the incorporation of hospital ships would add a new dimension to the US-Japan Alliance. Japanese hospital ships would be on missions that could be led by the SDF and “...(the) MSDF should acquire additional assets such as long distance refueling aircraft and transport vessels to support humanitarian relief operations, peace keeping missions...The acquisition of...hospital ships may advance the capacity for complex, long-distance missions.”⁸⁰ Although hospital ships are not directly mentioned in the Security Consultative Committee Document U.S.-Japan Alliance: Transformation and Realignment for the Future (2+2 talks), hospital ships would directly address 5 of the 15 areas for improving cooperation.⁸¹

The U.S. and Japan already share a strong Navy-MSDF relationship and the incorporation of hospital ships as part of the SDF will further enhance this bond. In light of the Constitutional and cultural constraints, the SDF could focus on non-threatening roles such as humanitarian or disaster relief. Hospital ships would be a pivotal asset in this capacity and a means of furthering the US-Japan Alliance, giving Japan a critical niche role that is becoming increasingly more important domestically and abroad. With current U.S. hospital ships becoming dated, they soon will be approaching the usable limits of their operational lifecycle. Although there is no decommission date scheduled, there is also no plan to replace them with future vessels; all the more reason Japan’s procurement of hospital ships would be so important to the alliance.

Japanese hospital ships could also serve as a key platform in other tri-lateral or multilateral security agreements; particularly with other U.S.-based alliances, such as with Australia or South Korea. There have already been dialogues regarding U.S.-Japan-South Korea cooperation in disaster relief efforts⁸² with the expressed goals of improving civil-military cooperation and engaging China.

(2) China

Like Japan, China too is fraught with a wide range of natural disasters. Some of the highest death tolls from natural disasters were from Chinese earthquakes and floods. Realizing that its environment is prone to disasters, China has created the National Natural Disaster Reduction Plan of the People’s Republic of China (1998-2010) and has participated in ongoing United Nations sponsored disaster awareness/reduction programs in an attempt to educate its citizens and minimize the damage caused by disasters. China actively seeks and participates in many disaster reduction projects. It claims to promote government capacity building, information sharing, education, personal training, scientific research and development, and international humanitarian assistance.⁸³

⁸⁰ CSIS Japan Chair Study Group, “New Roles and Missions: Transforming the US-Japan Alliance,” Report of the Co-Chairs, July 12, 2006.

⁸¹ Search and rescue, humanitarian relief operations, reconstruction assistance operations, PKOs, transportation/use of facilities/medical support, and other related activities for NEO. U.S.-Japan Security Consultative Committee, “U.S.-Japan Alliance: Transformation and Realignment for the Future,” available from <http://www.mofa.go.jp/region/n-america/us/security/scs/doc0510.html>, accessed April 20, 2008.

⁸² Trilateral Tools for Managing Complex Contingencies: U.S.-Japan-Korea Cooperation in Disaster Relief & Stabilization/Reconstruction Missions, IFPA Seminar Report, November 2005, available from http://www.ifpa.org/pdf/Trilat_Tools_DC_Seminar_Rprt_1105.pdf, accessed April 29, 2008.

⁸³ Disaster Reduction Report of the People’s Republic of China, available from <http://www.unisdr.org/eng/mdgs-drr/national-reports/China-report.pdf>, accessed April 13, 2008.

China reports to have three hospital ships in its inventory, with the latest being the newly constructed Type 920. Little is known about the capabilities of these ships but the Type 920 is estimated to be approximately 20,000 tons, with 600 hospital beds and capable of housing two helicopters.⁸⁴ Although China's National Natural Disaster Reduction Plan states that it desires additional international exchanges in personnel, financial and technical exchanges, and opportunities to take part in international disaster-reduction activities, it has yet to use its hospital ships in any sort of bilateral or multilateral exercise.⁸⁵

If Japan or the SDF were to acquire hospital ships, the vessels may prove to be the medium to initiate a new confidence building exchange with China. Since the ships are not offensive in nature, it is doubtful any objection would be raised over their construction or operation. Hospital ships would not only provide a new opportunity for exchange programs but also a new avenue for diplomacy. In order to avoid any potential conflict with other militaries, China's PKO contributions consist of only logistic support. If Japan were to deploy hospital ships, this may entice China to do the same and combined the two countries will significantly enhance the disaster response capabilities of the region. Co-deployments of hospital ships would be a momentous step towards increased confidence building, far exceeding the current level of officer exchange programs. Additionally, greater acceptance would be reached once the ships were employed in disaster response operations, and their neutral operating procedures were validated. Hospital ships could prove to be the instrument to open a new engagement opportunity and closer, less threatening relationship with China.

(3) Australia

In addition to the reasons stated above, there is another aspect in which hospital ships may affect Japan-Australian relations. Depending on what type of hospital ship Japan procures, there could be direct economic and burden-/role-sharing implications for both countries. Australia operates several High Speed Vessels (HSVs) produced by Incat Corporation and the U.S. has used this platform for the basis of its HSV development. Since they are highly configurable, they are an extremely flexible platform and can be outfitted for medical support/maritime lift should the need arise. Japan-Australian relations could receive an extra boost if Japan followed the U.S. lead and chose to purchase, lease or co-produce HSVs. In this light, hospital ships would provide a new business opportunity and further support Japanese-Australian trade.

Additionally, Australia would receive collateral benefits from Japanese procurement of hospital ships. Due to its geographic location, Australia is not as prone to natural disasters and subsequently, there are no hospital ships in the Australian military inventory, nor is there a domestic need for them. The immediate area surrounding Australia, however, is not so blessed and Australian security is directly tied to the stability of its neighbors. Like Japan, the Indonesia/Southeast Asia region is tormented by natural disasters but does not have the means to develop an encompassing disaster relief plan. Australia is constantly providing assistance to this region, making due with its current inventory, despite how ill-suited they may be to perform this humanitarian mission. Not only will the addition of hospital ships strengthen the capabilities of the US-Japan Alliance (and therefore the

⁸⁴ "Type 920 Hospital Ship," updated on March 10, 2008, available from <http://www.sinodefence.com/navy/support/type920.asp>, accessed April 20, 2008.

⁸⁵ While there have not been bilateral exercises with the United States, bilateral exercises with Russia may have taken place.

US-Japan-Australian relationship) but they will also allow Japan to play a more significant PKO role in the region, and consequently reduce the burden on Australia. Australia, which twenty years ago saw itself as a minor player on the world stage, is increasingly asserting itself in the Pacific region. Canberra is playing a strong role in establishing and maintaining regional security, and Australian troops are currently deployed in peacekeeping, peacemaking, and reconstruction missions from Iraq and Afghanistan to East Timor and the Solomon Islands. However, not everyone welcomes Australia's new muscularity. Furthermore, Australia's military is now sending personnel on their 4th and 5th rotations to Iraq and Afghanistan. Any effort that will offset Australian involvement in the region would be greatly accepted.

(4) Southeast Asia

As witnessed by the devastation from the Indian Ocean earthquake/tsunami and Myanmar typhoon, Southeast Asia does not have the resources or capacity to handle a large-scale disaster. The region is dependent upon international support for its lifeline. Even though Japan is already the largest provider of Official Developmental Assistance (ODA) to Southeast Asia, some countries continue to ask for more. Japan has participated in the ASEAN Regional Forum and expressed that it would like to contribute to the security of the region but has remained aloof from committing to an alliance or collective security. Through the use of hospital ships, Japan can demonstrate a greater commitment to the region without the fear of becoming entangled in a military-focused relationship or cooperative security arrangement. Hospital ships will enhance security in the region by providing a standing reactionary force for disaster response. Since there are no such assets currently available, Japan could demonstrate its leadership in this area and pave a path for others to follow. Just as the case with China, hospital ships will provide a non-confrontational opportunity/means for increased joint exercises while providing medical support to areas in need.

Conclusion

Given Japan's disposition and the prominence of natural disasters within the region, it only makes sense to utilize all assets for the defense of Japan. While the mission of the SDF has gradually transitioned to include disaster relief roles, its procurement remains focused on traditional hard power capability and has not adequately addressed disaster relief requirements. Japan's disaster relief requirements should be prioritized on domestic, regional and global needs, in that order. Looking at the lessons learned/shortfalls from disaster response efforts within the last 15 years, it is clear that medical support, coordinated command and control, and large-scale transport/evacuation capabilities must be enhanced. Additionally, increased interagency coordination must be emphasized throughout all disaster relief planning, especially the integration of the SDF as a primary responder. Hospital ships are critical platforms that may be the solution to resolve Japan's disaster relief shortfalls.

It appears that most government officials as well as the SDF leadership believe the actions they have taken in preparation for large-scale disaster response are sufficient. Their decentralized approach has produced inconsistent levels of preparedness throughout Japan, further complicating coordination. Additionally, most disaster relief plans seem to tempt fate with the belief they can somehow control or predict the impending disaster. For example, Hyogo-ken's plan for creating "earthquake-proof" hospitals is similar to creating an unsinkable ship. However, as the Titanic proved, even the

best made plans have flaws that, when overlooked, can produce catastrophic results.

If Japan were to set aside its bureaucratic predisposition to focus on the protection of individual agency jurisdictions, cost and authority, and instead analyze its unique requirements for disaster response, it would be evident that it needs to do more. Further analysis would reveal that hospital ships would provide an entirely new capability in its defense against Japan's most realistic threat: natural disasters. Japan possesses all of the technology and facilities required to produce hospital ships and needs only the will to commit to their production. To let political justification prevail over the procurement of vital defense requirements is irresponsible. If the need exists, the Japanese government and SDF must figure out a way to work out the cost and interagency issues. Hospital ships will provide an entirely new capability to address Japan's distinct domestic disaster response requirements.

Once Japan's domestic needs are satisfied, Japan would be able to employ hospital ships throughout the region and even globally if it so desired. Through the use of hospital ships, Japan would have the opportunity to step out from the obscurity of the United States and take the leadership role in a new mission area that is consistent with its Peace Constitution ideals and vital to the region's security. Japanese hospital ships would be a tremendous addition to the overall US-Japan Alliance, serving as a significant confidence-building asset. This new soft power capability would balance the traditional hard power focus of the U.S. and give the alliance a more complete range of options to deal with potential adversaries.

When considering the benefits and security hospital ships can provide for Japan and the immense suffering and damage associated with large-scale disasters, it seems foolhardy not to develop such capability. For the cost of one Aegis destroyer or two C-17 aircraft, Japan could obtain a squadron of hospital ships (convert two large-tanker/OOSUMI size ships and procure four HSV-size hospital ships). This would provide coverage throughout Japan and allow ships to deploy outside of Japan's waters in support of PKOs, non-governmental organizations or even routine medical care to areas in need. Just as network-centric warfare was believed to be the transformational medium for the U.S. military, hospital ships could easily prove to be the transformational platform for the SDF and Japan. Understanding that hospital ships would provide enhanced security throughout Japan and neighboring regions, supplement hospital/medical shortfalls, serve as a medium to facilitate joint-SDF operations and improved interagency coordination, provide new methods of engagement with China and North Korea, strengthen the U.S.-Japan Alliance, and promote Japan as a world leader in humanitarian assistance, the GoJ must take the initiative to make hospital ships a reality for Japan before the next disaster strikes.⁸⁶

⁸⁶ During the week this paper was submitted, two large-scale disasters struck throughout the world, the Myanmar Cyclone with casualties estimated over 100,000 and the Chiaten volcano eruption which forced the evacuation of several towns. Additionally, three earthquakes with a magnitude of over 6 on the Richter scale were experienced in Japan.