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Strategic Direction of the PLA Navy: Capability and Intent Assessment

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China's military strategy of "active defence" and "strategic guideline of active defence for the new period" focuses on enhancing the capabilities of its armed forces to counter various security threats and accomplish diversified military tasks. Accordingly, the People's Liberation Army (PLA) Navy has been seeking to increase its strategic reach and attain true "power projection" capabilities. From a conventional coastal defence force, the PLA Navy (PLAN) is now aiming to emerge as a blue water force. In the future, the PLAN seeks to include aircraft carrier(s), anti-access concept, and "Military Operations Other Than War". The sustenance of anti-piracy patrols by the PLAN for the last 18 months has raised the question of China possibly seeking a permanent presence in the Indian Ocean Region (IOR). India must, therefore, take due note of the PLAN's profile, its future intentions and its gaze towards the IOR, and plan accordingly.

Introduction

China has been pursuing a three-step development strategy[1] for modernising its armed forces in accordance with its overall "four modernisations plan".[2] The first step is to lay a solid foundation by 2010, the second is to make major progress around 2020, and the third is to reach the strategic goal of being capable of winning wars under conditions of 'informationisation'[3] by mid-21st century. In pursuit of this strategy, the

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People's Liberation Army (PLA) Navy has been striving to improve its capabilities of integrated offshore operations, strategic deterrence and strategic counter attacks. It is also, gradually, developing its capabilities of conducting international cooperation in distant waters and countering non-traditional security threats. A number of new conventional and nuclear submarines equipped with advanced tactical software, automated command systems, anti-ship cruise missiles, and precision-guided torpedoes have been put into service after 2000.

This paper seeks to profile the PLA Navy (PLAN) with regard to its brief history, organisational structure, force level, ongoing modernisation efforts, defence budget and future outlook. The evolving PLAN strategy as well as perceptions of the United States (US) and Japan about its certain aspects have also been analysed. A representative comparison between one modern surface ship of the PLAN and the Indian Navy (IN) has also been carried out. The PLAN also appears to be working towards permanent presence in the Indian Ocean region (IOR). The paper concludes with a suggestion that India must be cognisant of this possibility and plan for it accordingly.

Brief History[4]

Mao Zedong, Chairman of China's Revolutionary Military Commission and Zhu De, Commander-in-Chief of the PLA had proclaimed on April 23, 1949 that the country "must build its own Air Force and Navy in order to boost the national defence". The day was later christened as the Founder's Day of the PLAN. The early PLAN comprised of 183 units of the erstwhile Kuomintang's coastal defence fleet that had been left behind when the People's Republic of China came into being.

Between 1949 and 1955, the PLAN set up its surface ship force, coastal defence force, aviation force, submarine force, and Marine Corps. The first flotilla of frigates was set up in November 1949, followed by the first flotilla of torpedo boats in 1951, and the first division of Naval Air Force in 1952. In the first five-year plan from 1953 to 1957, China invested an enormous amount in purchasing aircrafts, coastal vessels, destroyers, submarines, and torpedo boats.

The PLAN established the Donghai (East Sea) Fleet, Nanhai (South Sea) Fleet and Beihai (North Sea) Fleet, successively, between 1955 and 1960. China launched its first self-designed conventional powered submarine in 1971. The PLAN's first nuclear

Han class submarine was put into service in 1974 and the first *Xia* class nuclear ballistic missile submarine was commissioned in 1983.

The reform and opening-up drive in 1978 helped China to upgrade its technology levels. The PLAN also accelerated its modernisation process. It gradually equipped itself with second- and third-generation missile destroyers, frigates, landing ships, mine-sweepers, and ocean supply ships. The PLAN's Marine Corps, consisting of combat divers, chemical defence corps and amphibious troops, was organised in 1979.

Currently, China boasts of a 255,000[5] personnel strong Navy, operating modern destroyers, frigates, submarines, landing ships, aircraft and supporting ships in its three fleets. The PLAN showcased its strength during the International Fleet Review held in April 2009 and publicly displayed its nuclear submarine for the first time.

Organisation Summary

The Chinese military establishment is headed by the Central Military Commission (CMC) (Fig. 1), which is elected by the Central Committee and exercises de facto authoritative policy making and operational control over the PLA. It also coordinates military affairs and commands all other armed forces of the state like Armed Police Force, militia and reserves. The CMC is headed by the Chairman, two Vice Chairmen and eight members. The present incumbents of the CMC[6] are named in Table 1.

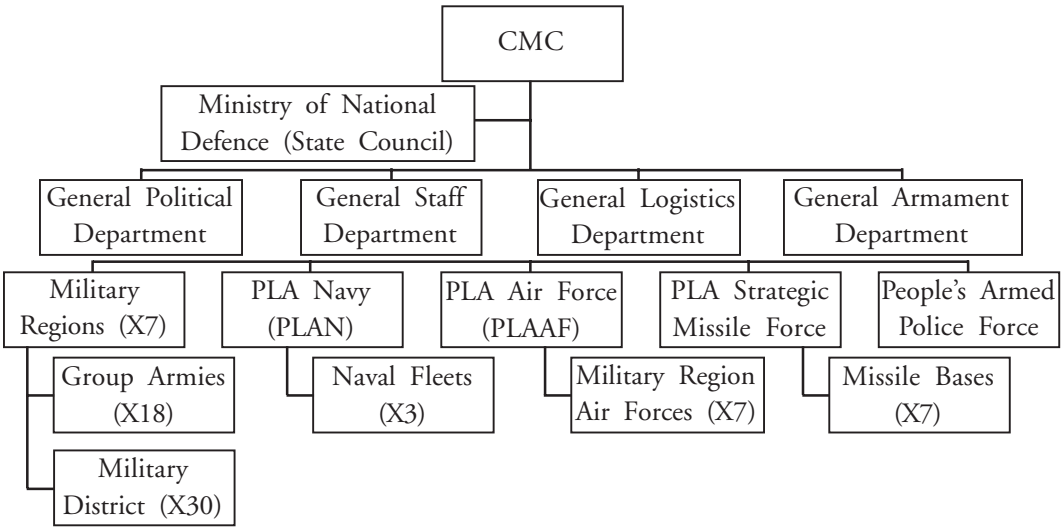

Fig. 1. Organisation of CMC (source: www.sinodefence.com/overview/organisation.asp).

Table 1. Present structure of the CMC

Appointment	Name
Chairman	Hu Jintao
Vice Chairman	Guo Boxiong
	Xu Caihou
Member	Liang Guanglie, Minister for National Defence
	General Chen Bingde, Chief of General Staff, PLA
	General Liao Xilong, Director, General Logistics Department
	General Chang Wanquan, Director, General Armament Department
	General Li Jinai, Director, General Political Department
	Admiral Wu Shengli, Commander, PLAN
	General Xu Qiliang, Commander, PLAAF
	General Jing Zhiyuan, Commander, Second Artillery Corps

The PLAN is a strategic service of the PLA and the main force responsible for safeguarding China's maritime security and maintaining the sovereignty of its territorial waters, maritime rights and interests. In peace time, the Navy adopts a structure which combines operational command with administration. Its constituents are the Navy Headquarters, fleets, bases, educational institutions and an Armaments Academy.[7] The PLAN Headquarters is a Military Region (MR) grade organisation. The Commander of PLAN is considered as the Military Region Commander with the Political Commissar also considered as a co-equal, despite being a lower grade officer. The Navy also has three fleet Headquarters (North Sea, East Sea, and South Sea), each of which is an MR 'Deputy Commander' grade organisation. Therefore, each Fleet Commander has been assigned the grade of an MR Deputy Commander.

Each fleet has several subordinate bases that can be categorised into three types – support, test and training bases. Fleet aviation is also at this level. The following eight are considered as the major support bases – Qingdao and Lushun (North Sea Fleet); Zhoushan, Fujian and Shanghai (East Sea Fleet); and Guangzhou, Yulin and Zhanjiang (South Sea Fleet). Some support bases have subordinate garrisons, which are primarily responsible for coastal patrol and coastal defence. The PLAN has six subordinate garrisons – Dalian, Weihai, Xiamen, Shantou, Beihai, and Xisha (Paracel Islands). Ship squadrons or individual ships are usually subordinate to a support base.

The Navy's administrative structure at each level throughout the chain-of-command consists of four first-level departments – Headquarters, Political, Logistics, and Equipment. Each first-level department has several second-level departments that have administrative and/or functional responsibilities for subordinate organisations. The PLAN Headquarters, for instance, consists of several functional departments and military research organisations. The Headquarter's primary functional departments are Operations, Communications, Intelligence, Military Affairs and Training.

Fleet Organisation

The three Fleets of the PLAN can operate separately or provide mutual support to each other. Each fleet has only two first-level departments – Headquarters and Political. The North Sea Fleet has a nuclear submarine flotilla and has its Headquarters at Qingdao, the East Sea Fleet is based at Ningbo, near Shanghai, and the South Sea Fleet is based at Zhanjiang.

The organisation and force level allocated to each fleet gives a distinct indication of their orientation and roles. The primary role of North Sea Fleet is to provide second strike capability as a strategic deterrent in the Pacific Ocean and also to maintain force readiness in the East China Sea. One of the East Sea Fleet's primary missions is to undertake amphibious landing on Taiwan. Therefore, half of the PLAN's landing ships are allotted to the East Sea Fleet. The South Sea Fleet is currently the largest and most modern of the three fleets. It has a 10,000 strong, combined arms Marine Corps, an amphibious rapid-assault operations force. Two marine brigades, one each for the East and the South Sea Fleet and designated the 1st and the 164th, are placed together at Zhanjiang, Guangdong Province, for training during peace time. The South Sea Fleet has a major role in the South China Sea and its littorals. The construction of a new underground nuclear submarine base under this fleet's area of responsibility indicates China's desire to disperse its nuclear deterrence capabilities vis-à-vis the US. This also increases the sub-surface reach of the PLAN in the Southern Pacific and possibly in IOR as well.

The PLAN's surface forces are organised into three levels of Headquarters – *Zhidui* (Division level organisations), *Dadui* (Squadron level organisations), and *Zhongdui* (Unit level organisations). Table 2 gives a general overview of the types of *Zhidui*, *Dadui*, and *Zhongdui* that are subordinate to each fleet Headquarters. Each fleet has

a destroyer *Zhidui* that is composed of destroyers and frigates. While the destroyers are directly under their *Zhidui*, the frigates are under a *Dadui* that, in turn, is under the control of the *Zhidui*. The submarine forces are also organised under the three Fleet Headquarters (Fig. 2). The Navy has one nuclear submarine base and six conventional submarine *Zhidui*. It has built another nuclear submarine base on Hainan Island. Each nuclear-powered submarine has more than one crew, while a conventional submarine has a single set of crew.

Table 2. PLAN's surface forces organisational structure (source: US Office of Naval Intelligence, *China's Navy 2007*, p. 41)

PLAN Headquarters		
North Sea Fleet	East Sea Fleet	South Sea Fleet
Zhidui	*Zhidui*	*Zhidui*
Destroyer	Destroyer	Destroyer
Speedboat	Speedboat	Speedboat
Combat support vessel	Combat support vessel	Combat support vessel
Dadui	Landing ship	Landing ship
Frigate	Submarine chaser and frigate	*Dadui*
Missile escort boat	*Dadui*	Frigate
Submarine chaser	Frigate	Missile escort boat
Salvage ship	Missile escort boat	Submarine chaser
Landing ship	Submarine chaser	Salvage ship
Intelligence and survey ship	Salvage ship	Landing ship
Service ship	Landing ship	Survey ship
Minesweeper	Intelligence and survey ship	Service ship
Zhongdui	Service ship	Minesweeper
Service ship	Minesweeper	Speedboat
Salvage ship	Engineering ship	Engineering ship
Survey ship	*Zhongdui*	*Zhongdui*
	Service ship	Service ship
	Salvage ship	Engineering ship
	Minesweeper	Survey ship
	Engineering ship	
	Survey ship	

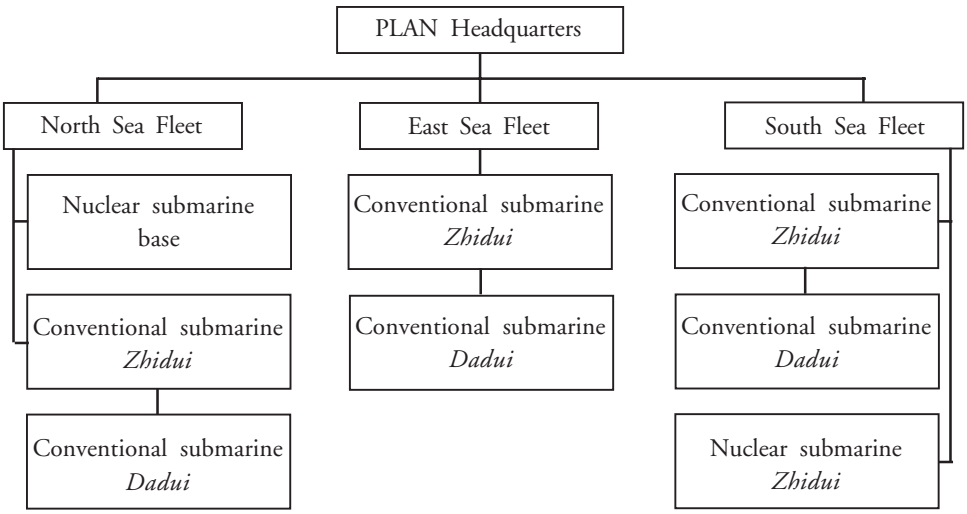

Fig. 2. PLA Navy's submarine forces' organisational chart (source: US Office of Naval Intelligence, *China's Navy 2007*, p. 32).

Naval Aviation is ranked third in protocol among the PLAN's five branches. Besides aircraft and airfields, Naval Aviation has subordinate anti-aircraft artillery (AAA), radars, communications, aircraft maintenance, and logistics units as well as various academies. The Naval Aviation organisation runs through Fleet Aviation to air divisions and regiments. It has seven air divisions[8] that are organised into air regiments and regiment-grade field stations, battalion-grade fighter, bomber and maintenance squadrons. The pace of capability enhancement of PLAN Air Force of the South Sea and East Sea Fleets is faster than that of the North Sea Fleet because of their possible role in a Taiwan conflict scenario. The air divisions and regiments are assigned to the 25 airbases located throughout the three fleets.

The Naval Aviation is composed of about 800[9] fighter, bomber, fighter-bomber, attack, anti-submarine and reconnaissance aircraft as well as warning, electronic countermeasure, transport, rescue, and air refuelling units. Many of these aircraft are old and unserviceable and only about 290[10] of them are deemed to be combat worthy.

The two Marine Corps brigades are subordinate to the South Sea Fleet Headquarters and each brigade has three infantry regiments, one artillery regiment, and one amphibious armour regiment. The Marine Corps also consists of engineering, reconnaissance, chemical defence, and communications units.[11]

Force Levels

The PLAN essentially comprises of the following:[12]

• Submarine[13]	65 (9 nuclear and 56 conventional)
SSBN *Jin* Type 094	2 (under sea trials)
SSBN *Xia* Type 092	1
SSB *Golf* Type 031	1 (test platform for JL-2 launch)
SSN *Shang* Type 093	2 (under sea trials)
SSN *Han* Type 091	4
Kilo Class	12 (includes eight new submarines)
Yuan Type 039A/041	2
Song Type 039	13
Ming Type 035	19
Romeo Type 033	9 (includes one modified *Romeo*)
• Destroyer[14]	28
Sovremenny	4
Luda (Type 051)	15
Luhai (Type 051B)	1
Luzhou (Type 051C)	2
Luhu (Type 052)	2
Luyang I (Type 052B)	2
Luyang II (Type 052C)	2
• Frigate[14]	49
Jianghu-I	11
Jianghu-II	9
Jianghu-III	3
Jianghu-IV	1
Jianghu-V	5
Jiangwei-I	4
Jiangwei-II	10
Jiangkai-I (Type 054)	2
Jiangkai-II (Type 054A)	4
• Amphibious vessels	84
• Fast missile craft	77
• Other patrol and coastal combatants	170
• Ocean going fleet tanker	5

Major Weapon Systems

All naval weapon systems are fitted onboard ships and submarines, or integrated with the PLAN Air Force aircraft. Table 3 gives basic details of some major systems.[15]

Table 3. The PLAN's major weapon systems

Role	System name	Country of origin	Range (km)	Other details	Remarks
SLBM	JL-1	Indigenous IRBM. Russian characteristics	2,150	Single nuclear warhead 250 KT	*Xia* class SSBN
	JL-2	Indigenous ICBM. Russian characteristics	8,000	Single nuclear warhead 1 MT	*Jin* class SSBN
ASCM	*Klub* SS N 27	Russian	180	Speed: 2.5 Mach	*Kilo* class submarine
	Raduga SS N 22	Russian	240	Speed: 2.5 Mach	*Sovremenny* class destroyer
	YJ-62	Indigenous	280	Sub-sonic	*Luyang-II* class destroyer
SAM	HHQ-9	Indigenous	100	Speed: 3 Mach	*Luyang-II* class destroyer
	SA N 7	Russian	25	Speed: 3 Mach	*Sovremenny* class destroyer
Torpedo	YU-3/4	Similar to Russian CET-65E	15	Speed: 40 Knots	All submarines
	TEST 71/96	Russian	15	Speed: 40 Knots	*Kilo* class
	CET 53-65	Russian	19	Speed: 45 Knots	*Kilo* class

SLBM: Submarine launched ballistic missile; IRBM: Intermediate range ballistic missile; ICBM: Intercontinental ballistic missile; ASCM: Anti-ship cruise missile; SAM: Surface-to-air missile

Modernisation

The three-step development strategy dovetails smoothly into the Chinese process of redefining its strategic frontiers extending far out into the Pacific Ocean through implementation of a concept of "Three Island Chains".[16] The constructs of this concept required the PLAN to work on a long-term development plan, to be completed by the year 2050 in three phases. In the first phase, the aim was to establish a "blue water"

presence over the Yellow Sea, the East China Sea and South China Sea, all of which are located within the "first island chain" of the Pacific Ocean, by 2010. The first phase has nearly been completed and the PLAN has undergone substantial resurgence during this period. The second phase aims to gain the capability to exercise presence over the "second island chain" running South from Sakhalin to the islands of the Southwest Pacific by 2025. In the last phase, the PLAN seeks to establish a truly blue water fleet by 2050, with a credible presence in the Pacific till the "third island chain", extending from the Aleutian Islands in North till Antarctica in the South.

As the PLAN pushes its maritime defence perimeter further seaward, it requires superior hardware, sound tactics and a suitable force structure. It has made significant changes in its organisation and operational structure over the years. During the last decade, the PLAN has streamlined and modernised its forces by eliminating a large number of older ships, and replacing them with fewer, but more modern units. It is pursuing a robust acquisition programme for advanced technology based strategic and force multiplier platforms and weapon systems packages. It has simultaneously enhanced its indigenous production efforts substantially. One aircraft carrier is possibly under renovation and, reportedly, there are plans to construct up to two carriers by 2020.

There has been a conscious effort to improve amphibious lift capability. China has constructed an 18,000 ton landing platform dock ship (LPD 071), *Yuzhao* at Dalian Shipyard that can accommodate four hovercrafts and two helicopters. Contracts have been signed between China and Russia for the supply of 10 *Zubr*[17] class landing craft, air cushion (LCAC). One more LPD is being constructed and indications are that larger LPDs may follow in future. With the present set of available large landing ships, China can transport up to a Brigade (5,000 troops) and its equipment up to a distance of about 1,500 nautical miles. With the introduction of LPD ships, the carrying capacity will be further augmented. The total carrying capacity of all available landing craft, including one LPD, 83 landing ship-tank (LST) and 130 landing craft utility (LCU), would be more than 20,000 troops (equal to about two Chinese divisions). Translating this short haul transportation capability into the actual first wave short transit landing capability, say against Taiwan, will depend on other factors like the extent of available beach front, opposition from shore, and operational availability of ships. The high speed heavy lift hovercrafts, each capable of carrying three tanks or 10 armoured personnel carriers (APCs) with 140 troops, will enable the PLAN to land over 500 troops from the LPD at one time, thus, providing a decisive advantage during the first wave landing.

The most important driver of PLA's modernisation and, consequently, that of the PLAN has been the constant growth of its defence budget. The double digit growth of the Chinese economy over the last decade has provided a further boost to defence allocations. The official Chinese defence budget is US$ 77.9 billion for 2010, which is an increase of 7.5 per cent from last year's defence budget of US$ 70 billion. Since 1990, there has been a two-digit increase in the official defence budget except in 2010. The official defence budget for 2010 is pegged at about 1.4 per cent of the GDP. Table 4 gives official Chinese defence expenditure (DE) from 1991 to 2007 and its relation to GDP.

The PLA's official defence budget, however, does not include the amount spent on foreign weapons purchases, military-related R&D and the People's Armed Police Force. It also does not include spending on nuclear weapons, cruise missile development and fighter aircraft development. These are categorised under the Science/Space development

Table 4. China's defence expenditure (1991-2007) (source: White Paper on "China's National Defence in 2008", Appendix V)

Year	GDP (billion RMB)	GDP (billion US$)	DE (billion RMB)	DE (billion US$)	% GDP
1991	2178.150	311.164	33.031	3.71	1.52
1992	2692.348	384.621	37.786	4.39	1.40
1993	3533.392	504.770	42.580	5.08	1.21
1994	4819.786	688.540	55.071	6.86	1.14
1995	6079.373	868.481	63.672	7.09	1.05
1996	7117.659	1016.808	72.006	8.40	1.01
1997	7897.303	1128.186	81.257	9.70	1.03
1998	8440.228	1205.746	93.470	11.00	1.11
1999	8967.705	1281.100	107.640	12.60	1.20
2000	9921.455	1417.350	120.754	14.50	1.22
2001	10965.517	1566.502	144.204	17.10	1.32
2002	12033.269	1719.038	170.778	20.60	1.42
2003	13582.276	1940.325	190.787	22.40	1.40
2004	15987.834	2283.976	220.001	24.98	1.38
2005	18321.745	2617.392	247.496	29.98	1.35
2006	21192.346	3027.478	297.938	35.30	1.41
2007	25730.556	3675.793	355.491	44.94	1.38

budget. The US analysts, thus, believe that the actual Chinese defence budget could range between US$ 100 and 120 billion. China's defence expenditure growth from 1997 to 2008, and its relation to the country's GDP growth, as published by the US Department of Defence (DoD), is shown in Fig. 3.

The growth rate of the official Chinese defence budget in 2003, 2004 and 2005, as calculated from the US DoD report (Fig. 3), was 8.7, 8.04 and 5.45 per cent,

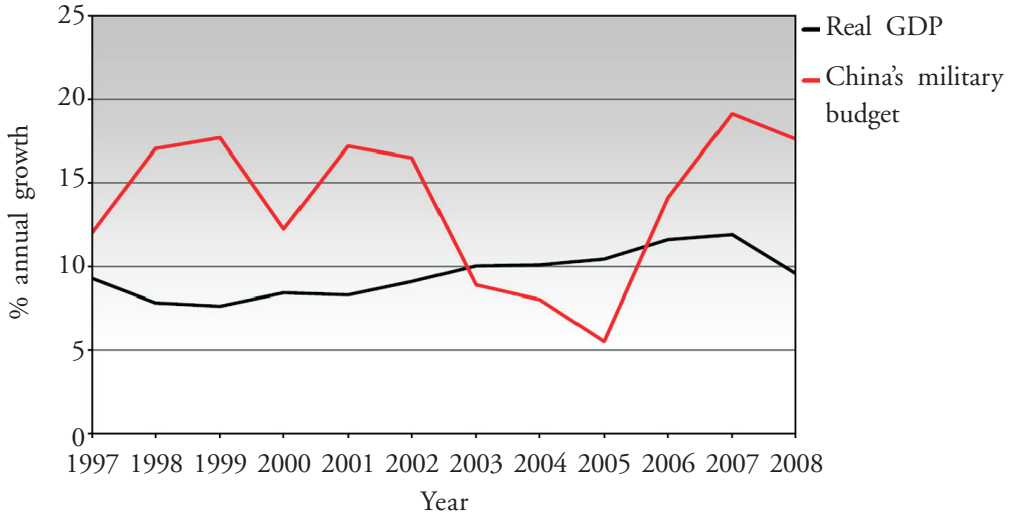

Fig. 3. China's defence expenditure (1997-2008) (source: US Annual Report to the Congress, *Military Power of Peoples Republic of China*, 2009).

respectively, while the Chinese official figures were 11.7, 15.3 and 12.5 per cent, respectively. Though the defence budget growth patterns in both cases generally follow a similar curve, the US figures for the period 2003-2005 are significantly lower. A comparison between the Chinese and US figures (Fig. 4) makes the difference amply clear. However, it also shows that the figures released by different sources, even some as well known as the US DoD, may be prone to errors and cannot be accepted at face value. Therefore, reports of PLA related matters such as defence expenditure, acquisitions, modernisation etc., from different sources need to be analysed carefully before arriving at firm conclusions.

Though the allocation of budgets under different heads is not known, the PLAN's share of the defence budget is estimated to be about 24 per cent.[18] This is in consonance

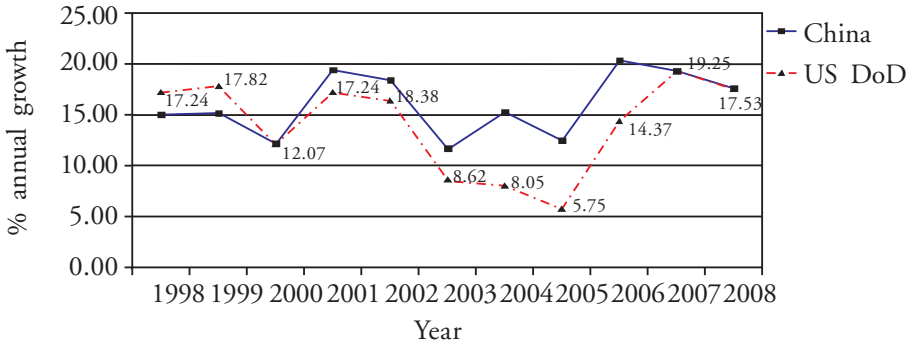

Fig. 4. China's defence expenditure: Comparison of Chinese and US DoD figures.

with the Chinese leadership's modernisation focus that gives top priority to the Navy, followed by the Air Force, strategic forces and ground forces, in that order. Certain estimates place the PLAN's share of defence budget at about 35 per cent. This trend of increased budgetary focus on the PLAN's modernisation has been evident since 2002, probably, because of the cost intensive import of ships, weapons, associated systems, assemblies and other military hardware.

Evolving Strategy

China's war fighting strategy since its formation has evolved from the original Maoist notion of Peoples' War to today's "local war under conditions of informationisation". China now follows a military strategy of "active defence" and has formulated a "military strategic guideline of active defence for the new period", aimed at winning local wars under conditions of 'informationisation'. It endeavours to refine the command system for joint operations, joint training, joint support, as well as to optimise the structure and composition of forces. It also aims at speeding up the building of a combat force structure suitable for winning local wars under conditions of informationisation. The guideline lays stress on close coordination between military operations on one side and political, diplomatic, economic, cultural and legal efforts on the other.[19]

China aims to increase its capabilities in maritime, space and electromagnetic space security and to carry out the tasks of counter-terrorism, stability maintenance, emergency rescue and international peacekeeping. It considers "military operations other than war" (MOOTW)[20] as an important form of applying national military force. The PLAN's evolving strategy also entails increasing its scope of operations by changing the overall

PLA doctrine in tune with the MOOTW concept. In 1985, the CMC approved a PLAN component of the "active defence" strategic guidelines, known as "offshore defence". The PLAN also refers to this concept as the Offshore Defence Strategy. Operationally, offshore defence adheres to the following basic tenets of "active defence":

- "Overall, our military strategy is defensive. We attack only after being attacked. But our operations are offensive."
- "Space or time will not limit our counter offensive."
- "We will not put boundaries on the limits of our offensive."
- "We will wait for the time and conditions that favour our forces."
- "We will focus on the opposing force's weaknesses."
- "We will use our own forces to eliminate the enemy's forces."
- "Offensive operations against the enemy and defensive operations for our own force protection will be conducted simultaneously."

In line with the requirements of its "offshore defence strategy",[21] the PLAN endeavours to enhance its integrated combat capability to conduct offshore campaigns and to launch nuclear counter-attacks. It also attaches importance to MOOTW and actively participates in bilateral and multilateral joint training and naval exercises.[22] There is a noteworthy increase in PLAN activities in the East and the South China seas. Its warships have been sailing till the second island chain in the mid-Pacific as also across the Japanese Straits. Chinese ships have participated in the multilateral naval exercises *Aman* 2007 and *Aman* 2009 in the Arabian Sea and some PLAN ships are part of the ongoing anti-piracy patrols in Indian Ocean.

The US Interpretation

As a component of the "greater PLA", much of the strategic and operational jargon of the PLAN as well as its constructs of warfare and operations, and the basics of Chinese naval military science reflect the universally applicable "PLA approach". In other words, they are all explained in 'Army' terminology. The PLAN's distinct naval theories become visible only when one goes down to the tactical level of warfare.

The current operational component of "national military strategic guideline for the new period", also called "active defence", has been adjusted to conduct "local wars under modern high-technology conditions". The "active defence strategic guideline"[23]

are the highest level of strategic guidelines for all PLA military operations during war as well as peacetime and apply to all PLA services and branches, including the PLAN.

The concept of "offshore defence" has also been changing with time. It generally tends to get linked to geographic boundaries at sea and future aspirations to control various ocean zones. When this concept was first being formulated in the early 1980s, and for some time after its formal adoption in 1985, the PLAN debated the issue as to how far seawards should "offshore defence" extend? Some PLAN officers still consider this as a function of the operational reach of the PLA's land based aircraft and the PLAN's anti-submarine warfare capabilities.

However, US research suggests that the term "offshore defence" today does not imply any minimum or maximum geographic limits or boundaries in the ocean. The "offshore defence"[24] concept has evolved beyond the question of geography or geographic reach. So, how far "offshore" will this concept take the PLAN? The answer is:

> "*As far as the PLAN capabilities will allow it to operate its task forces out at sea with the requisite amount of support and security*".[25]

The Japanese Perception

The Japanese have also noticed a change in Chinese military strategy, as is apparent from the language of China's latest *White Paper on China's National Defence 2008*. A Japanese analysis[26] notes that though China says it will continue to adhere to "a military strategic guideline of active defence for the new period", it points to Chinese intentions "to enhance the capabilities of the armed forces in countering various security threats and accomplishing diversified military tasks". The Chinese White Paper talks of "increasing the country's capabilities to maintain maritime and space security and to carry out the tasks of counter-terrorism and stability maintenance". In the chapter on the Navy, it states that the "PLAN will gradually develop its capabilities of conducting cooperation in distant waters and countering non-traditional security threats". The Japanese feel that this comment was probably written after the dispatch of ships to seas off Somalia's coast. While China modestly uses the term 'cooperation', Japanese strategists attach significance to the appearance of the term "distant waters" in the White Paper.

In the context of issues in the East China Sea, on June 18, 2008 China and Japan announced the details of an agreement on two key points. The agreement says that a

"China-Japan Joint Development Zone" would be established in the northern section of the East China Sea, and that "until a border can be demarcated, both sides agree to cooperate during the transitional period in which neither side's legal position is impaired in the Shirakaba gas field (Chinese name, Chunxiao gas field)". The scope for China to use coercive diplomacy arises from the fact that the joint development zone established in the agreement encompasses the Chinese claimed Exclusive Economic Zone (EEZ), which is well beyond the median line that Japan considers as the sea boundary between the two nations.[27] As Japan and China proceed with negotiations aimed at demarcating a final border between them in accordance with this agreement, the Chinese approach to the issue will have major consequences on the future course of their strategic relationship. China's articulation of its changing military strategy of "countering security threats including non-traditional ones and accomplishing diversified military tasks" by enhancing the capabilities of its armed forces, signals serious problems ahead.

Future Outlook

Force Levels in 2020[28]

Table 5 lists the Chinese Navy's surface combat ships and submarine force.

Aircraft Carrier Ambitions

China's ongoing thrust on naval modernisation and expansion is bound to majorly increase its assets and capabilities over the medium and long term. China's quest for acquiring and constructing an aircraft carrier has been the subject of considerable speculation in recent years. China had earlier purchased old and decommissioned carriers from Russia, Australia and Ukraine at scrap value, possibly to study their construction and explore the feasibility for reverse engineering. The Ukrainian *Kuznetsov* class carrier *Varyag* was painted in PLAN colours, re-named *Shilang* and allocated the Pennant Number '83'.[29] It is berthed at Dalian and is being used for static training. China's plans to build its own aircraft carrier were publicly indicated by its Defence Minister, Liang Guanglie in March 2009, who has said:

> "*amongst the big world powers, only China does not have an aircraft carrier, so it cannot be without one forever*".[30]

Table 5. The PLAN's projected surface ships and submarine force by 2020

Class of vessel	Type	2009	2020
Surface combat ships			
Aircraft carrier		-	2
Luzhou (051C)	DDG	2	8
Luyang (052B)	DDG	2	6
Luyang-II (052C)	DDG	2	8
Sovremenny	DDG	4	8
Luhai (051B)	DDG	1	1
Luhu (052)	DDG	2	2
Luda (051)	DDG	15	0
Jiangkai-II (054A)	FFG	4	8
Maanshan (054)	FFG	2	10
Jiangwei-II (053H3)	FFG	10	14
Jiangwei-I (053H2G)	FFG	4	0
Jianghu-V (053HIG)	FFG	5	6
Jianghu-IV (053HT)	FFG	1	1
Jianghu-III (053H2)	FFG	3	4
Jianghu-II (053HI)	FFG	9	0
Jianghu-I (053H)	FFG	11	0
Yuzhao (071)	LPD	1	6
Submarine force			
Jin (094)	SSBN	2	4-5
Shang (093)	SSN	2	5-6
Xia (092)	SSBN	1	1
Han (091)	SSN	4	4
Yuan-I (041)	SSK	2	10
Kilo (877/636)	SSG	12	20
Song (039)	SSK	13	20
Ming (035)	SS	19	-
Romeo (033)	SS	9	-
Golf	SSB	1	1

The Chinese media has also reported that an inter-agency task force, *Project 048*,[31] has purportedly been established within the PLAN and it is responsible for developing

"special large military ships" or aircraft carriers. Although the precise status of the unit is unconfirmed, reports speculate that the joint-command of *Project 048* may be under a PLAN Deputy Commander or someone as high as an officer under the direct command of the PLAN Commander. Full preparations for building aircraft carriers reportedly commenced in 2005, which included the purchase of ship-based test machinery and ship-borne landing gears. Though China has not yet announced the construction of an aircraft carrier, the above activities indicate that preparations are well underway. China could build a carrier by 2015 and two by 2020.

With the induction of these aircraft carriers in the future, the capability of the PLAN Air Force will be enhanced accordingly with the possible acquisition of Su-33 carrier-borne aircraft from Russia. China could also modify its indigenously developed J-10 aircraft to operate from carriers, as some work on making the wings of J-10 aircraft 'foldable' has been reported.

Anti-Access Concept

Another important development seems to be the PLA "anti-access concept", which aims to force US Carrier task forces to stay well afar in the Pacific Ocean in case the US decides to come to Taiwan's aid during a cross straits contingency. The concept is planned to be implemented by the deployment of accurate conventionally armed ballistic missiles to target ships at sea. The most advanced and cutting edge technology would be required for this concept to succeed. It would possibly encompass by tracking and precision targeting space based assets and fine manoeuvring of a warhead moving at extremely high speed. Satellite jamming kinetic energy weapons, anti-satellite kill weapons (ASATs), space-based micro-satellites, anti-airborne warning and control systems (AWACS) long-range missiles that are capable of degrading the adversary's surveillance, air defence and anti-ballistic missile network, will also play a vital role. This capability, as and when developed, will provide China with pre-emptive and coercive options against the US Navy during a regional crisis.

Power Projection into the IOR

It is believed that the PLAN intends to develop strategic ties with countries in the IOR – Sri Lanka, Myanmar, Bangladesh, Maldives and Pakistan – and the Persian Gulf to allow China to extend its blue water capability, which is currently curtailed due to the

absence of supporting air cover. By 2020, China is likely to have up to two aircraft carriers in place, making operations in its greater periphery feasible. This may also lead to the PLAN conducting and controlling its operations from one or possibly more 'pearls' in its "String of Pearls" in the IOR. These bases will possibly provide the PLAN with direct access to the IOR.

Comparison: Indian and Chinese Navy

In 1996, Indian and Chinese defence budgets were almost at par but today the official Chinese defence budget is about 2.2 times higher than that of India. This growth becomes significant when the indigenous manufacturing capacity of the Chinese defence industry is taken into consideration. Chinese domestic weapons companies, by importing only high end components, produce goods at costs much cheaper in comparison to other countries. The resultant financial savings enable the Chinese defence forces to garner many more resources from their stipulated budgetary allocation. Though the same is not the case with the Indian defence industry, in recent years there has been a steady, albeit slow, improvement in the indigenisation percentage.

Force Level Comparison

The force level comparison between the PLAN and IN (Table 6) in not meant to suggest that the IN is highly outnumbered. It would be more meaningful to assess the

Table 6. Force level comparison between the PLAN and the IN

Ship/Submarine/Aircraft Type	PLAN[33]	IN[34]
SSBN (092 + 094)	3	-
SSN (091 + 093)	6	-
Conventional submarine	56	16
Aircraft carrier	-	1
Destroyer	28	8
Frigate	50	14
Corvette/Missile boat	70	24
LPD (large)	1	1
LST/LCU	83 + 130	17
Aircraft (Combat capable: all types)	290	29

force levels the PLAN can project in the IOR. The PLAN has 10 modern destroyers and 24 reasonably modern frigates. Given its primary task of focusing on the western Pacific, the PLAN may not be able to spare more than 20 per cent of these ships for possible deployment in the IOR.[32] This amounts to a maximum of seven warships (two destroyers and five frigates), duly supported by fleet replenishment tankers. The PLAN has five ocean going fleet tankers for about 75 major combatants, which works out to a ratio of 1:15. Therefore, it can at best allocate one fleet tanker to the IOR. The PLAN's options on submarine deployment in the IOR, too, are limited. The SSBNs are required for strategic operations in the Pacific, the *Kilo* class submarines are for Taiwan and South China sea contingencies and older submarines are unsuitable for "out of area" operations. It is believed that the SSNs may be deployed in the IOR in future to offset disadvantages accruing to the PLAN's surface combatants due to the absence of tactical air cover.

At the tactical level, the capabilities of one latest destroyer each of the PLAN and the IN are compared to get an empirical idea about how the ships would fare if they were to confront each other at sea. This theoretical representative comparison does not in any way seek to assess the overall capabilities of the respective navies based on those of one unit. It must be noted that naval battles are not fought by pitching single ships against each other. The prudent employment of forces in accordance with the demand of strategic and/or tactical situation may yield far better results than utilising their best capabilities piecemeal. Table 7 gives details of the PLAN's *Luyang-II* class (Type 52C) and IN's *Delhi* class destroyers, along with their weapon systems, ranges and capabilities.

The capabilities of a warship are broadly assessed on two main counts:

(a) How far can it project its offensive capabilities?
(b) How well can it ensure its own defence?

As regards the PLAN, the anti-ship Missiles YJ 62 (C802) fitted on board the *Luyang-II* class (Type 52C) destroyer have a range of 280 km (151 nautical miles), while the SS N 25 *Switchblade* missiles on board the IN's *Delhi* class destroyer have a range of only 130 km (70 nautical miles). The helicopters, which are integral to both the ships, can certainly increase the offensive reach substantially, when armed with air launched cruise missiles (ALCMs). Though the capability of ALCMs carried by the *Delhi* class destroyer is known, the same is not known about the Chinese ALCMs.

Table 7. Comparison between one destroyer each of the PLAN and the IN

Ship's details and equipment fit	PLAN *Luyang-II* class[35]		IN *Delhi* class[36]	
Displacement full load	7,000 tons		6,700 tons	
Main machinery	2 × gas turbines 2 × diesels	CODOG	4 × gas turbines	COGAG
Endurance	4,500 nautical miles at 15 Knots		4,500 nautical miles at 18 Knots	
Complement	280	40 officers	360	40 officers
Helicopters	2 × Z9A or KA 28	Multi-role/ASW	2 × Seaking 42A ALH	Multi-role/ASW
Anti-ship missiles	8 × YJ 62	151 nautical miles	16 × SS N 25 switchblade	70 nautical miles
SAMs	48 × HHQ9	54 nautical miles	24 × SA N 7	17 nautical miles
Main gun	100 mm	25 rounds/min, 12 nautical miles	AK 100	60 rounds/min 9 nautical miles
AD gun/CIWS	4 × Type 730	4,200 rounds/min, 1 nautical mile	2 × AK 630 Barak missile	4,200 rounds/min
Torpedoes	6 × 324 mm TT		5 × 533 mm TT	
			CET 65E	8.1 nautical miles
			Type 53-65	10.3 nautical miles
ASW rockets	4 × MRLs		2 × RBU 6000	6 km
Radar phased array	Type 382 4 antennas	3-D, G-band, > 100 nautical miles	Half-plate (Fregat MA)	3-D, E-band, 70 nautical miles
Radar air search	Type 517	A-band	RAWL 02	D-band
Radar air/Surface search	Type 364	G-band		
Sonar	Not known		HUMVAD	
			HUMSA	
			ATAS	Towed array

The self-defence capability of a warship is a function of its early warning (EW) detection ranges and the maximum distance from the ship at which it can neutralise an incoming threat. While the capability of EW and electronic support measures (ESM) systems carried by *Delhi* class destroyers is known, the same is not known about the Chinese systems. However, considering the seriousness with which the Chinese view 'informationisation', it would be safe to presume that their EW systems would be at par, if not better than those of the *Delhi* class. The capabilities of air/surface EW radars and their integration with a warship's central command and control system decide the effectiveness of self defence. The *Luyang-II* class ship is fitted with four multi-function phased array radar antennas, similar to the type AN/SPY-1[37] phased array radar associated with the *Aegis* fire control system on board US ships. Typically the SPY-1 radar provides simultaneous search and tracking capability for hundreds of targets at a distance more than 100 nautical miles (180 km). In the absence of hard data on the capabilities of the phased array radar fitted on the *Luyang-II* warship, the comparison with its nearest equivalent is made for closest approximation. In contrast, the phased array radar Fregat MA (NATO classification: half plate) fitted on the *Delhi* Class destroyer can detect aircraft targets at a maximum distance of 70 nautical miles (130 km) and ships at a range of 30 km.[38] It is fairly obvious that the Chinese ship is better equipped both in terms of offensive and self defence capabilities.

China's Interest in the IOR and Relevance for India

China's interest in the IOR is driven primarily by the need to secure its energy sea lanes of communication on which its growing economy is dependent. As the second largest oil consumer after the US, China depends on imports for two-thirds of its total needs. A major part of this is sourced from Middle East and Africa. As the world's fastest growing economy, China's appetite for energy continues to grow rapidly. The Chinese economy has been thriving via import of raw material from all over the world and export of finished products across the world. It is no secret that China has established and is actively pursuing overseas interests all across the world to support its burgeoning economy. This thrust is concentrated in both the developing and the underdeveloped nations, a majority of which lie on the Indian Ocean rim and inland Africa.

Another and perhaps strategically more important driver of the Chinese move to maintain a naval presence in the IOR is the desire to gain a foothold in an area that

is considered to be an important playground of international diplomacy. China considers this step to be part of a natural progression towards superpower status. It wishes to develop a capability to challenge US hegemony as well as influence international affairs by means of maintaining a credible military presence in the most active, if not the most volatile, region of the globe. China has been maintaining its anti-piracy mission in the Gulf of Aden since January 2009 and, currently, the fifth Task Force of the PLAN, consisting of two destroyers/frigates and a supply ship, is on patrol duties.

The most obvious inference that one can draw from these activities is that the saga of Chinese presence in the IOR has begun in right earnest. This is in line with China's evolving maritime strategy of "moving to oceans for safeguarding development of national economy and overseas interests".

The argument does not in any way imply that the PLAN will be able to control the IOR or even parts of it by merely registering its presence for a peacetime mission. In order to maintain a credible presence, China has to overcome certain critical limitations. For one, China does not yet have military or other bases in the region to logistically support its maritime assets and operations over such a long distance. Other limitations stem from the fact that its maritime forces have a more immediate and serious challenge closer home and the PLAN may not be able to divert resources continuously. The entire route of PLAN ships after they cross the Malacca straits lies along areas that can be monitored by the IN and interdicted, should the situation so warrant. The credibility of active presence is established only if the force can defend itself, and PLAN cannot effectively do so at present without tactical air cover. Lastly, the Chinese move to establish a permanent presence in the IOR will reinforce the apprehensions of Chinese hegemonistic designs and can only go against their claim of "peaceful rise", which it vehemently wants the world to believe.

Despite the above limitations, the PLAN has made a successful beginning towards extending its presence in the IOR. Its operations, missions, interactions with other nations' navies, associated port calls (either for operational turnaround, urgent repairs or rest and recreation), will all enable the PLAN to establish rapport with and gradually exert their influence in the IOR littoral. The IN would, consequently, find its area of operations and availability of space severely constrained. Its operations as well as exercises, intentions and movements would be open to monitoring. In fact, the IN's very capability to operate freely would be compromised.

The presence of Chinese ships will boost the morale of the Pakistani defence establishment, however, notionally. Sino-Pak collaboration in joint warship building (the first *Jiangwei* class frigate was commissioned in China as *Zulfiqar* in 2009) as well as subsequent technical and tactical interactions will only serve to bolster Sino-Pak maritime cooperation. The IN's capacity to exercise sea control or denial will also be limited, as it will have to factor in the presence of Chinese naval ships in the vicinity, their capabilities and the extent of their synergy with the Pakistan Navy.

Conclusion

The Chinese have always maintained that the Indian Ocean is not an "internal lake" of India as a basis to keep their options open. The active participation of Chinese defence forces in MOOTW has also seen the deployment of ground forces in various UN mandated peacekeeping missions with more than 1,500 PLA Army personnel deployed in different African countries.

The Chinese military's foot prints are reasonably well established in the northern part of the IOR, with its navy continuously operating off the Somali Coast and about 750 of its army personnel deployed in Darfur, Sudan. In addition, Chinese technical personnel (some of them may be from the PLA or its reserves) are present in about 28 African countries and are engaged in tasks such as uranium, metal and oil exploration, infrastructure development and humanitarian assistance projects.

It is, therefore, not inconceivable that the PLAN may come to the immediate assistance of the Chinese land based personnel should the need arise, being the nearest available force. A precedence of this kind was set by IN ships when they successfully pulled out Indian army troops from the besieged Somali port of Kismayu in December 1994. China could also mount an urgent, small-scale and localised joint operation involving its navy and the ground forces during a crisis involving its interests.

Though China is looking towards a period of comparative peace till at least 2020, so as to be able to further strengthen its comprehensive national power, of which the PLA forms an intrinsic part, it has already started to openly declare its intention of power projection and quest for enhancement of international stature. The PLAN is expected to expand its area of operations gradually as its capabilities and capacities expand. Moreover, the frequency and duration of PLAN patrols in the Indian Ocean are likely to increase progressively. The PLAN's operational presence throughout the

Arabian Sea and the IOR is expected to become a reality by 2050. This is precisely the eventuality that India must prepare and plan for, in the medium to long term.

Notes

1. See Ministry of National Defense of People's Republic of China website, "White Paper on "China's National Defense in 2006, Chapter II: National Defense Policy"", available at http://eng.mod.gov.cn/Database/WhitePapers/2007-01/15/content_4004364.htm (accessed on February 21, 2010).
2. The concept of "four modernisations" propounded at the third National Peoples' Congress in December 1964 includes the modernisation of agriculture, industry, science and technology and National Defense, in that order. See Immanuel Chung-yueh Hsü, *China without Mao: the Search for a New Order*, p. 93, available at http://books.google.co.in/ books website (accessed on February 21, 2010).
3. The term 'informationisation' describes China's military effort to incorporate modern technology into all aspects of operations and includes means to protect one's own information such as own command and control systems and the means to disrupt the information of the adversary such as cyber attacks and electronic jamming. See US Office of Naval Intelligence, *The People's Liberation Army Navy: A Modern Navy with Chinese Characteristics*, July 2009, p. 7.
4. People's Daily online, English, April 16, 2009, "Backgrounder: Brief History of China's People's Liberation Army Navy", available at http://english.peopledaily.com.cn/90001/ 90776/90786/6638073.html (accessed on February 21, 2010).
5. See *The Military Balance 2009*, International Institute of Strategic Studies, London. January 2009, p. 382.
6. See Ministry of National Defense of People's Republic of China website, "Central Military Commission", available at http://eng.mod.gov.cn/Database/Leadership/index.htm (accessed on February 21, 2010).
7. See Ministry of National Defense of Peoples Republic of China website, "The PLA Navy", available at http://eng.mod.gov.cn/ArmedForces/navy.htm (accessed on February 21, 2010).
8. See US Office of Naval Intelligence, *China's Navy 2007*, p. 47.
9. *Jane's Fighting Ships 2007-08*, p. 115.
10. See *The Military Balance 2009*, p. 385.
11. See US Office of Naval Intelligence, *China's Navy 2007*, p. 55.
12. See *The Military Balance 2009*, pp. 384-385. However, the US Annual Report to Congress, *Military Power of People's Republic of China*, 2009, p. 64, Fig. 19, quotes 60 submarines,

27 destroyers and 48 frigates. The US DoD figure probably does not include one *Shang* and two *Jin* class submarines, and one *Yuan* class, which were reported to be under trials. The figures in *Janes Fighting Ships 2008-09* are also different.

13. See *The Military Balance 2009*, p. 384.
14. *The Military Balance 2009*, *Ibid*.
15. *Jane's Fighting Ships 2007-08*, pp. 115-133.
16. David Shambaugh, *Modernising China's Military, Progress, Problems and Prospects* (New Delhi: Bookmart Publishers under arrangement with University of California Press), p. 67.
17. *Zubr* is one of the largest hovercraft having a capacity of carrying three tanks or 10 APCs with 140 troops.
18. Integrated Headquarters of Indian Ministry of Defence (Navy), *Indian Maritime Doctrine, 2004*, p. 70.
19. See White Paper on "*China's National Defense in 2008, Section II: National Defence Policy*", available at www.china.org.cn/government/central_government/2009-1/20/content_17155577_4.htm (accessed on February 23, 2010).
20. *Ibid*.
21. According to some PLAN literature, "Offshore Defense Strategy" is a concept that directs the PLAN to "keep the enemy within limits and resist invasion from sea, protect the Nation's territorial sovereignty and safeguard its maritime rights" by engaging in maritime operations out at sea.
22. See White Paper on "China's National Defense in 2008, Section V: PLA Navy".
23. See US Office of Naval Intelligence, *China's Navy 2007*, pp. 23-24.
24. *Ibid*, p. 26.
25. *Ibid*.
26. The National Institute of Defense Studies, "China: Confidence Tempered with Unease", In *East Asian Strategic Review: 2009*, Chapter 4, pp. 138-139, available at www.nids.go.jp/english/index.html (accessed on February 27, 2010).
27. *Ibid*. pp. 119-120.
28. The force projection for 2020 is based on the inputs received from various Chinese media reports; list of ships under construction or planned, as shown in *Jane's Fighting Ships 2009*; as also an analysis of decommissioning and phasing out of older ships and submarines.
29. *Jane's Fighting Ships 2008-09*, p. 126.
30. RIA Novosti, "China Confirms Plans to Build Aircraft Carrier", March 23, 2009, available at http://en.rian.ru/world/20090323/120692506.html (accessed on February 27, 2010).
31. See The Jamestown Foundation, Russell Hsiao, "Project 048: China's Secret Aircraft Carrier Command?", April 2, 2009, available at www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=34789&cHash=ffd7cc62f6 (accessed on February 27, 2010).

32. This estimate has been arrived at by the author purely as a prudent assumption, considering factors, such as, threat perception closer home, endurance and sustainability of ships at extended ranges, and mission profile of the detached force at distant location.
33. See *The Military Balance 2009*, pp. 383-385.
34. *Ibid.*, pp. 346-348.
35. See *Jane's Fighting Ships 2008-09*, p. 129 and *The Military Balance 2009*, p. 384.
36. *Ibid.*, p. 324 and *ibid.*, pp. 346-348.
37. The AN/SPY-1 radar system is the primary air and surface radar for the *AEGIS* weapon system on board US ships. It is a multi-function phased-array radar capable of search, automatic detection, transition to track, tracking of air and surface targets, and missile engagement support. Typically, each *AEGIS*-equipped ship has four SPY-1 radar antennas continuously covering 360 and providing a search and tracking capability for hundreds of targets to a range of more than 100 nautical miles, at the same time. In the absence of hard data on the capabilities of the phased array radar fitted on the *Luyang-II* class ship, the comparison with the nearest equivalent is being made for closest approximation.
38. See Norman Friedman, *The Naval Institute Guide to World Naval Weapon Systems, 1997-98*, p. 332, available at http://books.google.co.in/books website (accessed on March 03, 2010).