

Red Crosses, Blue Water

Hospital Ships and China's Expanding Naval Presence

Peter W. Mackenzie

CNA CHINA  STUDIES



CRM D0025784.A1/Final
September 2011

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE SEP 2011		2. REPORT TYPE		3. DATES COVERED 00-00-2011 to 00-00-2011	
4. TITLE AND SUBTITLE Red Crosses, Blue Water: Hospital Ships and China's Expanding Naval Presence				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) CNA Analysis & Solutions, China Studies, 4825 Mark Center Drive, Alexandria, VA, 22311				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

CNA is a non-profit research and analysis organization comprised of the Center for Naval Analyses (a federally funded research and development center) and the Institute for Public Research.

The CNA China Studies division provides its sponsors, and the public, analyses of China's emerging role in the international order, China's impact in the Asia-Pacific region, important issues in US-China relations, and insights into critical developments within China itself.

Whether focused on Chinese defense and security issues, Beijing's foreign policies, bilateral relations, political developments, economic affairs, or social change, our analysts adhere to the same spirit of non-partisanship, objectivity, and empiricism that is the hallmark of CNA research.

Our program is built upon a foundation of analytic products and hosted events. Our publications take many forms: research monographs, short papers, and briefings, as well as edited book-length studies. Our events include major conferences, guest speakers, seminars, and workshops. All of our products and programs are aimed at providing the insights and context necessary for developing sound plans and policies and for making informed judgments about China.

CNA China Studies enjoys relationships with a wide network of subject matter experts from universities, government, and the private sector, both in the United States and overseas. We particularly value our extensive relationships with counterpart organizations throughout "Greater China", other points across Asia, and beyond.

Dr. Albert S. Willner, Director of the China Security Affairs Group, is available at 703-824-2883 and by email at willner@cna.org. Our Program Coordinator is Ms. Tamara Hemphill, who can be reached at 703-824-2106 and by email at hemphill@cna.org.

Approved for distribution:

September 2011



Albert S. Willner, Ph.D.
Director
China Security Affairs Group
CNA China Studies

This document represents the best opinion of CNA at the time of issue.
It does not necessarily represent the opinion of the Department of the Navy.

Distribution unlimited. Specific authority: N00014-11-D-0323.

Copies of this document can be obtained through the CNA Document Control and Distribution Section at 703-824-2123.

Copyright © 2011 CNA

This work was created in the performance of Federal Government Contract Number N00014-11-D-0323. Any copyright in this work is subject to the Government's Unlimited Rights license as defined in DFARS 252.227-7013 and/or DFARS 252.227-7014. The reproduction of this work for commercial purposes is strictly prohibited. Nongovernmental users may copy and distribute this document in any medium, either commercially or noncommercially, provided that this copyright notice is reproduced in all copies. Nongovernmental users may not use technical measures to obstruct or control the reading or further copying of the copies they make or distribute. Nongovernmental users may not accept compensation of any manner in exchange for copies. All other rights reserved.

Red Crosses, Blue Water: Hospital Ships and China's Expanding Naval Presence

Introduction

On the morning of October 13, 2010, a gleaming white ship emblazoned with red crosses sailed into Mombasa, Kenya's largest and busiest seaport. As the 25,760-ton Chinese hospital ship "Peace Ark" neared shore, the ship's crew appeared on deck, standing at attention in their dress whites as a Chinese navy band played. Along the waterfront, an enthusiastic crowd of hundreds of Kenyans and Chinese expatriates burst into cheers and waved the flags of both countries.¹ Many Kenyans had rushed to the port upon hearing that the Chinese ship would provide free medical care. In the days that followed, according to one of the ship's doctors, about 1,000 of them would queue overnight for the chance to be treated.²

Chinese ambassador Liu Guangyuan declared the visit a long-overdue act of reciprocity: In the 15th century, the King of Malindi (120 kilometers up the Swahili coast from Mombasa) had presented a giraffe to legendary Chinese admiral Zheng He during his historic voyage to East Africa and the Middle East. "My wish," Liu wrote in an op-ed in Kenya's *Daily Nation*, "is that the Peace Ark becomes a window into the heart of China for Kenyans. The visit is, no doubt, a statement of the true friendship the Chinese people share with the people of Kenya."³

Kenya was one of four African countries that the ship visited in the course of Harmonious Mission 2010, the largest single exercise of naval medical diplomacy in the history of the Chinese People's Liberation Army (PLA). In Kenya alone, the ship's crew treated nearly 2,700 patients over the course of five days, and performed 16 major operations.⁴ They also provided training for Kenyan health care providers and donated supplies to local hospitals.⁵ The visit was very well received; in a page of letters about the "Peace Ark" to the Nairobi-based *Standard*, the only complaint registered was that the medications dispensed by ship doctors were labeled only in Chinese, not English.⁶

At the time of its African voyage, the "Peace Ark" had been in service with the PLA Navy (PLAN) for about two years, but its deployment was the culmination of more than three decades of evolution in China's naval medical logistics. This process began in a different China, one for which global maritime power was not yet a major consideration.

¹ Philip Mwakio, "World's Largest Naval Hospital Floats into Mombasa with Goodies," *The Standard (Kenya)*, 15 October 2010; Joy Nabukewa, "Jubilations as Chinese Medical Ship Docks at Kenyan Port," *Xinhua*, 13 October 2010. The official name of the ship is Y866 *Daishandao*, but it is most commonly referred to in Chinese and foreign publications as the "Peace Ark." This paper adopts this informal appellation.

² Li Xiaokun, "Chinese Hospital Ship Back After Treating Thousands," *China Daily*, 27 November 2010.

³ Liu Guangyuan, "From Giraffe the Diplomat to 'Peace Ark,'" *Daily Nation (Kenya)*, 19 October 2010.

⁴ Ju Zhenhua and Wang Lingshuo, "PLA Navy 'Peace Ark' Hospital Ship Leaves Kenya," *PLA Daily*, 19 October 2010.

⁵ Mwakio, "World's Largest Naval Hospital."

⁶ "State Must Emulate 'Peace Ark' Example," *The Standard (Kenya)*, 18 October 2010.

This paper traces the development of China's hospital ships since the 1970s, culminating with the missions of China's premier hospital ship, the "Peace Ark." (See appendix A for a comparison of these ships.) It then explores the ways in which Chinese hospital ships are being used, and how they might be deployed in the future. Finally, it addresses the implications of China's use of hospital ships for the country's expanding maritime hard and soft power.⁷ In order to complete these tasks, the study draws heavily on Chinese open-source media, including military affairs journals and newspapers.

The Nan Kang hospital ships: Starting small

Chinese military affairs journals indicate that the PLAN's development of hospital ships began at the end of the Maoist era, in the wake of a little-remembered 1974 naval skirmish over the Paracels, an archipelago of tiny islands located in the South China Sea, to the south of China's Hainan Island and the east of Vietnam's port of Danang.⁸ A sovereignty dispute over these islands between the PRC and Vietnam erupted into violence when the Vietnamese navy sought to expel PLAN forces from the area. After a day of fighting in which both sides suffered casualties, the Vietnamese withdrew.⁹

The battle for the Paracels was the farthest combat operation from mainland China the PLAN had ever carried out, and according to an article in the Chinese journal *Modern Weaponry*, it provided a stark lesson to PLAN commanders on the difficulties of treating

What is a hospital ship?

Not all naval vessels providing at-sea medical services are "hospital ships" as defined by international law. At present, only the U.S., Chinese, and Russian navies possess internationally protected seagoing hospital ships.

The Second Geneva Convention (1949) guarantees that hospital ships and their medical personnel may not be attacked or captured under any circumstances while performing their duties. To enjoy this protection, ships must:

- be painted white, with large red crosses on each side of their hulls;
- notify all parties to a conflict of their names and descriptions at least 10 days before they are deployed;
- provide relief and assistance to all wounded, sick, or shipwrecked personnel regardless of nationality; and,
- not be used for any military purpose for the duration of hostilities, even if they cease to be used as hospital ships.

⁷ "Soft power," as defined by Harvard University's Joseph Nye (who coined the term), is "the ability to get what you want through attraction rather than coercion or payments. It arises from the attractiveness of a country's culture, political ideals, and policies." See Joseph S. Nye, *Soft Power: The Means to Success in World Politics* (Cambridge, MA: Public Affairs, 2004), page x.

⁸ The Chinese refer to these islands as the Xisha Islands.

⁹ Bruce A. Elleman, "China's 1974 Naval Expedition to the Paracel Islands," in *Naval Power and Expeditionary Wars* (Oxford, UK: Routledge, 2011). China has never provided a reliable account of the number of Chinese casualties in this skirmish.

injuries in such a remote location.¹⁰ An article in the Chinese journal *Shipborne Weapons* recounts that while the PLAN fought to control the Paracels, it had no ships available to rescue, rapidly treat, and evacuate wounded sailors—a shortcoming that led to unnecessary fatalities.¹¹ Injured personnel could be removed only by PLAN speedboats and requisitioned fishing vessels. It took at least 48 hours for many of them to receive proper care. A number of Chinese sailors wounded in the Paracels died of infection.¹²

According to the Chinese journal *Modern Ships*, the casualties suffered in the Paracels skirmish drew the attention of Chinese military leaders, who “came to recognize that in South Sea operations involving faraway territorial bases, hospital ships are absolutely indispensable.”¹³ *Shipborne Weapons* reports that within the PLAN and the Central Military Commission (CMC), the possibility of developing hospital ships became a frequent topic of discussion. As a result, in the mid-70s the PLAN commissioned a broad study of other countries’ logistical support and hospital ships.¹⁴ Chinese military analysts concluded that hospital ships significantly reduced casualties in naval conflicts, especially when lives depended on immediate treatment.¹⁵

In 1976, the PLAN’s South Sea Fleet and Medical Logistics Department formally proposed to the CMC that hospital ships be built.¹⁶ The following year, at the PLAN’s Special Conference on Warship Work, the proposal was approved.¹⁷ Rather than designing an entirely new hospital ship (an expensive and time-consuming process not attempted by China until nearly 30 years later), naval officers surveyed the structural, technical, and mobility capabilities of a number of ships already under production as possible candidates for refitting.¹⁸ They ultimately settled upon the *Qiongsha* class of personnel transport ships as a foundation for the *Nan Kang* class, China’s first-generation hospital ships.¹⁹

¹⁰ Qu Zhaowei, “Medical Ships: China’s Maritime Platforms for Displaying Soft Power” (*yiliaochuan: zhongguo shizhan ruan shili de haishang pingtai*; 医疗船: 中国施展软实力的海上平台), *Modern Weaponry* 3 (2009). This journal is affiliated with the Number 210 Research Institute of China North Industries Group (NORINCO), a major weapons manufacturer.

¹¹ Chen Guangwen, “Floating Ship of Life: the Chinese Navy’s Hospital Ship” (*fudong de shengming zhi zhou: zhongguo haijun de yiyuanchuan*; 浮动的生命之舟: 中国海军的医院船), *Shipborne Weapons* 4, (2010). This journal is published by the Zhengzhou Institute of Electrical Engineering, a key research and development center for Chinese naval weaponry and equipment, affiliated with the China Shipbuilding Industry Corporation.

¹² Qu Zhaowei, “Medical Ships.”

¹³ Mai Tian, “Thoughts on New-Type Hospital Ships” (*xinxing yiyuanchuan suixiang*; 新型医院船随想), *Modern Ships* 10 (2007). This journal is affiliated with the China Shipbuilding Industry Corporation.

¹⁴ Chen Guangwen, “Floating Ship of Life.”

¹⁵ *Ibid.*; Mai Tian, “Thoughts on New-Type Hospital Ships.”

¹⁶ Qu Zhaowei, “Medical Ships.”

¹⁷ Chen Guangwen, “Floating Ship of Life.”

¹⁸ *Ibid.*

¹⁹ Mai Tian, “Thoughts on New-Type Hospital Ships”; Qu Zhaowei, “Medical Ships.”

Two hospital ships, Y832 *Nan Kang* and Y833 *Bei Kang*, were produced this way.²⁰ Their hulls were painted white with red crosses, and they were equipped with a range of medical facilities, including triage stations, operating rooms, facilities for treating shock and infection, and beds for 100 patients. One recent Chinese article indicates that the *Qiongsha* class's four 14.5-millimeter guns were retained on the new hospital ships.²¹

These two hospital ships joined the rest of the *Qiongsha*-class ships in China's South Sea Fleet in 1991. Their primary missions were to provide medical services to PLA personnel stationed on remote islands in the South China Sea, and to supply combat rescue, treatment, and evacuation services in the event of a renewed island conflict. At that time, PLAN commanders recognized that "since the potential scope of island conflicts and island landing operations in the South China Sea was not large, two *Nan Kang* ships would be sufficient to deal with them."²²

While the *Nan Kang* hospital ships were being developed, the PLAN also formed a specialized maritime medical team, made up of personnel drawn from the 421 Naval Hospital in Guangzhou.²³ Notably, this team included the PLAN's first contingent of female troops (all medical personnel) to serve on long-term shipboard deployments.²⁴

Nan Kang-class hospital ships



Y832 *Nan Yi 09*

(Photo: Sinodefence.com)

Full load displacement: 2,409 tons
Dimensions: 282 ft x 44 ft x 13 ft
Top speed: 16 knots
Fleet: South Sea Fleet
Patient beds: 100
Crew: 59
Helicopter landing capacity: None
Range: 3,000 nautical miles
Launched: 1981
Commissioned: 1991 (as hospital ships)
Builder: Guangzhou Shipyard International Company

(Sources: *Jane's Fighting Ships*; Qu Zhaowei; Mai Tian; Chen Guangwen)

²⁰ Commodore Stephen Saunders, RN, ed., *Jane's Fighting Ships 2011-2012* (Surrey, UK: IHS Jane's, 2011), 163.

²¹ Mai Tian, "Thoughts on New-Type Hospital Ships." If true, this would be an unusual amount of firepower for a hospital ship, and might disqualify the ships from the Geneva Convention's wartime protections. Article 34 of the Convention prohibits hospital ships from "commit[ing], outside their humanitarian duties, acts harmful to the enemy." Article 35 of the Convention allows only for hospital ships' crews to carry side arms for their own self-defense, and for ships to store arms and ammunition carried onboard by patients. These two articles have traditionally been interpreted to mean that the ships themselves must be completely unarmed. See Richard J. Grunwald, "Hospital Ships in the War on Terror: Sanctuaries or Targets?" *Naval War College Review* (Winter 2005): 101-102.

²² Mai Tian, "Thoughts on New-Type Hospital Ships."

²³ Deng Linfeng and Zhao Xuefeng, "Exploring the Secrets of Our Military's Only 'Hospital At Sea'" (*tanmi wojun weiyi de 'haishang yiyuan'*; 探秘我军唯一的'海上医院'), *Global Military* 24 (2005);

According to Chinese military affairs journals, though the development of the *Nan Kang*-class hospital ships filled a prominent hole in the PLAN's maritime logistical capacities, these ships have certain limitations and deficiencies that make them less than ideal for a greater expeditionary role:²⁵

- **Range.** *Nan Kang* ships have a relatively short range of 3,000 nautical miles and the ability to operate self-sufficiently for 12 days and nights, making them unsuitable to support missions beyond their normal area of operations in the South China Sea.²⁶
- **Space.** These ships pack a great deal of medical equipment into a relatively small space, so interior areas are cramped, hallways are narrow, medical units are scattered, and cabins are tiny.²⁷ These space constraints can create miserable living conditions for crew members, especially on long voyages. Judging by one article in a PLA journal, friction among crew members is common, and the close quarters are conducive to the spread of communicable illnesses.²⁸
- **Stability.** These low-tonnage ships are highly vulnerable to rough seas. In difficult weather, one journal article reports, they can rock by as much as 30 degrees.²⁹ When there is a high degree of instability on a hospital ship, even a minor procedure such as drawing blood can become a challenge requiring several medical workers to complete safely.³⁰ In the operating room of a *Nan Kang* ship, doctors and nurses have to be seated and strapped-in throughout operations, and all equipment has to be firmly fastened to the deck. Additionally, interviews with crew members on *Nan Yi 09* (formerly Y832 *Nan Kang*) show that the rocking causes much of the crew to be in a constant state of sea-sickness.³¹

“The Ship of Life Rocking on the Deep Sea” (*zhongguo weiyi yisou hong shiizi yiliao jiuhu chuan: ‘nan yi 09’: bodong zai shenhai shang de shengming zhi zhou*; 中国唯一一艘红十字医疗船: ‘南医 09’: 搏动在深海上生命之舟), *March Wind* 8 (2009). *Global Military* is a journal affiliated with the *PLA Daily*, China’s main military newspaper. *March Wind* is published by the China Welfare Fund for the Disabled, which was established by Deng Pufeng, the paraplegic son of late Chinese leader Deng Xiaoping.

²⁴ Chen Guangwen, “Floating Ship of Life.”

²⁵ Qu Zhaowei, “Medical Ships.”

²⁶ Chen Guangwen, “Floating Ship of Life.”

²⁷ Liu Xianghong, Xu Li, Chao Wei, Liu Wenbao, Ye Chunlin, and Qin Shixin, “Considerations on The Refitting of Hospital Ships” (*guanyu yiyuanchuan gaizhuang de sikao*; 关于医院船改装的思考), *China Medical Equipment* (April 2008). This journal is affiliated with the People’s Armed Police Hospital in Shanghai and the Number Two University of Military Medicine.

²⁸ Deng and Zhao, “Exploring the Secrets.” This article quotes one female sailor on *Nan Yi 09* as saying, “It’s as crowded as fish in a fishpond; day in and day out you are face to face with the same group of people, and you get so tired of looking at each other.”

²⁹ Mai Tian, “Thoughts on New-Type Hospital Ships.”

³⁰ Deng and Zhao, “Exploring the Secrets.”

³¹ One Chinese article notes that this is a particular problem during surgery, when the medical team “is often simultaneously vomiting and performing operations on injured and sick people.” The issue is so acute that the *Nan Yi 09* crew has had to design special surgical masks with tubes connected to vomit-collecting receptacles on their belts so that operations can continue uninterrupted. See “The Ship of Life Rocking on the Deep Sea.”

- **Transfer of patients.** Since these ships are too small for a helipad, it is necessary to use other methods, such as hanging baskets, cranes, and cableways, to transfer patients to the hospital ship from another ship or a smaller rescue boat.³² The ships' low tonnage and tendency to rock make these transfers extremely difficult and potentially life-threatening in all but the most tranquil conditions. In some cases, it has taken hours to execute the transfer of patients, with a high risk of dropping them into the water. There is also a considerable potential for collision; *Nan Yi 09* has been damaged multiple times when its booms and beacons have been rammed by other ships' gunwales.³³

Chinese naval specialist Chen Guangwen has suggested that due to these limitations, the *Nan Kang* ships should not be considered “hospital ships,” but rather “medical transport ships.” He argues that most modern hospital ships are “floating hospitals that possess the medical facilities and personnel of a departmentalized hospital...with a relatively high tonnage, normally more than 8,000 tons, and more than 500 beds.” The *Nan Kang* ships, on the other hand, are “primarily used to evacuate the injured while performing some first aid during evacuation, and basically lack the ability to carry out relatively major surgeries.”³⁴

Recent Chinese articles on the *Nan Kang*-class ships indicate that only Y832 *Nan Kang*, which was renamed *Nan Yi 09* in 1999, was still in service as of 2010.³⁵ Between 1991 and 2005, *Nan Yi 09* set out to sea about 60 times, mostly to treat soldiers stationed in the Spratly and Paracel island chains. In that period, it covered about 48,000 nautical miles and treated more than 5,000 patients.³⁶ The ship also provided rescue services for local villagers and fishermen, responding to emergencies such as typhoons and explosions on civilian boats.³⁷ *Nan Yi 09* has remained active; it conducted exercises in the South China Sea every year between 2006 and 2010, mostly focusing on transferring wounded sailors from various other types of ship and evacuating them to mainland China.³⁸

Shichang: A “transformer at sea”

In 1982, five years after China formally launched its hospital ships project, war broke out between the United Kingdom and Argentina over the Falklands Islands. In the years since, according to one American PLAN specialist, this war has been the subject of intense

³² Mai Tian, “Thoughts on New-Type Hospital Ships.”

³³ “The Ship of Life Rocking on the Deep Sea”; Deng and Zhao, “Exploring the Secrets.”

³⁴ Chen Guangwen, “Floating Ship of Life.”

³⁵ *Renmin Haijun*, 1 November 2003; Qu Zhaowei, “Medical Ships”; Deng and Zhao, “Exploring the Secrets.” *Renmin Haijun* (People’s Navy) is the main newspaper published by the PLA Navy.

³⁶ Deng and Zhao, “Exploring the Secrets.”

³⁷ “The Ship of Life Rocking on the Deep Sea.”

³⁸ “Flotilla Commander Wang Gives Stern Order To Transfer Wounded Personnel—‘Nanyi 09’ Hospital Ship of A Certain Support Ship Flotilla of the South Sea Fleet Conducting Maritime Medical Service Drill,” *Renmin Haijun*, 15 September 2010; Han Zhenguo, Li Gencheng, and Rao Yanwen, “Hospital Ship ‘Nan Yi 09’ Tempers Emergency Medical Support Capabilities,” *Renmin Haijun*, 7 July 2009; Yang Tiehu, “The South Sea Fleet’s Hospital Ship Achieves for the First Time the Capability to Conduct Cross-Sea Rescue of Various Vessel Types,” *People’s Daily – Huadong News*, 27 July 2006.

study by the Chinese military as a possible analog of future maritime conflicts in which China might engage.³⁹

One aspect of the Falklands War that particularly impressed Chinese observers was Britain's rapid mobilization and refitting of civilian ships for naval use. A prime example was the conversion of the civilian cruise ship S.S. *Uganda*, in a matter of days, into a hospital ship complete with helipad and 83 naval medical personnel.⁴⁰ Another key ship taken up from trade during the Falklands War was RFA *Argus*, a civilian freight, roll-on/roll-off ferry and container ship that the Royal Navy refitted to carry helicopters and Harrier vertical/short-takeoff-and-landing planes. After the Falklands War, *Argus* was modified and equipped with a "snap-in" hospital module, and now serves as the Royal Navy's primary medical ship.⁴¹

The "excellent performance" of ships such as *Uganda* and *Argus* inspired great enthusiasm within the PLAN for the idea of mobilizing and refitting Chinese civilian ships during wartime.⁴² Chinese military publications have pointed out that forming a "highly-efficient wartime transportation fleet composed of civilian ships" is much more cost-effective than building a large number of ships, and could compensate for the PLAN's severely limited transport and supply-chain capabilities. A number of Chinese naval scholars believe that organizing rapid and effective participation by civilian ships could be a key guarantor of victory in naval conflicts.⁴³

In 1996, as a direct result of this line of thinking, the PLAN cooperated with China's State Planning Commission to create the modularized multipurpose ship *Shichang*.⁴⁴ Some observers have noted that *Shichang* resembles a smaller version of *Argus*.⁴⁵ Like *Argus*, *Shichang* was originally built as a roll-on/roll-off civilian cargo ship.⁴⁶

³⁹ Lyle Goldstein, "China's Falklands Lessons," *Survival: Global Politics and Strategy* 50, no. 3 (June-July 2008).

⁴⁰ Lawrence Freedman, *The Official History of the Falklands Campaign, Vol. 2: War and Diplomacy* (London: Routledge, 2005), 54; Mai Tian, "Thoughts on New-Type Hospital Ships."

⁴¹ Richard Scott, "UK to Develop System Requirement for Casualty-Ship Capability," *Jane's Defence Weekly*, 27 August 2003.

⁴² Qu Zhaowei, "Medical Ships"; Jia Yeliang and Guo Yike, "A Para-Naval Force from Among the People: Civilian Ships," *Modern Navy* (1 February 2004): 46-47; "CCTV-7 'Defense Review Week' 5 Aug 06 Discusses Offshore Medical Rescue Operation," *Beijing CCTV-7*, 5 August 2006. *Modern Navy* is published by the PLA Navy Political Department.

⁴³ Jia Yeliang and Guo Yike, "A Para-Naval Force"; Yu Xiaomei, "To Defend the Republic's Territorial Waters, the Navy Conducts the First Comprehensive National Defense Mobilization Exercise at Sea," *PLA Daily*, 8 November 2000, p. 10.

⁴⁴ "China's Multi-Role Ship Makes Maiden Voyage," *Jane's Defence Weekly*, 18 December 1996. *Shichang* is currently the only Chinese ship of this class.

⁴⁵ "Air-Capable Training Ship Charts New Waters for PLA(N)," *Jane's Navy International*, 1 July 2008; Andrew S. Erickson and Andrew R. Wilson, "China's Aircraft Carrier Dilemma," *Naval War College Review* (Autumn 2006): 30.

⁴⁶ Eric Wertheim, *The Naval Institute Guide to Combat Fleets of the World* (Annapolis, MD: Naval Institute Press, 2007), 135.

Among its uses, *Shichang* can be made into a medical ship by adding a snap-in hospital module made of international-standard shipping containers.⁴⁷ Adding this module equips the ship with full diagnostic and surgical facilities.⁴⁸

The PLAN has designated *Shichang* as a “national defense mobilization ship.”⁴⁹ It is viewed within China as a model for the rapid conversion of civilian ships for naval logistical support “if war breaks out suddenly.”⁵⁰ One military reporter dubbed *Shichang* the PLAN’s “transformer at sea.”⁵¹

The ship is an upgrade from the *Nan Kang*-class hospital ships: it has more space, a longer range, and greater stability. Perhaps most important, its deck is large enough to accommodate helipads for two Zhi-9A *Haitun* helicopters, significantly easing the transfer of patients.⁵²

Despite these advantages, in the 15 years since its commissioning, *Shichang* does not appear to have been actively engaged in providing medical support to PLAN forces, and it does not appear to have replaced any of the functions of the *Nan Kang*-class ships. It is now berthed in northern China, serving alongside the navigation training ship *Zheng He* under the Dalian Naval Vessels Academy. The academy uses *Shichang* for training in navigation, helicopters, medical rescue, and national defense mobilization. The Chinese journal *Modern Navy* notes that most PLAN command and technical officers took their first sea voyage on either *Shichang* or *Zheng*

Shichang
National defense mobilization ship



Y82 *Shichang*

(Photo: SinoDefence.com)

- Full load displacement:** 11,200 tons
- Dimensions:** 394 ft x 59 ft x 23 ft
- Top speed:** 17.5 knots
- Fleet:** North Sea Fleet
- Patient beds:** Dependent on size of medical module
- Crew:** 370, including 200 trainees
- Helicopter landing capacity:** Two Zhi-9A *Haitun*
- Range:** 8,000 nautical miles
- Launched:** 1996
- Commissioned:** 1997
- Builder:** Qiuxin Shipyard, Shanghai

(Source: *Jane’s Fighting Ships*)

⁴⁷ Mai Tian, “Thoughts on New-Type Hospital Ships.”

⁴⁸ Wertheim, *Naval Institute Guide*, 135.

⁴⁹ Saunders, *Jane’s Fighting Ships 2011-2012*, 162.

⁵⁰ Cao Jinping and Guo Yi, “A Visit to the Chinese Navy’s National Defense Mobilization Ship,” *People’s Daily*, 28 April 2003, p. 10; Chen Guangwen, “Floating Ship of Life.”

⁵¹ Erickson and Wilson, “China’s Aircraft Carrier Dilemma,” 30; Wu Tianmin, “Going Aboard a Mobile University at Sea—The People’s Navy’s First Training Ship Unit,” *PLA Daily*, 22 May 2007. “Transformer” (变形金刚; *bianxing jingang*) is the same Chinese phrase used for “The Transformers” toys and movies.

⁵² Saunders, *Jane’s Fighting Ships 2011-2012*, 165.

He.⁵³ In 1998, *Shichang* was deployed (without its medical module) on a naval diplomacy mission to Australia, New Zealand, and the Philippines.⁵⁴

In recent years, *Shichang* has been used in medical exercises, most recently in the July 2011 Call of Sea Frontier naval first-aid training exercise near Dalian.⁵⁵ In July 2006, *Shichang* took part in a major medical exercise in the Yellow and Bohai seas, during which it was staffed by a “militia maritime medical aid team” composed of 50 medical workers from Dalian. The exercise simulated wartime medical aid operations such as transferring and providing first aid to wounded soldiers and rescuing personnel who had fallen into the sea. The *PLA Daily* described the exercise as an indication that “China has built an improved coast-sea-air three-dimensional army-civilian medical aid system.”⁵⁶

Judging from Chinese sources, it does not appear that *Shichang* has been deployed in any actual maritime medical emergencies. However, in 1998 its medical module (removed from the ship itself) served as a field hospital and provided anti-epidemic support for frontline flood relief efforts on the Nen River in northeast China.⁵⁷

Like RFA *Argus*, *Shichang*, with its medical module, does not follow the specifications of the Second Geneva Convention (such as the standard white hull and red crosses). Therefore, it would be unlikely to enjoy the wartime protections afforded to standard hospital ships.

The Asian tsunami: A lost “soft power” opportunity

On December 24, 2004, shortly after he became the Chairman of China’s Central Military Commission, President Hu Jintao enunciated a new series of “historic missions” for the Chinese military. These missions broadened the Chinese military’s understanding of national security into non-traditional areas, as reflected in China’s post-2004 defense white papers.⁵⁸ The missions also realigned the PLA’s priorities with those of a new set of leaders who recognized China’s growing engagement in world affairs. One of the new missions was to “play an important role in upholding world peace and promoting mutual development.” This was understood by Chinese and foreign defense analysts to imply,

⁵³ Zhang Wei, “‘Zheng He’ Ship and ‘Shichang Ship’—Chinese Navy’s ‘Offshore University,’” *Modern Navy*, 1 July 2005.

⁵⁴ “Air-Capable Training Ship.”

⁵⁵ “PLA Navy Concludes Cross-Region Medical First Aid Exercise Near Dalian City,” *CCTV-7 Military Report*, 30 July 2011.

⁵⁶ Wu Dengfeng and Huang Caihong, “Militia Debut Trans-Waters Medical Aid Exercise,” *PLA Daily*, 14 July 2006.

⁵⁷ Chen Fan, “China’s Only Defense Mobilization Ship *Shichang* Celebrates Its 10th Birthday,” *People’s Daily*, 29 December 2006; Cao and Guo, “A Visit.”

⁵⁸ China’s 2006 defense white paper included mentions of issues such as energy security, international finance, cyber-security, natural disasters, and communicable epidemics. None of these issues had been mentioned in the previous (2002) white paper. See Information Office of the State Council, *China’s National Defense in 2002* (December 2002) and Information Office of the State Council, *China’s National Defense in 2006* (December 2006).

among other things, a greater responsibility to respond to international crises such as natural disasters.⁵⁹

Two days after China introduced the new “historic missions,” the Indian Ocean was hit by a powerful earthquake. This caused a tsunami that resulted in the deaths of hundreds of thousands of people in a dozen countries and left countless others displaced and in distress. In the months that followed, the U.S. Navy contributed ships to a massive multinational humanitarian assistance and disaster relief (HA/DR) operation, including the USS *Abraham Lincoln* aircraft carrier group and the hospital ship USNS *Mercy*.⁶⁰

China sent only a few medical teams to assist in the relief effort, and deployed none of its naval assets. Ultimately, Beijing drew criticism for its slow and underwhelming response.⁶¹ Among the critics was former Singaporean prime minister Lee Kuan Yew, who observed that “the Americans brought the most and did the most. U.S. hard power magnified its soft power.” Meanwhile, Lee pointed out, China did comparatively little and provided its medical personnel with “inadequate logistics support.” In the future, Lee predicted, “We can expect China to develop its soft-power competitiveness.”⁶² Some American commentators have speculated that China was “embarrassed” by its lack of vessels suitable for this type of HA/DR mission, which prevented it from seizing a rare opportunity to expand its international soft power.⁶³

The goodwill enjoyed by the United States as a result of Operation Unified Assistance did not go unnoticed. A 2008 essay in the influential PLA journal *China Military Science* noted:

Sending military forces to take part in international public welfare activities is an effective means of creating the image of a responsible great power and winning international esteem...[It] can also train, test, and display the trans-regional force delivery capability and the long-range command and coordination capability under the premise of complying with international morals and legal norms.⁶⁴

⁵⁹ PLA Daily Editorial Department, “On Our Military’s Historic Missions in the New Century, New Stage -- Written on the 50th Anniversary of the Founding of ‘PLA Daily,’” *PLA Daily*, 9 January 2006; Hartnett, Daniel, “China’s Military and Security Activities Abroad,” Testimony before the U.S.- China Economic and Security Review Commission, Washington, D.C., March 4, 2009.

⁶⁰ Brig. Gen. Paul E. LeFebvre, USMC, “Operation Unified Assistance,” unclassified briefing prepared for the National Defense University 2005 Pacific Symposium, 10 June 2005, available at: <http://www.ndu.edu/inss/symposia/Pacific2005/lefebvre.pdf>. Last accessed 13 August 2011.

⁶¹ Ian Storey, “Hospital Ships Can Be China’s ‘Diplomats,’” *The Straits Times*, 8 April 2009.

⁶² Lee Kuan Yew, “Competition in Compassion,” *Forbes*, 18 April 2005.

⁶³ Richard D. Fisher, Jr., “Flying the Flag—China’s Global Military Exercises,” *Jane’s Intelligence Review*, 1 November 2007; David Axe, “New Chinese Naval Ships a Window into Evolving Strategy,” *World Politics Review*, 12 November 2008.

⁶⁴ Li Zhidong, “Experience and Lessons of the US Military in Construction and Application of Soft Power,” *China Military Science*, issue 2 (2008). This journal is published by the PLA’s Academy of Military Science.

A 2009 essay in the Chinese journal *Modern Weaponry* entitled “Medical Ships: China’s Maritime Platforms for Displaying Soft Power” emphasized that HA/DR missions, including the deployment of hospital ships, provide strategic value both as legal displays of hard power and as mechanisms for building soft power:

In peacetime, medical ships can display soft power, and provide medical diplomacy services. When large-scale disasters occur, they can put humanitarian rescue to good use...when a tsunami occurred in Southeast Asia, various countries provided different types of humanitarian assistance to this region, especially the United States, which dispatched the large “Mercy” hospital ship to provide medical services to the disaster victims. But China, which was seeking to expand its own soft power in this region, could only watch as the United States reversed the negative image it had had in the Asian region since the beginning of the Iraq War, because China did not have this kind of capability...This type of one-sided wielding of soft power influence by the United States had, to some extent, a neutralizing effect on China’s good-neighbor project in the Asian region. The PLAN saw then that medical ships possessed not just hard but also soft characteristics, and this cinched its ultimate decision to build large-scale hospital ships.⁶⁵

Arrival of the “Peace Ark”

In December 2008, China’s first custom-built *Anwei*-class hospital ship sailed into Zhoushan harbor in the Yangtze River delta, officially joining the East Sea Fleet.⁶⁶

The most prominent forerunners of the “Peace Ark,” the *Nan Kang* ships and *Shichang*, were developed in direct response to adverse combat experiences (unnecessarily high casualties in the conflict over the Paracels) and inspiring foreign events (the performance of refitted British hospital ships in the Falklands War). However, there was no single event, domestic or foreign, that provided a similarly convincing impetus for the “Peace Ark.”

Some Western analysts have suggested that the development of the “Peace Ark” was motivated by China’s embarrassing absence from the Asian tsunami relief effort.⁶⁷ However, there is a lack of clear evidence in Chinese open-source media of a causal relationship between the tsunami experience and the creation of the “Peace Ark.” One 2004 newspaper article implies that the ship was already under production, and a medical

⁶⁵ Qu Zhaowei, “Medical Ships.”

⁶⁶ Cui Yan, “Uncovering the Secrets of the ‘Peace Ark’ Hospital Ship” (*Heping Fangchuan’ hao yiyuanchuan jiemi*; ‘和平方船’号医院船揭密), *China Ship Survey* 10 (2010). This journal is published by the China Classification Society.

⁶⁷ See, for example, David Axe, “How China Mimics US Soft Power,” *The Diplomat*, 9 November 2010. This article quotes U.S. undersecretary of the Navy Robert O. Work as saying, “The tsunami embarrassed [China]. The Chinese respond to embarrassments in very focused ways.”

team had been established to staff it, at least six months before the tsunami occurred.⁶⁸ Though it is possible that the ship's capabilities were modified or its planned missions adjusted in reaction to the tsunami experience, the tsunami is unlikely to have been the prime motivator behind China's decision to build a large hospital ship.

Instead, as will be discussed later in this paper, the "Peace Ark" appears to have been developed for a variety of forward-looking purposes, including national pride, support for distant-seas operations, "soft power" development, and military-to-military diplomacy.

Whatever the purpose for its development, this vessel represents a significant step forward for the PLAN's capacity to provide at-sea medical care, in several key areas.

Size. With a displacement of nearly 26,000 tons, the "Peace Ark" is more than 10 times the size of the *Nan Kang*-class ships, and more than twice as large as *Shichang*. Among the world's hospital ships, only USNS *Mercy* and *Comfort* are larger.⁶⁹ (See appendix B for a comparison of the "Peace Ark" and U.S. hospital ships.)

Construction. Chinese media reports have promoted the "Peace Ark" as "the world's first large-size custom-made hospital ship specifically intended for at-sea rescue."⁷⁰

Anwei-class hospital ship



Y866 Daishandao "Peace Ark"

(Photo: SinoDefence.com)

Full load displacement: 25,760 tons
Dimensions: 591 ft x 81 ft x 30 ft
Top speed: 19 knots
Fleet: East Sea Fleet
Patient beds: 300
Crew: 130
Helicopter landing capacity: One (or possibly two) Zhi-8 helicopters
Range: 10,000 nautical miles
Launched: 2007
Commissioned: 2008
Builder: Guangzhou Shipyard International

(Source: *Jane's Fighting Ships*)

⁶⁸ Chen Wanjun and Wu Dengfeng, "China Has Established its Military's First Maritime Hospital Ship Medical Team" (*wojun diyizhi haishang yiyuanchuan yiliao dui chengli*; 我军第一支海上医院船医疗队成立), *China Maritime News*, 25 May 2004. The article notes that the medical team would "support hospital ships that are newly-built, currently under construction, or being rebuilt" (*xinjian, zaijian huo gajian*; 新建, 在建, 或改建).

⁶⁹ Saunders, *Jane's Fighting Ships 2011-2012*, 951.

⁷⁰ Liu Yushan, "China's First Standard 'At-Sea Mobile Hospital' Appears" (*woguo shouzuozhishi, 'haishang liudong yiyuan' wenshi*; 我国首座制式'海上流动医院'问世), *People's Daily*, 27 October 2008; Tan Yina and Jiao Pufeng, "First China-Made 10,000-DWT Hospital Ship Sails to Sea," *PLA Daily*, 5 December 2008.

Though they do not specify what is meant by “large-size,” it is certainly true that no other country has ever built a larger hospital ship from scratch.⁷¹

Medical facilities. The “Peace Ark” is able to handle more patients, more quickly, and with more advanced equipment than any previous Chinese vessel. The ship currently has at least 300 hospital beds and could possibly carry as many as 500.⁷² It has eight operating rooms, capable of handling 40 major surgical operations per day.⁷³ It also has advanced diagnostic equipment such as CT scanners, as well as a long-distance consultation system that allows doctors on board to communicate in real time with colleagues at Chinese hospitals.⁷⁴ The PLAN claims that the “Peace Ark” can provide seagoing medical services equivalent to those of a top hospital in Beijing.⁷⁵

Range: The “Peace Ark” has a range of 10,000 nautical miles, considerably greater than that of any previous Chinese medical ship. It also has the ability to conduct underway replenishment (UNREP).⁷⁶

Accessibility. The “Peace Ark” has a helipad on its stern large enough to land a Zhi-8 helicopter.⁷⁷ Exercises done in 2010 show that the “Peace Ark” is capable of conducting such landings at night.⁷⁸ Its helipad allows for quicker evacuation of wounded personnel, and for the ship to remain farther from dangerous areas while treating patients. It also provides a method for quick replenishment of medical supplies.⁷⁹ According to *Jane’s Fighting Ships*, the PLAN has produced four 60-foot *Ankang*-class ambulance ships as an additional means of transferring patients to the “Peace Ark.”⁸⁰

⁷¹ The ship’s closest competitors are Russia’s nearly 12,000-ton Ob’-class ships. In 1920, the United States commissioned a custom-built 10,000-ton hospital ship named *Relief*, which was used extensively in World War II and decommissioned in 1946. See “Relief,” *Dictionary of American Naval Fighting Ships*, website of the U.S. Department of the Navy’s Naval History & Heritage Command, <http://www.history.navy.mil/danfs/r4/relief-vi.htm>. Last accessed 7 September 2011.

⁷² Low figure: Ren Pan and Ju Zhenhua, “‘Peace Ark’ Conducts Medical Support Exercise,” *PLA Daily*, 10 June 2009; high figure: “Largest Hospital Ship Tests Its Mettle,” *China Daily*, 24 March 2009.

⁷³ Fang Lihua, Ju Zhenhua, and Wan Fusheng, “First China-Made Hospital Ship Conducts First Maritime Training,” *PLA Daily*, 23 March 2009; “Largest Hospital Ship Tests Its Mettle.”

⁷⁴ Fang, Ju, and Wan, “First China-Made Hospital Ship”; “Navy’s 10,000-DWT Hospital Ship Conducts its First Exercise at Sea to Inspect its Facilities’ Anti-Shock Capabilities,” *Xinhua*, 23 March 2009.

⁷⁵ “Largest Hospital Ship Tests Its Mettle”; “China Invites Foreign Delegates to Navy Ships to Boost Military Openness, Cooperation,” *Xinhua*, 22 April 2009; Li Xuanliang, Yan Hao, and Wu Dengfeng, “People are Equally Astounded by the Transparency and the Degree of Modernization of the Chinese Navy—Sidelights on a Visit of Chinese Naval Vessels by Foreign Naval Delegations,” *Xinhua*, 22 April 2009; Tan and Jiao, “First China-Made 10,000-DWT Hospital Ship.”

⁷⁶ Chen Guangwen, “Floating Ship of Life.”

⁷⁷ Cui Yan, “Uncovering the Secrets.” These helicopters can accommodate 19 wounded personnel seated upright or 10 lying down, and can provide first aid in the air. See “Profile of China-Built Zhi-8 Modern Medical Aid Helicopter,” *CCTV-7 Military Report*, 20 November 2010.

⁷⁸ “PLA NSF Aviation Helicopters Complete Hospital Ship Night Landing,” *PLA Daily*, 29 January 2010.

⁷⁹ Mai Tian, “Thoughts on New-Type Hospital Ships.”

⁸⁰ Saunders, *Jane’s Fighting Ships 2011-2012*, 166.

Introducing the “Peace Ark” to the world

The year 2009 was a coming-out of sorts for the “Peace Ark,” which carried out a series of increasingly complex and high-profile exercises, missions, and diplomatic activities.

In March 2009, the ship carried out its first at-sea training exercises. The main objective was to test whether the vessel’s medical equipment, not designed specifically for shipboard use, would function properly in stormy weather and high waves.⁸¹ The exercise also tested methods of transferring patients to the hospital ship.⁸²

In April 2009, China conducted a large-scale international fleet review at the eastern port of Qingdao on the occasion of the PLAN’s 60th anniversary. The event, which included participation by ships from 14 countries (including the U.S. Navy missile destroyer *Fitzgerald*), allowed China to display its most advanced naval hardware.⁸³ At this review, the “Peace Ark” was one of only three Chinese ships made available for touring by senior naval officers from 29 countries.⁸⁴ U.S. Chief of Naval Operations ADM Gary Roughead and his wife were among the foreign visitors who toured the ship.⁸⁵ China’s military media reported extensively on the accolades that the “Peace Ark” received from foreign naval leaders, and praised the event as an excellent example of Chinese military transparency and international cooperation.⁸⁶

In May 2009, the ship conducted its first “full-member, full-equipment and full-load test training” in the East China Sea. A team of 165 medical personnel was assembled by the Naval General Hospital in Beijing to serve as the ship’s medical crew. Over 72 hours, this team handled 300 “patients” with 470 types of wounds and injuries, designed to closely replicate those that might result from actual combat.⁸⁷ Given the necessity of rapidly processing and treating a large number of injured patients, the exercise required medical personnel to categorize injuries and determine, under intense pressure, which types of patients should be treated first. One professor of military medicine told the *PLA Daily* that the number of injured and the complexity of the injuries in this exercise were greater than in any combat-simulation exercise ever conducted in the PLA’s history.⁸⁸

⁸¹ Fang, Ju, and Wan, “First China-Made Hospital Ship”; “Largest Hospital Ship Tests Its Mettle.”

⁸² “Military Report,” *Beijing CCTV-7*, 23 March 2009. This and other sources on the exercise do not make clear whether “patients” were transferred from land or from other ships.

⁸³ “Senior Navy Officer Says China Fleet Review Aimed to ‘Promote Understandings,’” Xinhua, 21 April 2009.

⁸⁴ “China Invites Foreign Delegates to Navy Ships to Boost Military Openness, Cooperation,” Xinhua, 22 April 2009. The other ships showcased were the Great Wall 218 conventional-powered submarine and the Type 054 frigate FFG-526.

⁸⁵ Sun Tao, “Naval Hospital Ship ‘Peace Ark’ Earns Praises,” *PLA Daily*, 18 May 2009.

⁸⁶ *Ibid.*; “Foreign Militaries Praise China’s Newest Large Hospital Ship as Advanced: In 10 Years It Will Still Not Be Obsolete,” *PLA Daily*, 9 June 2009; “China Invites Foreign Delegates.”

⁸⁷ These medical schools included the PLA Field Surgery Research Institute, the Second PLA Military Medical University, and the Third PLA Military Medical University. See Ren and Ju, “‘Peace Ark’ Conducts Medical Support Exercise.”

⁸⁸ Ren and Ju, “‘Peace Ark’ Conducts Medical Support Exercise”; Ji Er, “China’s Peace Ark Hospital Ship Conducts Its First Full-Capacity Trial Exercise,” *PLA Daily*, 10 June 2009; Tan Yina, “‘Peace Ark: Setting Up a Lifeline at Sea,” *PLA Daily*, 10 June 2009; Ji Er, “The Medical Team of the PLAN’s First Hospital Ship Conducts At-Sea Medical Treatment Exercise,” Xinhua, 19 May 2009.

In June 2009, at the invitation of the United States Navy, the PLAN sent a four-member medical team to observe operations aboard USNS *Comfort*, which was at that time carrying out Operation Continuing Promise 09 off the coast of Colombia.⁸⁹ A senior U.S. Navy doctor aboard *Comfort* told a journalist, “[The Chinese are] putting together a hospital ship, and are interested in how we do our business.”⁹⁰

In October 2009, the “Peace Ark” departed for its first medical support mission, which took it from its home port in the Yangtze Delta to some of the most remote outposts of the Chinese military in the Paracel (Xisha) and Spratly (Nansha) islands. In the course of this 40-day voyage, the “Peace Ark,” staffed by a team of medical workers from PLAN Hospitals 411 and 413 (located in Shanghai and Zhoushan, respectively), covered more than 5,400 nautical miles, berthed at 18 ports in the Yellow and South China seas, and provided medical care for hundreds of PLA personnel and local fishermen.⁹¹

Harmonious Mission 2010

In September 2010, the “Peace Ark” embarked upon Harmonious Mission 2010, introducing itself to the world in a dramatic fashion. Compared to previous Chinese hospital ship endeavors, the “Peace Ark” traveled farther (10,500 nautical miles, with stops in Bangladesh and four African countries), stayed at sea longer (three months), and provided more medical services to more patients.⁹²

The “Peace Ark” set sail with a staff of 428 medical personnel, mostly drawn from the PLAN General Hospital and Hospitals 411 and 413.⁹³ Twenty-four of these personnel were women—the first female sailors, it was noted, to serve on a mission of this magnitude.⁹⁴ After sailing through the East China and South China seas, the ship conducted its first-ever underway replenishment in the Malacca Strait, with the assistance of the replenishment ship *Poyanghu*.⁹⁵

Upon arriving in the Gulf of Aden off the Horn of Africa, where the PLAN has conducted anti-piracy ship escort operations since December 2008, the “Peace Ark” took part in Blue Sea Angel 2010, the first PLAN medical rescue exercise ever conducted outside of the seas surrounding China.⁹⁶ The exercise, led by “Peace Ark” commander

⁸⁹ Danielle Grannan, “Comfort Departs Tumaco, Heads for El Salvador in Support of the Maritime Strategy,” US Navy website, 18 June 2009, http://www.navy.mil/search/display.asp?story_id=46298. Last accessed 7 September 2011.

⁹⁰ David Axe, “Chinese, U.S. Navies Consult on Humanitarian Mission,” *World Politics Review*, 4 June 2009.

⁹¹ Yuan Shigong and Zhang Jinming, “‘Peace Ark’ Hospital Ship Concludes Medical Rounds to Xisha and Nansha,” *PLA Daily*, 15 December 2009; Qian Xiaohu and Yu Hualiang, “‘Peace Ark’ Accomplishes Medical Rounds,” *PLA Daily*, 30 November 2009; Qian Xiaohu and Tan Yina, “Civilians Play Important Role in Maritime Medical Service Support of PLA Navy,” *PLA Daily*, 10 December 2009.

⁹² Cui Yan, “Uncovering the Secrets.”

⁹³ *Ibid.*

⁹⁴ Li Xiaokun, “Chinese Hospital Ship Back.”

⁹⁵ Cui Yan, “Uncovering the Secrets.”

⁹⁶ Wu Dengfeng, “Chinese Navy Stages ‘Blue Sea Angel 2010’ Exercise,” *Xinhua*, 7 October 2010.

RADM Bao Yuping, included participation by the guided missile destroyer *Lanzhou* and the replenishment ship *Weishanhu*. The scenario for the exercise involved a pirate attack on a commercial ship, requiring the evacuation of wounded soldiers by medical rescue helicopter to the “Peace Ark” for treatment.⁹⁷

The “Peace Ark” spent the remainder of its three-month voyage conducting naval medical diplomacy. The ship visited ports in Djibouti, Kenya, Tanzania, the Seychelles, and Bangladesh, spending five to seven days treating patients in each country. According to Chinese media, In the course of the mission the “Peace Ark” provided medical care to more than 15,500 people and performed 97 major operations.⁹⁸

In several countries, the crew provided medical care to members of the local military, and, in some cases, trained military medical personnel. For instance, during the stop in Tanzania, Chinese medical workers visited a Tanzanian navy base and trained local surgeons in the treatment of combat wounds.⁹⁹

The “Peace Ark” : Reflecting Chinese Maritime Aspirations

As noted earlier, China’s reasons for developing the “Peace Ark” were more complex than those for developing the *Nan Kang* and *Shichang* ships. The older ships were built to fill specific gaps in the PLAN’s operational capabilities. They were also intended to provide support for the near-seas contingencies that the PLAN has traditionally anticipated, particularly conflicts across the Taiwan Strait or over islands in the South China Sea. Since the 1990s, these ships have met the PLAN’s near-seas medical needs, leaving no deficiencies in naval medical support so glaring that they would require a 25,000-ton ship to alleviate them. Instead, it seems, the “Peace Ark” was designed with China’s future maritime aspirations in mind. China envisions broader, less traditional missions for its newest hospital ship.

Official sources supply a straightforward description of the basic missions of the “Peace Ark” (see the text box on the next page). It is also possible to discern some of the larger reasons for the ship’s development, based on its initial deployments, leaders’ official statements, and open-source reporting. A review of Chinese media and military affairs journals indicates that the “Peace Ark” serves the broad purposes discussed below.

The “Peace Ark” provides a symbol of Chinese national pride and naval modernization.

During the 2009 Fleet Review, the PLAN showcased the “Peace Ark” as part of the “latest stage” of Chinese vessels. This indicated considerable confidence in the ship as a

⁹⁷ Cui Yan, “Uncovering the Secrets”; Wu Dengfeng, “PLA Navy Stages ‘Blue Sea Angel 2010’ Exercise,” *PLA Daily*, 8 October 2010.

⁹⁸ Li Xiaokun, “Chinese Hospital Ship Back.”

⁹⁹ Wang Lingshuo and Li De, “Chinese and Tanzanian Navies Carry Out Joint Medical Rounds and Exchanges,” *PLA Daily*, 25 October 2010.

symbol that China's maritime capabilities are advancing and expanding, and that they will be used to promote a "harmonious world."¹⁰⁰

Reporting on the "Peace Ark" frequently employs the language of national pride. Articles in Chinese media have stated that "large-size hospital ships are one of the important symbols of a modern navy."¹⁰¹ Chinese articles also portray the new ship as giving China an entrée into a very exclusive club, noting, "At present, around the world only a small minority of countries possess hospital ships with distant-seas medical rescue capabilities."¹⁰² Furthermore, nearly all of these ships were refitted rather than custom built.¹⁰³ Therefore, the "Peace Ark," as the world's largest custom-built hospital ship, represents "the achievement of a major breakthrough."¹⁰⁴ This breakthrough also marks "an end to China's historical period of having no large-size hospital ship."¹⁰⁵

The "Peace Ark" supports the projection of Chinese naval power over greater distances.

The PLAN is conducting operations farther and farther from mainland China. Though China's older hospital ships may be sufficient for China's traditional near-seas contingencies, their limited range makes them much less useful for distant-seas missions.

Basic missions of the "Peace Ark"

Chinese reporting on the "Peace Ark" around the time it was commissioned described wartime and peacetime missions for the ship.

Its basic wartime mission was "to provide sick and injured personnel from combat units with at-sea early treatment and some specialized treatment, or provide health services support to vessel units."

Its peacetime mission was threefold: "To carry out at-sea medical rescue exercise responsibilities, and also provide vessel units and units stationed in far-flung areas such as islands and reefs with medical assistance...At the same time, [the ship] can also take on humanitarian tasks such as maritime rescue and disaster relief."

(Source: Liu Yushan, "China's First Standard 'At-Sea Mobile Hospital' Appears," *People's Daily*, 27 October 2008)

¹⁰⁰ For more on this concept, see "China's Peaceful Development," published by the State Council Information Office in September 2011, available at: http://news.xinhuanet.com/english2010/china/2011-09/06/c_131102329.htm. Last accessed 7 September 2011.

¹⁰¹ Li Gang and Chen Jianan, "China's First 'At-Sea Mobile Hospital' Appears," *People's Daily*, 27 October 2008; Chen Guangwen, "Floating Ship of Life."

¹⁰² "Navy's 10,000-DWT Hospital Ship"; "Number 866 Hospital Ship Was Formally Delivered to the Navy's East Sea Fleet A Few Days Ago," *Dalian Daily*, 3 November 2008; Li and Chen, "China's First 'At-Sea Mobile Hospital' Appears"; "China's First Self-Made Medical Ship," *China Radio International*, December 24, 2008.

¹⁰³ The only other custom-built hospital ships currently in service are Russia's *Ob'*-class ships. See Norman Polmar, *The Naval Institute Guide to the Soviet Navy* (Annapolis, MD: Naval Institute Press, 1991), 263, and Saunders, *Jane's Fighting Ships 2011-2012*.

¹⁰⁴ "Navy's 10,000-DWT Hospital Ship"; "China's First Self-Made Medical Ship"; "Number 866 Hospital Ship Was Formally Delivered."

¹⁰⁵ Li and Chen, "China's First 'At-Sea Mobile Hospital' Appears."

Since China does not maintain foreign bases, the greater the distance PLAN fleet ships travel, the more difficult it is to transport sick and wounded personnel back to hospitals on land. The “Peace Ark,” which has a 10,000-nautical mile range and strong underway replenishment capabilities, greatly extends the reach of PLAN medical logistics, providing essential on-site support for Chinese power projection.

The 2010 Blue Sea Angel exercises in the Gulf of Aden indicate a strong role for the “Peace Ark” in longer-range military operations other than war (MOOTW). This is borne out in statements made by PLAN officials. While personally seeing off the “Peace Ark” on Harmonious Mission 2010, PLAN Commander ADM Wu Shengli declared the mission to be “an actual test of the ability of the Navy to perform diversified military tasks and polish and raise its comprehensive support capability.”¹⁰⁶ After the conclusion of Blue Sea Angel, “Peace Ark” commander RADM Bao Yuping stated, “With the increase in the number of tasks performed by the Navy in distant-seas non-war military actions, raising our distant-seas medical rescue capability has become a problem that demands prompt solution.”¹⁰⁷

Some analysts have speculated that the “Peace Ark” could support distant-seas missions in ways that go beyond the mere provision of medical services. They see the “Peace Ark” as part of a PLA strategy to build a navy suited for long-range expeditionary missions involving combat forces. They point out that the “Peace Ark” was built at the same shipyard and launched within months of another notable vessel: China’s first long-range amphibious assault ship, *Kunlunshan*.¹⁰⁸ According to two American naval analysts,

“Peace Ark,” coupled with a similarly sized, newly launched troop ship, offers simple, cheap transport for hundreds of Chinese personnel. Policymakers fail to fully comprehend that these platforms, supported by China’s large amphibious cargo vessels, the *Danyao*-class Fishery Law Enforcement Command supply ship and two *Dayun*-class South Sea bastion supply ships, bolstered by an enormous blue-water civilian fleet and a potent naval militia, can do good service in many permissive amphibious contingencies.¹⁰⁹

The PLAN’s future actions will indicate how large a role hospital ships play in China’s maritime power projection, and to what end. In particular, it will be worth tracking the deployments of the “Peace Ark” in the coming years. The success of Harmonious Mission 2010 makes more such deployments seem likely. With its escort convoy deployments in the Gulf of Aden, the PLAN has established its ability to participate in and maintain operations far from its shores that support peaceful cooperation in non-

¹⁰⁶ “Wu Shengli Sees Off PLA Navy Hospital Ship on Harmonious Mission,” *PLA Daily*, 1 September 2010. The phrase “diversified military tasks” is often used in Chinese military statements to refer to military operations other than war (MOOTW).

¹⁰⁷ Wu Dengfeng, “Chinese Navy.”

¹⁰⁸ Fisher, “Flying the Flag”; Craig Hooper and Commander David M. Slayton, USN, “The Real Game-Changers of The Pacific Basin,” *United States Naval Institute: Proceedings*, April 2011.

¹⁰⁹ Hooper and Slayton, “The Real Game-Changers.” If the “Peace Ark” were used in the manner described here, this could challenge its status as a protected hospital ship per the Second Geneva Convention.

traditional areas such as anti-piracy. Harmonious Mission 2010 showed that China is now also capable of sending hospital ships to remote parts of the world. In the future, China may build on the positive reception that the “Peace Ark” received in 2010 by sending the ship even farther afield, to developing countries in places such as West Africa or Latin America.

One future area of opportunity for “Peace Ark” deployments may be to support non-combatant evacuation operations (NEOs). The number of Chinese nationals traveling overseas for work, study, and tourism is rapidly increasing, and many Chinese are now living in unstable countries.¹¹⁰ When unrest broke out in Libya in early 2011, China dispatched the missile frigate *Xuzhou*, which had been taking part in China’s naval mission in the Gulf of Aden, to help evacuate Chinese citizens.¹¹¹ If a future crisis were to affect Chinese nationals in a country that can be reached more quickly, it seems possible that China would send the “Peace Ark” to assist with NEO.

At present, China has given no clear indication that it intends to produce more hospital ships. In the long term, if it builds more “Peace Ark”-type ships, this could indicate that the PLAN is expecting more distant-seas operations. This could even make possible the simultaneous participation by several hospital ships in operations in different parts of the world. China may also decide to refit more long-range civilian vessels as multipurpose ships, as it did with *Shichang*. This could indicate that China is seeking the flexibility to use the same ships for several types of missions, including medical support, even though they would not be protected in wartime by the Geneva Convention.¹¹² The cost of building all of these ships, the capabilities they provide, and the impact their missions create will all factor into China’s decision of what path to follow.

The “Peace Ark” enhances China’s “soft power” through a more active role in humanitarian assistance and disaster relief (HA/DR).

In the past decade, the PLA has increasingly viewed humanitarian assistance and disaster relief (HA/DR) as a key element of its maritime strategy. In 2006, for the first time, China’s National Defense White Paper identified participation in international disaster relief operations, in order to “honor [China’s] international obligations,” as an objective of national defense policy.¹¹³

¹¹⁰ According to the Chinese Ministry of Commerce, more than 10 times as many Chinese workers were employed abroad in 2007 as in 1990. See “Brief Report on Our Country’s Foreign Investment and Cooperation Activities in 2009” (2009 年我国对外投资合作业务简况), released on 6 January 2010. For more on the increasing importance of Chinese nationals abroad to China’s security interests, see Murray Scot Tanner and Peter W. Mackenzie, *China’s Emerging National Security Interests and their Impact on the People’s Liberation Army* (Forthcoming, 2011).

¹¹¹ Zhang Lili, “An Analysis of China’s All-Out Efforts To Evacuate Chinese Nationals From Libya,” *Contemporary World*, 5 April 2011. This journal is published by the International Liaison Department of the Central Committee of the Chinese Communist Party.

¹¹² Models for this type of flexibility include the aforementioned RFA *Argus* as well as USS *Kearsarge*, an amphibious assault ship that provided medical and engineering assistance in Latin America on Operation Continuing Promise. See David Axe, “Medical Diplomats,” *Seapower* (October 2008): 52.

¹¹³ The white paper, entitled “China’s National Defense in 2006: National Defense Policy,” is accessible at: <http://www.china.org.cn/english/features/book/194485.htm>. Last accessed 12 August 2011.

China began sending clear signals as early as 2009 that it was exploring the possibility of deploying the “Peace Ark” on international humanitarian missions. A *PLA Daily* article from March of that year stated that the “Peace Ark” could “play an important role in supporting local emergency rescue and disaster relief efforts, participating in international medical cooperation, and taking on international humanitarian relief responsibilities.”¹¹⁴ These types of missions could provide both hard and soft benefits, as discussed in an article in the Chinese journal *Modern Weaponry*: “[The ‘Peace Ark’] will expand the PLAN’s scope of operations and courses of action, becoming a new means for China’s outward expansion of its national influence, bringing medical treatment, education, and even economic assistance to friendly countries.”¹¹⁵

When the “Peace Ark” was sent to carry out Harmonious Mission 2010, it drew a great deal of coverage in the Chinese media, much of which brought up the mission’s soft power benefits. An article in one Chinese maritime journal indicated that the “Peace Ark” had played “an active and important role in promoting President Hu Jintao’s important thoughts of ‘harmonious world’ and ‘harmonious seas,’ and in advancing the traditional friendships between China and Asian and African nations.”¹¹⁶ PLAN Commander ADM Wu Shengli, in his “bon voyage” speech, deemed the mission “a pioneering practice in which the PLA Navy is organizing, for the first time, a hospital ship to go abroad to carry out humanitarian medical service,” and said that it put forth an “image of China as a responsible power that actively performs international obligations, [and] the positive attitude of the people’s armed forces in protecting peace and cherishing life.”¹¹⁷

The “Peace Ark” has not yet taken part in any domestic or international disaster relief missions, though the Chinese military seems willing for it to do so. After the Japan earthquake disaster of March 2011, Chinese defense minister Gen. Liang Guanglie proposed to his Japanese counterpart Toshimi Kitazawa that China send the “Peace Ark” to take part in relief efforts, but this offer was never taken up by the Japanese.¹¹⁸ If another major disaster were to occur elsewhere in Asia, it seems likely that China would devote the “Peace Ark” to international relief operations. China’s participation—or lack thereof—would be especially telling if the disaster occurred in a country with which China enjoys strong relations, such as disaster-prone Bangladesh.

The “Peace Ark” provides a new avenue for military-to-military cooperation.

China’s intention to use hospital ships in support of military diplomacy was signaled as early as March 2009, when an article in the *PLA Daily* stated that the “Peace Ark” could “travel to naval ports in various sea areas to participate in medical skills exchanges.”¹¹⁹ This was borne out in Harmonious Mission 2010, during which the PLAN bolstered

¹¹⁴ Fang, Ju, and Wan, “First China-Made Hospital Ship.”

¹¹⁵ Qu Zhaowei, “Medical Ships.”

¹¹⁶ Cui Yan, “Uncovering the Secrets.”

¹¹⁷ “Wu Shengli Sees Off PLA Navy Hospital Ship.”

¹¹⁸ Minnie Chan, “Military Rivals Seize Chance to Co-operate,” *South China Morning Post*, 20 March 2011.

¹¹⁹ Fang, Ju and Wan, “First China-Made Hospital Ship.”

military ties with friendly countries in Africa and South Asia by providing medical treatment to military personnel and conducting training sessions in military medicine.

China's 2009 dispatch of medical observers to study USNS *Comfort* during Operation Continuing Promise is an encouraging sign that hospital ships could provide a new avenue for U.S.-China military ties. Combined exercises between U.S. and Chinese hospital ships might be worth exploring as an effective and non-controversial means of building relations between the two navies. Such exercises could also increase the likelihood of cooperation between China and the United States in future international disaster relief efforts. After the 2009 exchange, mission commander Captain Tom Negus (USN) stated that "interactions such as this are consistent with our efforts to build a positive, cooperative and comprehensive relationship with China. Cooperation on humanitarian assistance missions is an important part of that effort."¹²⁰

¹²⁰ Grannan, "Comfort Departs Tumaco."

Appendix A: Comparison of Chinese medical ships

	<i>Nan Kang</i> class	<i>Shichang</i>	“Peace Ark”
			
Commissioned	1991	1997	2008
Displacement (tons, full load)	2,409	11,200	25,760
Speed (knots)	16	17.5	19
Range (nautical miles)	3,000	8,000	10,000
Helicopters	None	2 medium sized	1-2 medium sized
Fleet	South Sea	North Sea	East Sea
Length (feet)	282	393.7	590.5
Beam (feet)	44.3	59.1	80.7
Draft (feet)	13.1	23	29.5

23

(Source for hospital ship specifications: *Jane’s Fighting Ships*; source for hospital ship pictures: “World Wide Hospital Ships,” *GlobalSecurity.org*, available at: <http://www.globalsecurity.org/military/world/hospital-ships.htm>. Last accessed 8 September 2011. Pictures are not to scale.)

Appendix B: Comparison of the “Peace Ark” and U.S. hospital ships

	“Peace Ark” (China) 	<i>Mercy</i> class (United States) 
Commissioned	2008	1986 (<i>Mercy</i>); 1987 (<i>Comfort</i>)
Displacement (tons, full load)	25,760	76,456
Speed (knots)	19	17
Range (nautical miles)	10,000	13,420
Helicopters	1-2 medium sized	Multiple helicopters, any size
Operating Rooms	8	12
Hospital Beds	300	1,000
Length	590.5 feet	894 feet
Beam	80.7 feet	105.6 feet
Draft	29.5 feet	32.8 feet

(Source for hospital ship specifications: *Jane’s Fighting Ships*; source for hospital ship pictures: “World Wide Hospital Ships,” *GlobalSecurity.org*, available at: <http://www.globalsecurity.org/military/world/hospital-ships.htm>. Last accessed 8 September 2011. Pictures are not to scale.)



Cover Photo Credit: REUTERS

Bao Yuping (C), commander of the Chinese navy hospital ship "Peace Ark", walks from the ship after docking for a medical visit at the Kenyan coastal town of Mombasa October 13, 2010. The medical staff aboard the ship provided medical treatment to people in five African and Asian countries - Djibouti, Kenya, Tanzania, the Seychelles and Bangladesh. The Peace Ark has a crew of 428 soldiers, officers and medical workers.

CRM D0025784.A1/Final



4825 Mark Center Drive, Alexandria, VA 22311-1850 703-824-2000 www.cna.org