
SEA POWER CENTRE - AUSTRALIA

PERSPECTIVES ON THE JAPAN MARITIME SELF DEFENSE FORCE

Working Paper No. 21
Yoji Koda

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The Sea Power Centre - Australia was established to undertake activities to promote the study, discussion and awareness of maritime issues and strategy within the Royal Australian Navy, the Department of Defence and civil communities at large.

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- to promote the understanding of sea power and its application to the security of Australia's national interests
- to manage the development of RAN doctrine and facilitate its incorporation into ADF joint doctrine
- to contribute to regional engagement
- contribute to the development of maritime strategic concepts and strategic and operational level doctrine, and facilitate informed force structure decisions
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About the Author

Vice-Admiral Yoji Koda, JMSDF (Rtd), served for over 36 years, retiring as the Commander in Chief, Self Defense Fleet in 2008. His previous command and staff appointments include almost every post associated with the development and command of the JMSDF, including those building strategic relationships with the United States and a range of other countries both globally and in the Asia-Pacific region. His most recent appointments, before his 2008 retirement, included Director-General of the Operations and Plans Department in the Maritime Staff Office in Tokyo, Commander Fleet Escort Force, Director-General of the Joint Staff Office, and Commandant JMSDF Sasebo District.

Yoji Koda is a prolific writer on maritime and strategic matters, and has written and published a host of articles on Japanese military history and security in both Japanese and English, many of them while still serving. He is a graduate of the United States Navy Command College and the Japan Self Defense Force Defense Academy. As a Harvard Fellow, his work specifically focuses on the directions that the US-Japan alliance may be taking in the next few decades and the Chinese naval and military expansion. He is an erudite strategic thinker, particularly on the application of naval power, as well as being an engaging speaker, and has been closely involved in developing naval, maritime and strategic relationships between Australia and Japan.

Synnot Lecture Series

The lecture series is named in honour of Admiral Sir Anthony Synnot, KBE, AO, RAN, who served as Chief of Naval Staff (1976-79) and Chief of Defence Force Staff (1979-82). The purpose of the lecture series is to raise awareness of naval matters within Australia, and speakers discuss topics which deserve to be more widely understood within the RAN and the public at large.

The 2011 Synnot lecturer was Vice Admiral Yoji Koda, JMSDF (Rtd), who gave a number of presentations during May. He spoke at the Griffith Asia Institute in Brisbane, the Lowy Institute for International Policy in Sydney; and in Canberra, at the Australian Defence Force Academy, the Australian Defence College, the Strategic and Defence Studies Centre at the Australian National University and the United Services Institute of the ACT.

Admiral Sir Anthony Synnot, KBE, AO, RAN

(1922-2001)

Admiral Sir Anthony Synnot, naval officer and defence force chief, was born on 5 January 1922 at Corowa, New South Wales. While he was young the family moved to Albury, New South Wales and then to a remote sheep property at Eskdale, near Longreach in Queensland. From age 12, Anthony (Tony) was educated at Geelong Grammar in Melbourne, and for the next five years he was immersed in school life, only visiting his family at Christmas. Synnot was a solid achiever at school and excelled at tennis, cricket and golf.

In early 1939, at age 17, Synnot joined the RAN as a special entry cadet midshipman. He was sent to Britain for training at the Royal Naval College, Dartmouth, and after a compressed seven month course he graduated as a midshipman in 1940. At Dartmouth he gained course prizes for seamanship, navigation, signals, torpedo, and, his specialty, gunnery.

Synnot was promoted to sub-lieutenant in late 1940 while serving in HMAS *Canberra*. He then joined HMAS *Stuart* in the Mediterranean under Captain Hector Waller, DSO*, RAN. After a near miss from attacking aircraft early in 1941, Captain Waller asked his midshipman 'What do you think of that then?' to which Synnot replied, 'Very, exciting, sir'. Much more 'excitement' followed as Synnot served in *Stuart* at the Battle of Matapan and during the evacuations of Greece and Crete. He was mentioned-in-despatches for bravery when ferrying soldiers off the beach at Tolon, Greece, in strong wind, heavy surf and under shellfire. Synnot later served onboard HM Ships *Barham* and *Punjabi*. He was onboard *Punjabi* when it was sunk in collision with the battleship HMS *King George V* in Arctic waters in 1942. Paddling in the mid-winter conditions, covered in engine oil, he was fortunately rescued by another destroyer. Later in life, he joked that the bill for the oil-fouled sheets where he slept onboard that destroyer followed him for the rest of the war. Synnot joined HMAS *Quiberon* in July 1942 and remained onboard until December 1944. He was promoted to lieutenant in April 1942 and became the ship's second-in-command at age 22. After leaving *Quiberon* he qualified as a specialist Gunnery Officer at HMS *Excellent*, Whale Island, Portsmouth.

After the war, he served in the aircraft carrier HMAS *Sydney*, on staff at Navy Office, and as an instructor at HMS *Excellent*, being promoted to lieutenant commander in 1950 and commander in 1954. In 1956 he commanded HMAS *Warramunga* during the Malayan Emergency and as a guard ship for the yachting at the Melbourne Olympic Games. Promoted to captain in 1960, Synnot commanded HMAS *Vampire* in operations in Southeast Asian waters, including a visit to Saigon in 1962. He left *Vampire* to become Chief of Naval Staff for the Royal Malaysian Navy, a position which he held from 1962 to 1965. His efforts helped establish a strong naval tradition in Malaysia

and his service was recognised when he was awarded the Order of Chivalry 3rd class, Johan Mangku Negara, (3rd Grade of Darjah Yang Mulia Pangkuan Negara). His tact, judgment and energy were all instrumental in his success in this complex environment. Unfortunately, his stay in Malaysia was interrupted by the illness of his wife, Virginia. When she subsequently died in Australia, Synnot's sister, Kitty Howson was able to care for his two young daughters while their father was at sea.

In 1966, Synnot commanded *Sydney* on two voyages to South Vietnam carrying troops and equipment in support of the Australian Army. On one of these occasions he successfully berthed the 698 foot (213 m) long aircraft carrier in Sydney without tugs – his ship handling skills receiving a loud cheer from the ship's company. The following year he commanded the aircraft carrier HMAS *Melbourne* during the introduction of the A-4 Skyhawk and Grumman S-2 Tracker aircraft. In the words of Vice Admiral (Sir) Richard Peek, 'the flagship never had a better, more efficient and more loved captain'.

During 1968 Synnot attended the Imperial Defence College in London. He married his second wife Anne Colvin, the daughter of Admiral Sir Ragnar Colvin, KBE, CB, RN, in the same year before returning to Canberra. He was promoted to rear admiral and appointed Second Naval Member in 1970, and subsequently Deputy Chief of Naval Staff. In 1973 his last sea-going command was as Flag Officer Commanding the Australian Fleet.

Returning to Navy Office in Canberra in 1974, he served as Director Joint Staff on the Defence Force Staff, and then as Assistant Chief of the Defence Force Staff. He was prominent in organising relief operations after Darwin was devastated by Cyclone Tracy on Christmas morning 1974.

Synnot was promoted to vice admiral and appointed Chief of Naval Staff (CNS) in November 1976. During the same year he was also awarded an Officer of the Order of Australia. While CNS he ensured that the RAN developed an awareness of the decision making processes within the Australian government. He emphasised good planning and staff work and improved systems and relationships between the military and public service arms of the Department of Defence. Although he recognised the need to buy the United States built *Adelaide* class frigates (FFG) as a stop gap measure, he consistently advocated renewal of an Australian in-country shipbuilding effort.

In April 1979 he was promoted to admiral and became the Chief of Defence Force Staff, a position he held until his retirement in 1982. He initially persuaded the Australian government that replacement of the aging aircraft carrier *Melbourne* was a high priority and was involved in the decision to buy HMS *Invincible*. Later, he criticised the Fraser government's economic cut backs when they 'rescheduled' a range of re-equipment programs, including the purchase of a replacement aircraft carrier for the RAN. 'Rescheduling' was a euphemism used to hide the loss of defence force capability without directly over-ruling the individual Defence Force and Service Chiefs. Despite

such setbacks Synnot was always courteous, patient and thoughtful. His approach was not adversarial, but rather he sought consensus through systematic effort.

After retiring from the RAN, he became Chairman of the Council of the Australian War Memorial, a post that he relinquished in 1985. Survived by his second wife Anne and his four children Jane, Amanda, Zoe, and Mark, he died on 4 July 2001 after a long illness and a number of years suffering total blindness.

Synnot was one of the most highly respected officers ever to serve in the Australian Defence Force. He had a presence that simply commanded without ever raising his voice or using theatricals. From an early age he was destined for the highest ranks, despite the determination of a select group of politicians and defence bureaucrats to promote only 'safe' people to senior rank. With strategic foresight and determination he started a program to improve the equipment capability of the Australian armed forces that would enable Australia to play a significant military role as a leader in the Asia-Pacific region.

Gregory P Gilbert

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Abbreviations

AA/AD	Anti-Access and Area Denial
ASW	Anti-Submarine Warfare
C4I	Command, Control, Communication, Computer, Intelligence
DD	Destroyer
DE	Destroyer Escort
DDG	Guided Missile Destroyer
DDH	Helicopter Capable Destroyer
EEZ	Exclusive Economic Zone
FFG	Guided Missile Frigate
HADR	Humanitarian Assistance and Disaster Relief
ICBM	Intercontinental Ballistic Missile
IJN	Imperial Japanese Navy
JASDF	Japan Air Self Defense Force
JGSDF	Japan Ground Self Defense Force
JMG	Japan Maritime Guard
JMSDF	Japan Maritime Self Defense Force
JSDF	Japan Self Defense Force
LOSC	<i>United Nations Convention on the Law of the Sea 1982</i>
MCM	Mine Countermeasures
MPA	Maritime Patrol Aircraft
NDPG	<i>National Defense Program Guideline</i>
NDPO	<i>National Defense Program Outline</i>
PLA	People's Liberation Army
PLAN	People's Liberation Army Navy

RAN	Royal Australian Navy
SLBM	Submarine Launched Ballistic Missile
SLOC	Sea Lines Of Communication
SSBN	Nuclear Powered Ballistic Missile Submarine
SSN	Fast Nuclear Submarine
USAF	United States Air Force
USN	United States Navy
WWII	World War II

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JMSDF and the Japan-US Alliance

In 1952, only seven years after the end of World War II (WWII), the Japan Maritime Guard (JMG) was established as a rudimentary defence organisation for the nation. Its leaders were determined that it would be a navy, not a reinforced coastguard. Most were combat experienced officers (captains and below) of the former Imperial Japanese Navy (IJN), and they had a clear understanding of the difference between coastguard type law enforcement and the roles of a navy. Two years later, the JMG was transformed into the Japan Maritime Self Defense Force (JMSDF), with leaders whose dream to build a force which had a true naval function was stronger than ever.¹ However, they also knew the difficulty of re-building a real navy in light of strict constraints imposed by the new, postwar constitution.² Nonetheless, the JMSDF has built its forces and trained its sailors vigorously with this goal in view, and it is today one of the world's truly capable maritime forces in both quality and size. In order to understand the nature of the JMSDF and the maritime power of Japan, it is necessary to start by examining its defence strategy.

Japanese maritime strategy and the JMSDF

Since the founding of the Japan Self Defense Force (JSDF) in 1954, and within it the JMSDF, the defence strategy of Japan has been based on the Japan-US Alliance; surviving a number of iterations the alliance is detailed in the *Treaty of Mutual Cooperation and Security between the United States and Japan*. This posture was clearly established by article 4 of Japan's *Basic Policy for National Defense*, which was adopted by the National Defense Council and approved by Cabinet on 20 May 1957.³ The four major defence policy documents that have appeared since then: the *National Defense Program Outline* (NDPO) of 1977 and 1996, and the *National Defense Program Guideline* (NDPG) of 2005 and 2010, have all confirmed that the basis of Japan's national security and defence is the Japan-US Alliance.⁴

Fully complying with this concept, the military strategy of the JSDF has been to build and maintain the defence posture of Japan through cooperation with US forces under the alliance. Exceptions would be the outbreak of a military conflict, or limited aggression against Japan, in which case the JSDF would be solely responsible for appropriate military measures. Thus the operational concept of JSDF with respect to US forces has been one of complementary mission sharing, in which US forces concentrate on offensive operations, while the JSDF maximises its capability for defensive operations. In other words, the two forces form what is known as a spear and shield relationship.

For instance, under this policy, the Japan Ground Self Defense Force (JGSDF) remains on Japanese territory, preparing for an enemy invasion, while US Army and Marine Corp forces prepare for and conduct expeditionary operations against enemy forces outside Japan. In case of an invasion, these three ground forces would fight together

on Japanese soil. Similarly, the Japan Air Self Defense Force (JASDF) is to be engaged solely in the defence of Japanese air space, and provide overall safety and security to the Japanese people, and to US forces in Japan. Thus, the JASDF relieves the US Air Force (USAF) of the heavy burden of air defence around Japan. This enables USAF units to allocate extra assets for strike and other operations conducted against the enemy.

As for maritime operations, ensuring the safety and security of the waters around Japan is the most important mission. In this way the JMSDF ensures that Japan can receive American reinforcements from across the Pacific Ocean, guarantees the safety of US naval forces operating around Japan, and enables US carrier strike groups to concentrate on strike operations against enemy naval forces and land targets. At the same time, for Japan, as a country of few natural resources and little domestic food production, the safety of merchant shipping is a matter of national survival in crisis or wartime. All of these operations are grouped under the heading of protection of sea lines of communication (SLOC) in the north western Pacific Ocean. The JMSDF has accepted these simple realities as the essence of its strategic objectives.

The primary mission of JMSDF has consistently been defined as the protection of SLOC and the defence of the homeland in case of direct invasion. In support of this defence strategy, the JMSDF has set anti-submarine warfare (ASW) as its main task. The operational concept under the Japan-US Alliance means that in case of a national or regional contingency, the US Navy (USN) would deploy carrier strike groups into the seas surrounding Japan, to provide strike capability lacking in the JMSDF, to oblige the enemy to give up its intention to invade Japan or attack its shipping routes. It would be necessary to exclude firmly the enemy's submarines, which could be the greatest threat to such operations in Japanese waters, and to the safety of trade around Japan. As a result of this logic, ASW was the main pillar of JMSDF operations. Even in the present security environment, twenty years after the end of the Cold War and the threat of invasion from the Soviet Union, two factors are unchanged: the Japan-US Alliance, and Japan's dependence on imported natural resources. Therefore the protection of SLOC continues to be a primary mission for the JMSDF.

Homeland defence, of course, remains a mission as well, however unlikely its occurrence. It is based on the assumption of a direct invasion into Japan by an enemy's ground forces. This would certainly be a state of national emergency, and each branch of the JSDF would do its best to repel the enemy. At the same time, homeland defence operations involve many unforeseeable factors, such as how and where enemy forces will invade, and how US forces would assist the JSDF; projecting countermeasures and a course of action for all possible cases is complicated. In any case, certain operations associated with the protection of SLOC, for example establishing and maintaining conditions necessary for US forces arriving in the waters around Japan, also contribute to homeland defence. In other words, it is inappropriate to consider separately the operations required for each mission. Accordingly, JMSDF made it basic policy to

address the homeland defence mission by giving full priority to the warfare capabilities, especially ASW, required for the SLOC protection mission, in the belief that this concept would best contribute to Japan's homeland security by defeating invasion forces at sea.

JMSDF before 1990

The JMSDF from its foundation to 1980

Based on the aforementioned strategy, the JMSDF built up its fighting force over the previous 60 years. Major equipment used by the JMG in the early days of the JMSDF, were WWII vintage patrol frigates and landing support ships supplied by the United States.⁵ Aviation assets during this period included just a few WWII generation second hand aircraft, such as Avengers, Harpoons, and Catalinas from the USN.⁶

At the same time, along with additional old fleet destroyers provided by the USN, the JMSDF started building domestically designed destroyers, destroyer escorts, and other small ASW combatants such as submarine chasers from 1953. The main weapons onboard those ships were second-hand from the USN. During this period, the JMSDF started ambitious aviation programs, which were heavily supported by the USN. The JMSDF started introducing large numbers of Neptunes, the latest version of ocean surveillance aircraft, as well as Trackers used for ASW, from the United States. The first group of 16 Neptunes were provided by the USN under a military assistance program in 1956; then an additional 48 aircraft were manufactured in Japan under a license production agreement. A total of 60 Trackers were transferred to the JMSDF under a military assistance program in 1957.⁷

Of note, the JMSDF was determined to maintain and hand-down the good culture and heritage from the IJN, which was considered to be the spiritual base of Japan's new navy. In particular, the relatively large and quick resource allocation to maritime aviation, a clear legacy of the JMSDF from the IJN, whose aviation was the largest in the world in the early days of WWII, is one typical example of the determination displayed by JMSDF leaders at that time.

After several sets of five year long Mid Term Defense Programs beginning in 1958, the JMSDF became a large navy in terms of fleet size by the mid-1980s. There were about 60 ASW combatants; about 200 operational ASW aircraft, about 15 submarines and about 30 mine countermeasures (MCM) vessels. However, the quality of the fleet at that time was still insufficient by world standards. This apparently large fleet, in general, was a pre-modernised force, which lagged behind the leading navies in the world. Warfare areas such as digital computerised combat systems, missiles, passive ASW (surface ships and aircraft), satellite communications and shipboard helicopters, needed substantial improvement and modernisation. In the late 1970s, the JMSDF launched an ambitious modernisation program to get rid of, and to improve these fundamental shortfalls. Thanks to Japan's extremely good economy during the 1980s

and first half of the 1990s, the JMSDF successfully carried out its ambitious qualitative improvement programs without reducing its force strength.

JMSDF in the 1980s: an ASW force with balanced warfare capability

In order for the JMSDF to achieve its main mission of protecting trade routes around Japan, especially in the north western Pacific Ocean, the JMSDF set clear operational objectives for its fleet; in setting these objectives, there were two factors for the JMSDF to consider. One was the very bitter experience of Imperial Japan and the IJN's failure during WWII. The USN, especially its submarine force, sent a fatal blow to Imperial Japan's survival by substantially destroying vital merchant shipping from 1943 onwards. Together with the sea mine blockade from late 1944, Imperial Japan was literally isolated, and from spring 1945 onwards, was practically on the verge of nationwide death from the threat of starvation. This bitter lesson was a strong motive for the JMSDF to set new objectives for its fleet. Another element considered in the strategic planning of the fleet was the robust submarine force of the Soviet Pacific Fleet in the Cold War. During this period the Soviet Pacific Fleet's submarine force, which was home ported in Vladivostok and Petropavlovsk, posed a serious threat to both Japan's trade routes and USN forces deployed in the north western Pacific Ocean.

For the JMSDF, protection of US naval forces deployed in Japanese waters has been key to successful maritime operations under the Japan-US Alliance. Based on this, the JMSDF set up an ASW capability as a primary warfare objective for its force build up, and for fleet operations. At the same time, in order for the JMSDF to conduct enduring ASW operations against the robust Soviet submarine force for prolonged periods, the JMSDF strongly recognised the importance of balanced capabilities among ASW and anti-air warfare as well as anti-surface warfare, which were supported by electronic warfare and command, control, communication, computer and intelligence (C4I) systems. It was quite clear that the JMSDF, which would be deployed for SLOC protection operations during war time, would surely encounter fierce repeated attacks from all Soviet fleet assets, including its anti-ship missile equipped long range bomber and surface forces. Even for the USN's carrier battle group during this period, force protection against anti-ship missile attacks from Backfire and Blackjack bombers was one of the most difficult concepts and most serious concerns for years.

JMSDF in the 1980s: operational concepts for fleet operations

Along with these warfare capabilities, the JMSDF developed its own unique operational concepts for fleet composition. For surface forces, taking the maintenance and training cycle of the destroyer force into consideration, the JMSDF was to maintain four Escort Flotillas (destroyer task group), which would ensure at least one operationally ready flotilla at any time. The composition of each flotilla was identical, encompassing one DDH, a helicopter destroyer which carried three ASW helicopters and is the flagship of the flotilla; two DDG, which were fleet air defence destroyers with long range

surface to air missiles; and five DD, which carried one ASW helicopter and a tactical towed array sonar system. All destroyers were basically ASW ships. In total, there were eight destroyers and eight helicopters assigned to each flotilla. In addition to these four flotillas, there were ten destroyer divisions, with three destroyers each, for the defence of vital coastal areas such as major port complexes and strategic straits.

As for naval aviation, the JMSDF needed 80 fixed wing maritime patrol aircraft (MPA) for wide area ocean surveillance and ASW. Twenty more MPA were planned for direct support to the Escort Flotilla, meaning the target strength was 100, (10 squadrons, with 10 aircraft each). The JMSDF also needed a large number of ASW helicopters for its operations. First, there should be four helicopter squadrons for Escort Flotilla deployment, with twelve ASW helicopters assigned to each squadron. In total, there were 48 ASW helicopters in four squadrons. In addition to these shipboard helicopter squadrons, there were five more squadrons for vital coastal area defence. Therefore, an additional 50 ASW helicopters, 10 for each squadron, were also planned.

The requirement for submarines was very unique in the JMSDF. During the Cold War, one of Japan's strategic responsibilities under the Japan-US Alliance was to maintain control of three strategic straits, which could contain the Soviet Pacific Fleet, mainly its submarines, in the Sea of Japan. In order to realise this strategic responsibility, the JMSDF took the operational advantages and disadvantages of diesel-electric (conventional) submarines into consideration, and decided to deploy its submarine force to pursue this mission. The conventional submarine was considered to be the most suitable asset for this strait blockade operation. For the conventional submarines of the JMSDF, ambush operations in relatively narrow 'choke point' waters were an ideal task that would make up for their limited endurance and manoeuvrability. Based on this concept, the JMSDF developed operational requirements for its submarine force, and its force strength was decided to be 16. For operational planning purposes, submarines were considered to be ASW assets, not SLOC disruption assets.

With regard to MCM requirements, there were four key elements to consider. The first was a responsibility of the JMSDF as an allied partner of the USN. Japan has been hosting one carrier strike battle group at Yokosuka, and one expeditionary strike group at Sasebo, for decades. The safety and security of these two bases and two task groups have been one of the most important considerations for the JMSDF; protecting these bases and forces from sea mines was the most important task. A new concern with this concept was the deep water sea mine, which could be laid on the ocean floor in areas deeper than the continental shelf; this mine was said to have been developed by the Soviet Union during the Cold War. If this type of new mine was deployed in deep waters outside of Tokyo Bay or Sasebo, the safety of key USN strategic assets, forward deployed in Japan, would be seriously jeopardised. Therefore, the JMSDF required sufficient MCM capabilities for both coastal and deep water operations.

The second task was the protection of several vital areas where the trade and production centres of Japan were concentrated. As mentioned briefly before, Japan suffered an excruciating experience during WWII and learned a precious lesson. The USN's sea mine operation against Japanese SLOC (Operation STARVATION) after late 1944, was a fatal blow to the survival of Imperial Japan and its people. Given that there were about ten vital centres in Japan, the JMSDF decided to maintain appropriate MCM capabilities around these waters. Yokosuka and Sasebo, where US naval bases were located, were included in these ten strategic centres. The third task was taking measures against a full scale and concentrated sea mine blockade by Soviet forces. The JMSDF needed to be ready for this scenario. In this case, it would concentrate all available MCM forces to the threatened area under a single commander. For this purpose, a single MCM commander, which would be one of two MCM Flotilla commanders and its force (a MCM Flotilla size), would be assigned to the task.

Last, but not least, is the fourth task involving operations during a Korean peninsula scenario. If a future military conflict on the peninsula were to break out, Japan would provide a variety of basic support for all US operations deployed to the conflict. In this scenario, security of SLOC between Japan and the Korean peninsula, though short, against enemy sea mines (Soviet or North Korean) would be the most important task for the JMSDF. Like the third task mentioned above, most of the JMSDF's distributed MCM forces would be concentrated under a single MCM commander. Based on these four considerations, the JMSDF decided to maintain two MCM flotillas, one deep-water capable MCM division, eight coastal MCM divisions, and two MCM tenders/mine layers, for these missions. In addition to MCM vessels, Japan operates a single squadron of MCM helicopters, which would be tasked to conduct precursor operations in dangerous areas. Other than the USN, the JMSDF is the only maritime force which operates helicopter MCM assets.

JMSDF during and post the 1990s

From quantitative increase to qualitative improvement

As mentioned in the previous section, the force strength of the JMSDF reached its planned goal in the late 1980s. In terms of force build-up the first 30 years was a period when every effort was made to rebuild a new maritime force for Japan, in quantity under extremely limited national resources. The JMG and JMSDF started rebuilding its forces from nothing, in the very poor nation of a defeated Japan. The IJN had physically and totally disappeared by the end of WWII, and nothing but its spiritual heritage was left for the JMSDF to inherit. Some considerations and attempts on qualitative improvement were also made, but they remained a secondary priority for force build up during this period.

Capability	Formation	Composition	Operations
Destroyers	4 Flotillas	32 DD	
	One Flotilla: 8 ships (1 DDH, 2 DDG, 5 DD) + 8 helicopters		
	10 Divisions	30 DD	coastal defence
	Flagship	1 DD	
Aviation (Fixed-wing)	8 Squadrons	80 MPA	area surveillance
	2 Squadrons	20 MPA	direct support
Aviation (Helicopter)	4 Squadrons	48 helicopters	shipboard
	5 Squadrons	50 helicopters	coastal defence
Submarine	16 Boats		chokepoint
MCM force	2 MCM Flotillas		
	2 tender/mine-layers		
	2 MCM Divisions	6 ocean mine sweepers	deep waters
	6 MCM Divisions	18 coastal mine sweepers	coastal waters
	6 MCM Divisions	16 coastal mine sweepers	coastal waters
	1 MCM Squadron	12 MCM helicopters	precursor operations

Table 1: JMSDF force requirements in the 1980s⁸

In the late 1970s and early 1980s when the physical strength of the fleet had reached its goal, the JMSDF launched various ambitious force build-up programs that were intended to improve all at sea combat capabilities, constructed around ASW. Additionally, given the determination of US President Reagan to ‘win’ the Cold War, and the associated new *Maritime Strategy*, issued 1986, Japan quickly recognised the necessity to improve its interoperability with the USN to meet and to realise the concepts in the *Maritime Strategy*. In order to enhance interoperability with an advanced USN, especially with 7th Fleet and Pacific Fleet, the JMSDF required substantial improvements to the quality of its war fighting capability.

Force building and qualitative improvement initiatives

The JMSDF's action was quick and substantial and it established a new DD program to realise new requirements. The intent was to shift its DD fleet from conventional, (that is, WWII type manual combat information centre (CIC), gun only, and active ASW with steam/diesel powered ships), to new generation ships which had a computerised CIC, gun and missiles, active and passive ASW capability with a helicopter onboard, and propelled by gas turbine engines. Details of the new DD during this period included the introduction of the full US naval tactical data system, with surface-to-air and surface-to-surface missile capability. As for ASW improvements, the DD were to carry one ASW helicopter and a tactical towed array sonar system as well as sonobuoy data processing systems for helicopter operations.

In order to cope with increased anti-ship missile threats, the number of DDGs were to be increased from 4 to 8, and the budget for the first Aegis-equipped DDG was authorised in 1988 as a symbol of qualitative improvement of the Escort Flotilla. Existing DDHs underwent substantial overhaul and improvement to install naval tactical data systems and short range surface to air missile systems. In addition to those, all destroyers were to install JMSDF satellite communication systems with USN satellite communication systems also installed on all core ships (DDH and DDG).

With regard to improvements of fixed wing aircraft, the aging Japanese Neptune aircraft, of which there were 82, would be replaced by 100 P-3C Orion aircraft. ASW helicopters were also substantially reinforced and improved. The JMSDF and Japanese industry installed new mission avionics on existing original HSS-2 helicopters to meet operational requirements. This newly developed multipurpose helicopter had ASW (dipping sonar, sonobuoy and magnetic anomaly detector) as well as surface surveillance capability from an onboard surface search radar.

Submarines, in general, were a fairly indigenously developed military system, and few technical exchanges were made between related nations. One exception was a direct purchase of export models from foreign nations. Even so, the JMSDF learned a lot of fundamental elements of submarine operations from the USN; however, the degree of exchange between the two submarine communities was relatively minor compared with that of surface force and aviation communities. Improvement programs during and post the 1980s, were basically planned and executed using Japanese expertise. Main areas of improvement included new shipboard command and control capability with digital computers and advanced display systems, a new submarine towed array sonar system, a new battery, and development of a new torpedo. In addition to these, later ships started receiving JMSDF satellite communication systems, which was expected to greatly increase the C4I capability of conventional submarines.

Another noteworthy submarine upgrade was the introduction of the Air Independent Propulsion (AIP) system. In spite of its small power output, AIP was expected to

increase the submerged endurance of conventional submarines substantially. The JMSDF selected the Swedish developed Stirling engine as its candidate, and started testing an imported prototype at a shore test bed site. After a series of year long shore tests, the prototype AIP system was installed on a fleet submarine to conduct validation and certification tests in a real operational environment. After hundreds of thoughtfully developed tests, it was certified and authorised for fleet use.

Improvement attempts for MCM forces were a little behind compared to the other three branches of the JSDF. In August 1945, when WWII was over, there were approximately 55,000 Japanese and 11,000 US laid sea mines in Japanese waters. Subsequently, mine clearance at that time was one of most urgent and important missions of the Japanese government, which remobilised ex-sailors from the IJN to start clearing these sea mines. The MCM organisation became the nucleus of the later established JMG and JMSDF. Eventually, when the JMSDF took over this operation, its MCM force had accumulated decades of mine clearance experience.⁹ Because of its experience, it was natural that the JMSDF had a strong but hidden confidence in its MCM force. However, this force had focused mainly on mine sweeping and mine clearance by divers. Japan was behind on mine hunting operations and technology, which was a new MCM skill requiring development from the 1980s onwards.

The JMSDF first recognised this problem when it sent an MCM force to Kuwaiti waters in 1991 after the 1990-91 Gulf War. The force cleared 34 mines, but none of them were destroyed by mine sweeping. Based on this capability gap, the JMSDF started a new program to improve its mine hunting capability. As a result of intensive research into MCM equipment around the world, Japan selected the Royal Navy's command and control system and mine hunting variable depth sonar, and the French Navy's remotely controlled underwater vehicle for its new mine hunting equipment. The first two mine hunters were funded in 1995, and ten more vessels were built in the following years. The MCM force then became a real force capable of both mine sweeping and hunting. Additionally, during this period, two of the worlds largest and most capable MCM tender/mine layers went into fleet service.

Another unique feature of the MCM force was a helicopter squadron. Only the United States and Japan have this unique capability. Helicopters would be mainly used for precursor operations and MCM in shallow waters. The JMSDF used to operate eight V-107As for MCM operations; however its capability was fairly limited. To counter this, 11 MH-53Es were introduced, which were the same helicopters used by the USN. During this period, the JMSDF also started several other improvement programs. Among them was construction of three large and fast supply ships, and three transport ships, which improved logistics capability. As for aviation, five EP-3s (electronic intelligence aircraft) and five OP-3s (image and optical intelligence aircraft) started joining the inventory in the late 1980s and early 1990s.

JMSDF in the 21st century

If we take the time consuming and intense resource nature of the JMSDF's force build up into account, the two decades spanning the 1980s and 1990s were not sufficient for it to fully improve the quality and combat capability of its fleet. The primary aim of the JMSDF, in all warfare areas, is to fight modern combat, either unilaterally or bilaterally with US naval forces, and it has substantially improved. At the same time, two new factors emerged in the security environment during the 1990s and the first decade of the 21st century.

One factor was the many side effects caused by the end of the Cold War and the demise of the Soviet Union and the Eastern-bloc nations in 1991. There were hopes for a peaceful future in the 1990s but reality was different, and there were many destabilising incidents, which made the role of the United States and NATO more important. In the military community, new types of non-combat mission, which used to be considered secondary, such as humanitarian assistance and disaster relief (HADR) operations and counter trafficking/illegal immigration operations, became the main or at least semi-main mission of military forces. Peacekeeping operations also became an important military mission. Within this environment, a new form of international military cooperation, 'a coalition', became the standard multinational cooperation framework after the 1990-91 Gulf War. The second factor was the rise of China as a world superpower. First, China emerged as an economic power from the early 1990s, then it grew to be an economic superpower whose gross domestic product became equivalent with that of Japan in the mid-2000s, eventually surpassing it in 2010. An extremely good Chinese economy supported a substantial and sustained military build up and modernisation of its People's Liberation Army (PLA) during the 2000s.

Shifting perspectives from global change to domestic change in Japan, there was another factor to consider; the Japanese economy, which had once supported ambitious modernisation programs in the 1980s and 1990s, suffered setbacks. The so called 'bubble economy' of Japan burst in the mid-1990s, and has stalled ever since. The defence budget has also continuously decreased by about 1 per cent per annum since 2000.

Japanese forces took these new factors into consideration and adjusted their strategies and force build up programs. The *National Defense Program Guideline* published in 2005 and 2010 respectively, outlined three key policies for the revised strategies needed in the 21st century. First is an understanding of the continued importance of Japan's alliance with the United States. Second is a determination to build and maintain a reasonably-sized and capable JSDF, which would fully meet future security challenges. Third is a new initiative to actively participate in various international security activities. The basic thought behind this was the idea that while keeping the

Japan-US Alliance as a building block of national and regional security, Japan would play a larger international role in global and regional security.¹⁰

For the JMSDF, the following are the basic components of its new posture and force strength, which take into consideration the above mentioned revised strategy and force build up policy. With regard to force strength of front line equipment there have been some reductions in size but the quality of each force is continuously improved.

Surface force

The size of the surface force was reduced but new ships and programs have been maintained. The older *Haruna* and *Shirane* class DDH are being replaced with the *Hyuga* and 22DDH class helicopter carriers in the current five year program.

Two more Aegis-equipped *Atago* class DDG with latest combat systems joined the existing fleet of four Aegis-equipped *Kongo* class DDG. The JMSDF plans to replace the remaining two *Hatakaze* class DDG with the latest Aegis-equipped DDG in the next five year program.

As for the DD, there have been continued efforts to improve them. The first generation of new destroyers to realise improvements, the *Hatsuyuki* class and the improved *Asagiri* class, were built in the 1980s and early 1990s. Then, the second generation of new larger and more capable *Murasame* class and improved *Takanami* class, were built in the late 1990s and early 2000s. Now the program has shifted to a third generation, the improved *Akizuki* class in 2007.

At the same time, the total strength of the destroyer force has been reduced from 63 to 48 vessels in the latest *National Defense Program Guideline*, dated December 2010. My main thought about this reduction is, first, to maintain the same strength of four escort flotillas of 32 destroyers which have been considered the core force of the JMSDF. However, due to tight budget constraints and changes in the regional security environment, the destroyer force for coastal defence was reduced from 10 divisions of 30 ships (3 DD for each division) to 4 divisions of 16 ships (4 DD for each division). Also, one flagship was deleted in 2007.

Aviation

There is one new aviation program which intends to develop a follow-on MPA to the current large fleet of P-3C Orion aircraft. Development of this new MPA (P-1) started in 2001, and subsequently successfully completed. The budget for the first four new MPAs was approved in 2008 and according to a media report, about 70 P-1s will replace 80 P-3Cs. The faster speed and longer endurance of P-1 aircraft will make up for its smaller numbers.

The upgrade program for the ASW helicopter is a little different. In the 1980s, the JMSDF used the HSS-2B as first generation ASW helicopters to improve fleet capability,

which was closely linked to the first generation of *Hatsuyuki* class DD. In the 1990s, Japan shifted to the SH-60J whose airframe and engines were the same as the USN SH-60s. The onboard mission avionics system of this helicopter was domestically developed to meet the JMSDF's unique operational requirements. The SH-60J was a multipurpose aircraft with the latest ASW capability and the aircraft was satisfactory except for its small fuselage and cabin. Nevertheless, in the mid-1990s the JMSDF started an upgrade program, which included enlarging the fuselage, adding infrared forward looking equipment, short range air-to-surface missiles, and a 7.62mm/.30cal machine gun; as well as self-protection systems (chaff and flare). This upgraded helicopter was designated 'SH-60K', and started entering fleet service in 2005.

Submarine force

Submarines also continued to be improved. Following the 7 *Harushio* class boats built from 1990-97, 11 *Oyashio* class boats were built between 1998-2008. The new characteristics of the *Oyashio* boats include the latest command and control, as well as an improved display system, and submarine towed array sonar system (because the long hoped for AIP system did not arrive in time for construction). The next generation boat, *Soryu*, was planned in 2005 and completed in 2009. This is the first submarine equipped with an operational AIP system. There are several improvements including installation of an X-shaped rudder and the satellite communication system from preceding *Oyashio* class boats, and large numbers of this class will be built as core boats of the submarine force.

One new noteworthy concept of the JMSDF is its intent to increase the number of its submarines from 16 to 22. This concept is considered a new initiative in preparation for the recent and quick expansion of China's People Liberation Army Navy (PLAN). Japanese submarines could be a trump card to counter the contentious activities of the PLAN in the waters surrounding Japan.

MCM force

In the MCM community one primary change took place, which was the integration of two existing MCM Flotillas into a single Mine Force. Along with this integration, the number of divisions was reduced to nine, and the number of MCM vessels reduced to 27. At the same time more focus has been placed on an unmanned mine neutralisation system. The JMSDF reached its goal for the strength of its MCM force, both in quality and quantity, in the early 2000s. Next, the JMSDF intended to improve the safety of its force by developing the latest unmanned and autonomous MCM system, which would be unilaterally capable to search, detect, locate, identify, classify and neutralise sea mines. This system is designated the 'S-10' and was first installed on a new type of MCM vessel completed in 2008. Additionally, MCM helicopters were upgraded from the old MH-53E to the latest MCH-101 model.

JMSDF today

In the 2010 *National Defense Program Guideline*, 4 Escort Flotillas, 6 Submarine Divisions, 1 MCM Flotilla and 9 Patrol Wings/Squadrons were specified as the number of major units, and 48 DD, 22 submarines, and about 160 combat aircraft were designated as major equipment. At the same time, the JMSDF maintains support forces.

New initiatives

In addition to the aforementioned change of force strength, there have been some other new initiatives pursued and developed by the JMSDF. One has been the introduction of ballistic missile defence (BMD) capability by fully utilising its Aegis-equipped DDG fleet. Japan's most serious concern after the end of the Cold War was North Korea's nuclear and ballistic missile development during the 1990s. North Korea's wild actions caused serious concerns among the Japanese people, and their ballistic missile launch test attempt in August 1998 triggered the Japanese government decision making process to build an effective BMD network.¹² Based on this decision, Japan and the United States agreed to jointly participate in bilateral BMD efforts. As Aegis-equipped systems can provide a BMD capability, it became quite clear that the JMSDF's DDG fleet would be integral to Japan's BMD program. Four DDGs were modified to be BMD-capable ships in the mid-2000s, and successfully conducted live launch and engagement tests at the US Navy Hawaiian missile test range.

A second initiative was the creation of a Special Forces unit within the JMSDF.¹³ This new unit (the Special Boarding Unit), is intended to deploy in an armed resistance environment involving North Korean clandestine operational boats operating around Japan. The size of the Special Boarding Unit today is very small (headquarters unit and several ready platoons, and training platoons; about a company size of Special Forces capable personnel). In harmony with the establishment of the Special Boarding Unit, Japan also built six high speed patrol craft equipped with surface-to-surface missiles to counter any adverse North Korean actions near Japan's coastal waters. These boats displace about 400t, have a speed of about 40kt, and will be a primary reaction force against North Korean clandestine operations. As the JMSDF expands its non combat international operations such as counter-piracy activities or other maritime interdictions, there will be a growing need to expand the size of its Special Forces. At some point in the future, there will certainly be a possibility of expanding the Special Boarding Unit into a US Navy SEAL-type Special Forces.

Capability	Formation	Composition	Operations
Destroyers	4 Flotillas	32 DD	
	Strength of flotillas: unchanged 4 DDH, 8 DDG, 20 DD One Flotilla: 8 ships (1 DDH, 2 DDG, 5 DD) + 8 helicopters Improvements: DDH: <i>Haruna</i> (6500t) to <i>Hyuga</i> (20,000t) DDG: <i>Hatakaze</i> DDG (6500t) to <i>Atago</i> DDG (10,000t) DD: <i>Hatsuyuki</i> (4000t) to <i>Takanami</i> (6,300t)/ <i>Akizuki</i> (7000t) Helicopter: HSS-2B to SH-60K		
	4 Divisions	16 DD	coastal defence
	Strength of DD Division: 10 (3 DD/Div) to 4 (4DD/Div) Total strength of DD: to be decreased from 30 to 16		
	Flagship	Deleted	
Aviation (Fixed Wing)	4 Wings	About 70 MPA (P-1)	area surveillance
	Equipment upgrade: P-3C to P-1 Total strength: 100 to about 70 Direct support for surface Escort Flotilla: deleted		
Aviation (Helicopter)	4 Squadrons	48 helicopters	shipboard
	Strength: same Equipment upgrade: HSS-2B to SH-60K		
	5 Squadrons	About 50 helicopters	coastal defence
Strength: slight-decrease Equipment upgrade: HSS-2B to SH-60J/K			
Submarine	22 Boats		sea denial
	Strength: to be increased from 16 to 22 - introduction of advanced <i>Soryu</i> class (AIP) Strategic shift: North (Soviet) to West (China)		
MCM force	1 Mine Force		
	2 tender/mine-layers 1 MCM Division (3 MSO), 2 MDM Divisions (6 MSC)		
	6 MCM Divisions	18 MSC	coastal waters
	1 MCM Squadron	11 MCM helicopters	
	Strength: reduced from 12 to 11 Equipment upgrade: MH-53E to MCH-101		

Table 2 shows the proposed force strength of the JMSDF. The estimates in the table are based on the 2010 NDPG, which only showed the size of major units and equipment.¹¹

Challenges: the rise of China and Japan's strategic shift from north to west

A new concern for Japan in the 21st century is the rise of China, which has been enthusiastically modernising its army and navy for the last decade. In particular, the PLAN modernisation and its expanded activities in the north western Pacific Ocean, East and South China seas, and the Indian Ocean have generated serious concerns in neighbouring nations and in their navies. The JMSDF is not an exception. Based on this perception, the *National Defense Program Guideline* published in 2010, clearly shows the strategic shift of Japan from 'strategy in Cold War days (1950-90) and the following unstable 1990s', to a 'new strategy focusing on a growing China'. This shift is quickly summarised as a shift from north to west in Japan.¹⁴ However, for the JMSDF in this new security environment, its main missions are still to protect SLOC and to support USN operations in the north western Pacific Ocean and surrounding waters. For JMSDF, the strategic shift of a 'nation of concern' from the Soviet Union to China has created little impact on its strategic planning. In other words, the north western Pacific Ocean and surrounding waters of Japan have been Japan's main theatres of maritime defence operation in the past, and will remain so in the future.

Prior to this new threat, the JGSDF and JASDF allocated most of their forces in northern Japan during the Cold War. These two services will now have to reallocate and relocate their fighting forces from northern to western Japan. From this point of view there are small changes for the JMSDF in this strategic shift. It is still very important for today's JMSDF to maintain its capability, which has been developed and improved to meet the new challenges in the 1990s and 2000s. This will mean continuing to contribute to the protection of vital trade routes and the provision of support operations to the USN, as well as conducting homeland defence operations. At the same time, however, there should be new considerations when new PLAN developments are considered. For example, there are several key concepts in the PLAN's strategy, which are listed below. It is true that there are many more key words which represent China's current strategies; however, the list below is good enough to explain the overall picture of its strategy:

1. anti-access/area denial (AA/AD) and anti-ship ballistic missile (ASBM)
2. area of core national interests: South China Sea and East China Sea
3. territorial disputes and natural resource competition
4. string of pearls: South China Sea and Indian Ocean
5. island chains: island chain of Okinawa and that on Ogasawara of Japan
6. new naval base on Hainan Island in the South China Sea

7. aircraft carrier program
8. naval strategic arms
9. asymmetric warfare.

Cooperation between the JMSDF and the US 7th Fleet

In order for Japan to fully respond to the new strategies outlined above, the most important thing is to develop and maintain sufficient maritime capabilities against the PLAN. The JMSDF should closely cooperate with the USN, because the main focus or strategic objective of China's strategy is directed at the USN. The PLAN strongly intends to create favourable conditions which will erode US intent and determination to intervene in Asian areas, and if possible, to prevent the deployment of USN forces in this region at any time, even during peace time. Therefore, there is a lot for the JMSDF and USN to do to deny and neutralise China's strategy.

One favourable situation is the fact that current JMSDF strength and capabilities are so well designed to support USN operations in the East Asia region. Its current strength, in terms of its capability to conduct non-nuclear maritime operations, is probably second only to the United States. For the USN, this means there is a robust Japanese maritime force, whose size and non-strike defensive operations capabilities are almost two times as large as that of the 7th Fleet. It is as if there are two additional fleets operating in the north western Pacific Ocean in support of US strike and expeditionary forces. If the two navies coordinate and cooperate well, they will surely be able to handle China's growing forces very well and wisely. If not, our future could be devastating.

Conclusion

The JMSDF, which has many unique Japanese constraints, has long been a bilateral maritime force with the USN. At the same time, Japan has built a robust 'tailored' fleet, which meets its strategic requirements. The JMSDF today is a well balanced maritime force, built around a strong ASW capability, which is indispensable for carrying out its strategic tasks. Japan's missions are to protect space, trade routes, support USN operations in the north western Pacific region, and contribute to its own homeland defence. From these points of view, the JMSDF today has become a world class navy both in quality and quantity.

The rise of China and its navy over the last two decades provides a new strategic challenge for both Japan and the United States. Putting politics aside, each nation should develop and build its own future military capability and cooperative posture, which should be robust and effective enough to cope with the PLAN's future growth and capabilities. Both nations and militaries should rework their military strategy,

review their roles and missions, rebuild new operational concepts, and re-establish a more practical and effective bilateral training posture. There will be several complicated political obstacles to overcome in order to realise the proposed bilateral cooperative posture and to develop effective capabilities vice policies. However, if we fail to realise a new form of cooperative posture it could damage the national interests of both nations, and eventually, seriously deteriorate the regional security environment.

Notes

This article represents the personal opinions of the author and not any official position of the JMSDF or the Japanese government.

1. The Japan Maritime Guard was established in the Japan Maritime Safety Agency (later Japan Coast Guard) on 26 April 1952. On 1 July 1954, the JMSDF was inaugurated by the Japan Defense Agency together with the ground and air self-defense forces. Ministry of Defense, *Boei Hakushyo [Defense of Japan 2008]*, English language version, Asagumo Shinbunshya, Tokyo, 2008, pp. 542-543.
2. The new constitution of Japan, which replaced the Meiji constitution, came into effect on 3 May 1947 in Occupied Japan. Article 9 prohibits Japan from having armed forces: 'aspiring sincerely to an international peace based on justice and order, the Japanese people forever renounce war as a sovereign right of the nation and the threat or use of force as means of settling international disputes. In order to accomplish the aim of the preceding paragraph, land, sea and air forces, as well as other war potential, will never be maintained. The right of belligerency of the state will not be recognized.' The Prime Minister of Japan and His Cabinet website is available at <www.kantei.go.jp>. The government's interpretation of article 9 is that the constitution bans 'wars of aggression,' not 'wars of self-defense.' Accordingly the JSDF, designed to act only in the defence of the nation if it is attacked, is purely a constitutional entity; collective view of the Hatoyama Cabinet, submitted 22 December 1954, is reprinted in, Ministry of Defense, *Boei Hakushyo [Defense of Japan 2009]*, Asagumo Shinbunshya, Tokyo, 2009, p. 604.
3. See Ministry of Defense, *Boei Hakushyo [Defense of Japan 2009]*, p. 17.
4. See Ministry of Defense, *Boei Hakushyo [Defense of Japan 2009]*, pp. 19-50.
5. See 'Kaijyo Jieitai no 50 Nen' [50 years of JMSDF], *Sekai no Kansen [Ships of the World]*, Kaijin-shya, Tokyo, May 2002, p. 48.
6. See 'Kaijyo Jieitai no 50 Nen' [50 years of JMSDF], *Sekai no Kansen [Ships of the World]*, pp. 106-107.
7. See 'Kaijyo Jieitai no 50 Nen' [50 years of JMSDF], *Sekai no Kansen [Ships of the World]*, pp. 108-109.
8. Table 1 was created using the following references:
 - a. Ministry of Defense, *National Defense Program Outline of 1977 and after*, submitted on 29 October 1976, specified the target strength of major forces and equipment of each service of the JSDF, the following figures for JMSDF strength were listed:
 - Core Force:
 - ASW surface force for mobile operations: 4 Flotillas
 - ASW surface force for local/regional operation: 10 Divisions
 - Submarine Force: 6 Divisions
 - MCM Force: 2 MCM Flotillas
 - Land-based ASW air force (fixed-wing and helicopter): 16 Squadrons

Major Equipment:

ASW surface ship: about 60

Submarine: 16

Operational Aircraft: about 220

b. Ministry of Defense, *Boei Hakashuya [Defense of Japan 2006]*, Asagumo Shinbunshya, Tokyo, 2009, p. 23.

c. Figures shown in Table 1 is the author's estimate of detailed break down of basic numbers officially listed in the 'Attached Table of NDPO of 1977 and after.' There is one mismatch between official figures in the NDPO and figures in Table-1; the number of land based ASW Airforce squadron (SQ). The official number is 16 but my figure is 15 (10 fixed wing ASW aircraft and 5 land-based ASW helicopters). The reason for this mismatch is the fact that the JMSDF failed to establish its last land-based ASW helicopter squadron to be stationed in Okinawa due to political reasons. Another hidden mismatch is the number of MCM vessels. The JMSDF originally planned to maintain 14 MCM divisions and 42 MCM vessels. There were 3 vessels in each division. However, due to budget and human resource constraints, the JMSDF traded the total number of MCM vessels for other areas of JMSDF capability, such as destroyers and naval aviation. On average, the JMSDF maintained about 35 MCM vessels in one deep water MCM division, 7 coastal MCM divisions in two flotillas, and 6 coastal MCM divisions for local/regional operations, in the last half of 1980s.

9. See Ministry of Defense, <www.mod.go.jp/msdf/mf/touksyu/kourokeikaisi.pdf>.
10. See Ministry of Defense, *Boei Hakushyo [Defense of Japan 2011]*, Japanese language version, Asagumo Shinbunshya, Tokyo, 2011, pp. 161-162.
11. The figures shown in Table 2 are the author's estimate of detailed break down of basic figures officially listed in the Ministry of Defense, *National Defense Program Guideline FY 2011 and after*, Tokyo, 17 December 2010, p. 451

Core Force:

Destroyer Force: 4 Flotillas and 6 Divisions

Submarine Force: 6 Divisions

MCM Force: 1 MCM Flotilla

Air Surveillance Force (fixed-wing and helicopter): 9 Squadrons

Major Equipment:

Destroyer: 48

Submarine: 22

Operational aircraft: about 150

12. See Ministry of Defense, *National Defense Program Guideline FY 2011 and after*, p. 238.
13. See Ministry of Defense, *National Defense Program Guideline FY 2011 and after*, p. 228.
14. See Ministry of Defense, *National Defense Program Guideline FY 2011 and after*, pp. 168-176. The Ministry Of Defense does not officially designate China's threats, but if we take all security elements in the region into consideration, it is clear that Japan has started shifting the strategic front from the north to the west.

A Japanese Perspective on China's Rise as a Naval Power

A comparison of US and Asian views on China's rise

For Japan, as well as for most other states in East Asia, China has historically been a big state that has exerted a profound influence on the region. The only exception to this was a 150 year span, beginning with the Opium War of 1840, during which Chinese power waned. In this sense, the strength of China today is not all that surprising; it is just returning to its former strength.

Of course, how to deal with this resurgent giant has been one of the most serious issues for East Asian states, and it will remain so in the foreseeable future. Even so, China seen in the eyes of some Asian peoples, especially to many Japanese people, looks a lot different than the China seen in the eyes of Americans. When the United States first joined international power games in East Asia, the power of the Qing state was already on the decline, and China was dubbed the 'sick man of Asia'. In other words, although China has been a great power over more than two millennia, the United States began to engage with it during the weakest 150 years of its history. The events of this period of weakness can be sketched as follows: partitioning by the European powers; the revolution of 1911 and post-revolutionary chaos; prolonged military conflict with Japan; civil war; and finally, the Communist Revolution of 1949, which led to the division of China and the cross Taiwan Strait conflict. Although diplomatic relations between the United States and China were normalised in 1972, the US did not view China as an international power to be reckoned with until the 1990s, when the Chinese economy embarked on an era of impressive growth. Therefore, if we compare the United States view of China with that of East Asian states, we will find that there is a gap between theory and actual experience. There is no doubt that the United States is very knowledgeable about Chinese history; yet, unlike Asian states, it was not there to bear witness to the Qing decline from its early beginnings. As a result the United States has become accustomed to viewing China as somewhat weak.

Based on this historical view, the idea of China as a political and economic world power may seem very unsettling to the United States, which explains why they have been slow to develop a comprehensive 'China' strategy. But it is precisely today, more than twenty years after the demise of the Soviet Union, that the United States must work with both Japan and China to construct a new framework for East Asian security. Such a framework would contribute to the security and stability not only of East Asia, but also of the international community as a whole.

Military and security perspectives of China's rise

China's national objectives and the role of its forces

In order to analyse the People Liberation Army (PLA) and the People Liberation Army Navy (PLAN), it is important to understand Chinese national objectives. In my view, there are five principal objectives:

1. maintain current rule by the Chinese Communist Party
2. maintain national sovereignty and territorial integrity
3. maintain economic growth
4. maintain strategic nuclear arms
5. maintain prestige in the international community as a superpower and equal partner of the United States.

The PLA and PLAN play a key role in achieving these national objectives. However the first objective, maintenance of rule by the Chinese Communist Party, is an internal non-naval subject, so the other four subjects will be discussed in this paper. Below, I will explain what tasks are carried out in relation to each objective.

Maintain national sovereignty and territorial integrity

I would argue there are three main tasks for the PLA and PLAN regarding national sovereignty. First of all, there is the preparation for seizing Taiwan by military means. Another way of saying this is that China is very pragmatic in its foreign policy conduct, preventing the independence or separation of Taiwan from China is simply the most practical means of maintaining national sovereignty.

The second task is the protection of China's coastal waters, including territorial waters, from foreign incursions or invasions. An extension of this is for China to use its status as a coastal state to claim stronger legal rights in its Exclusive Economic Zone (EEZ) than other nations. The rights it seeks to assert in this regard are not just economic; China has tried to constrain the non-economic activities of foreign nations in its EEZ as well. This policy is considered to be a misinterpretation, or expanded interpretation of the current international law stipulated by the *United Nations Convention on the Law of the Sea of 1982* (LOSC). Based on this position, China designates surrounding international waters such as the South China Sea, as areas of core national interest. In addition to this, China also seems to reclaim most of the South China Sea, delineated by a 'nine-dotted line' of the late 1940s, as its own waters. The expanded territorial claim based on this nine-dotted line, is China's unique and self righteous belief, and does not meet the generally accepted interpretation of LOSC. We can say this is a typical thought of a land power, which tries to control, or even seize, any area whose sovereignty is

uncertain. In contrast, maritime powers generally appreciate free and maximum use of the high seas where sovereignty does not belong to anybody. China may not hesitate to use power to assert its claims and its harassment of USNS *Impeccable* in March 2009 offers some evidence of this. Recently, several Chinese confrontations in May and June 2011 with Vietnamese and Philippine ships reaffirm China's hard line position.

A third task is the settlement of various territorial disputes with neighbouring states, mainly in regard to disputed islands in the South and East China seas. It is suffice to say here that the practical benefit China derives from these disputed islands is directly connected to its EEZ rights. China has been taking a hard line position on this issue for the last two decades, and it is obvious that there is no short term resolution through military measures. More comprehensive measures are needed that integrate diplomatic, economic, and military policy within the Chinese government.

With regard to military capability, the PLA has insufficient strength to fulfil the above three tasks. The PLA's Taiwan plan shows that the PLA, the PLA Air Force, the Second Artillery, and the PLAN, would carry out amphibious operations in order to seize Taiwan. Gaining control over the Taiwan Strait and its surrounding waters is a prerequisite for this operation. The PLAN would need naval forces of reasonable size for these purposes. It would require amphibious assets like large landing ships with flight decks and well-docks. In addition, it would need conventional naval forces, such as destroyers, frigates, and naval bombers with anti-surface ship missile capability to gain sea control in surrounding waters. Also, it is worth noting that in the event of opposition to the seizure of Taiwan, China would have to take several of the westernmost Sakishima Islands of Japan in order to facilitate its main operation toward Taiwan. As a result Japan may become a belligerent as well. The PLA would enhance its strike and land attack capabilities to neutralise the defending forces of the JSDF since it would be deployed on these islands and in adjacent waters. This possibility certainly generates serious security concerns and counter action in the political and military leadership within Japan.

Beyond the Taiwan strategy, in particular, it is worth noting that the PLAN has recently upgraded its forces so they can assist in carrying out a variety of operations. In particular, it has acquired a new class of surface-to-surface missile boats, as well as modern conventional diesel-electric submarines. Generally speaking these assets are difficult to operate because of the limited purpose they can serve, which comes at the cost of other balanced operational capabilities such as self defence and command and control. However, if appropriately deployed, they could substantially increase the strength of the PLAN.

One of the potential strategies of the PLAN to maintain national sovereignty is anti-access and area denial (AA/AD). This strategy is now attracting the attention of world navies, and has generated some concern for the US Navy (USN). Together with the

Second Artillery, the PLAN expects this AA/AD strategy to be a trump card to deter United States intervention in a crisis situation, especially by a USN carrier strike group. It may also restrain the ordinary peacetime deployment of US naval forces in the region.

Maintain economic growth

The PLAN also plays an important role in economic growth. In the age of growing global interdependence, it is paramount that China be able to guarantee stable flows of raw materials and products. Maritime transport accounts for the overwhelming majority of these flows. The PLAN plays two important roles in this area. Its fundamental task is to ensure China's freedom to conduct maritime activities on the high seas on a global scale. The PLAN will be responsible for providing security for maritime activities outside of its EEZ, especially in distant areas, such as African and South American waters. Since the high seas are open to use by anyone, the PLAN is required to have superior military capability over other competing nations when it operates there. In addition, it is tasked with ensuring that China retains exclusive rights to economic activities within its own EEZ. Together with aforementioned expanded territorial claims on islands in the South and East China seas, this is another reason why China has claimed a much wider EEZ. In order for the PLAN to support these key objectives, it has to have a well balanced fleet, capable of deterring and repelling any naval force in and around its EEZ. Because aircraft carriers have substantial capability for this purpose, it is envisioned that the PLAN will acquire them soon.

The second task of the PLAN in regard to the economy, is to maintain the security of the sea lines of communication (SLOC) in the East Asia region and beyond. In addition to this, like the United States and other industrial nations, China is an economic superpower that will compete with other states for strategic resources. China must therefore establish a 'blue water capability' in distant waters. Ironically, this may cause the PLAN, some day in the future, to face AA/AD challenges from coastal states in distant regions; these may be very similar to the AA/AD that the PLAN currently uses against the USN in East Asia. When China expands and increases its maritime activities in the Indian Ocean in the future, China may face the same kind of similar challenges from India. For example, the more China deepens its ties with Pakistan, Bangladesh, Burma, Sri Lanka and other island nations in the Indian Ocean ('string of pearls'), the more serious and condensed the friction between the Indian Navy and PLAN is likely to be. In this hypothetical case in the future, India may strongly claim its rights in waters around the Indian subcontinent in order to suppress and deny PLAN maritime activities. Thus, China's strategy could backfire over the long term.

Protection of SLOC is a difficult mission for any navy to accomplish, and the PLAN is no exception. The key question is what strategy the PLAN will employ to accomplish it? China may pursue it unilaterally or multilaterally. An alliance or coalition with nations that share common national interests may be a future possibility even if it deviates

from the traditional nonalignment policy of China. In any case, it is clear that no single option will be sufficient to realise full scale protection. In addition to this fundamental problem, it is doubtful whether the 'string of pearls' will have any significant benefit for China. In order for any navy to operate in distant waters from its homeland, reliable and functioning support bases dispersed in various key operational areas are vital. At present, only the USN has this capability. But the United States would not have this capability without close and stable allies such as NATO and Japan. In order for the PLAN to carry out various missions in distant waters, it would also require such allies. But due to its status as a non-aligned navy, it lacks such support on a global scale. However, we should pay keen attention to the various commercial ports which China has been actively investing in, because they would act as a force enabler for the PLAN once completed. But, it is also true that there are differences between a naval base in an allied nation and a commercial port in a friendly nation. We should not overestimate or underestimate these new ports in the string of pearls strategy. Simply a cool assessment will be necessary.

Maintain strategic nuclear arms

The PLAN has three key missions for this objective: first, to maintain a robust strategic nuclear capability via a nuclear submarine force (SSBN); second, to protect this force from the anti-submarine warfare (ASW) capabilities of potential adversaries; and third, to track and deter the SSBN force of the USN. For China, both inter-continental ballistic missiles (ICBM) and submarine launched ballistic missiles (SLBM) constitute the strategic 'nuclear duo' of its nuclear strategy. China does not have a long range strategic bomber fleet, which would give it a 'nuclear triad' capability. Although its medium range bombers may afford it triad capability against neighbouring India, the current duo posture is likely to remain central to its strategic nuclear strategy.

The PLAN is expected to play a core role in the nuclear duo posture. In order to maintain strategic nuclear capability at sea, the navy requires a large SLBM armed submarine force. Although China is in the process of constructing a second generation SSBN, it is reported that it has, for many years, only been operating one first generation SSBN. It is widely recognised that this submarine has conducted no strategic deterrence patrols in the past. It is also public knowledge that the PLAN has repeatedly failed in trial launches of the JL-2 missile, which is the next generation SLBM. As a result, the current capability of the SSBN fleet is still very underdeveloped and far from able to support China's nuclear strategy. Nevertheless, this is the same path that both the USN and Soviet Navy followed in the initial development phase of their respective ballistic missile submarine programs in the 1950s and 1960s. After struggling with many technical challenges, the two navies eventually resolved difficult problems, and their SSBN fleets have been indispensable parts of their strategic nuclear posture since the mid-1960s. In light of this, it is reasonable to estimate that it will be just a matter of

time before the PLAN takes corrective measures on its JL-2 development and deploys a new class of nuclear submarines.

The second task is to protect its SSBN fleet from opposing ASW forces, mainly those of the USN and JMSDF. There are several factors to be considered here. One is the area where the PLAN deploys its SSBN. China has traditionally operated its single ballistic missile submarine deep inside the Bohai Sea, the entrance to which is a gap between the Liaodong and Shandong peninsulas. This deployment posture has made the Bohai Sea a sanctuary for China's submarine for years. This has also made it very difficult for the USN to pursue its ASW strategy there. However, one should acknowledge that the current single SSBN has only a very infant stage ballistic missile launch system, and as such has posed practically no strategic threat to the United States. Moreover, by limiting deployment of the SSBN to this narrow stretch of water, the PLAN makes it very easy for the United States to maintain a ballistic missile defence posture since the trajectory of an SLBM launched from a submarine in the Bohai Sea would be fairly easy to predict. If ballistic missiles were launched from submarines scattered in several locations, it would be far more difficult for the United States to implement successful ballistic missile defence. Even if the official position of the United States, whose ballistic missile defence is not aimed at China's ICBM or SLBM, remains as it is today, in the future this new reality will have a significant impact on its strategic and ballistic missile defence planning. Because of this, the SSBN deployments could look very different in the future. A recent report revealed that the PLAN has completed construction of a new naval base at Sanya, on Hainan Island in the South China Sea. The geographic location of this island is strategically significant for various reasons. The island is located in a position to command the coastline of northern and central Vietnam. It is also in a most suitable position to keep an eye on and take military measures toward the disputed Paracel and Spratly islands. The location of Hainan Island is also an ideal spot to keep a close watch on trade routes connecting Malacca Strait/Singapore and Luzon Strait/Bashi Channel, which have traditionally been lifelines of both Japan and South Korea.

However, the Sanya Naval Base poses one new serious problem to the PLAN: it has geographic features which are very different from the Bohai Sea. The base is openly exposed to the South China Sea, so submarines operating from this base also expose themselves to USN ASW forces, which boast the most advanced fast attack submarine (SSN) force in the world. Therefore, the SSBN would no longer enjoy the safety provided by the 'submarine haven' in the Bohai Sea. If the PLAN deploys SSBNs from the Sanya Naval Base, they will surely be subject to constant monitoring by the USN SSNs. This problem makes strategic planning for China very difficult. Even so, there are several other advantages. For example, the PLAN, taking advantage of the Sanya Naval Base and increased number of SSBNs in the future, may employ two or more SSBN patrol spots in the Indian Ocean, South China Sea, or the western Pacific Ocean. This new

patrol posture would make the United States, and possibly India's ballistic missile defence mission very complicated.

Another apparent advantage of the base facility at Sanya is that it will have several super bunkers to protect submarines in-port. According to public sources, these bunkers include built-in berthing facilities for SSBN. They are constructed with heavy duty reinforced concrete, designed to sustain most of all possible airstrikes. These bunkers seem to have several advantages but they also remind us of the U-boat bases at Lorient and Brest in France, which were occupied by Germany during WWII. It was difficult for allied air power to fully destroy these resilient bunkers. However, what made a difference in WWII during the Battle of the Atlantic was not the bunkers themselves, but the sea control capability of the allied navies. In the end, it was through the cumulative efforts of airstrikes against these bases and ASW in the Atlantic Ocean that gained final victory over the once overwhelming German U-boat operations.

Although the capability of Sanya Naval Base is an important factor to consider in strategic planning, it is not as important as maintaining sea control and ASW operations. In the case of Sanya Naval Base, the locus of control would be the South China Sea, as well as potential SSBN patrol spots in surrounding waters. These are much more important factors for the USN, the JMSDF, and other navies in the area. For the PLAN, protecting its submarine fleet from external ASW threats will therefore be a key task. Escalated and persistent territorial claims to the Paracel and Spratly islands are clear signals that the PLAN is beginning to carry out its new mission. It is natural for China to construct airbases for its air-ASW force on several of these large islands to counter USN ASW forces and those of other neighbouring navies. In addition to these land bases, PLAN aircraft carriers also promise to deliver key and powerful naval air forces to support integrated ASW operations by air, surface, and sub-surface forces. The carrier force will provide much broader operational flexibility in this context, which is one of the rationales behind the PLAN appetite for aircraft carriers.

The third task is to track the USN SSBN force and deter its capabilities. If China really wants to establish parity in strategic nuclear deterrence with the United States, the PLAN should be capable of countering the USN on patrol. During the Cold War, the United States and Soviet navies monopolised this capability. If China wants to join these powers, it must make this capability a long term objective. There are two ballistic missile submarine bases in the United States, one in Bangor, Washington and the other in Kings Bay, Georgia. In theory, the PLAN needs to maintain a sizeable SSN fleet in order to track USN SSBN on patrol, in two separate oceans, on both sides of the American continent. Of course, the PLAN is still an up-and-coming navy, so it remains to be seen whether it will give priority to this. It may take a long time to fully achieve this objective but the PLAN is expected to do so.

Maintain prestige in the international community as a superpower and equal partner of the United States

For the PLAN, this task is not achieved through combat missions but through peaceful means. To be a global power comparable with the United States, China needs to have sufficient capability to deploy military forces for non combat missions such as humanitarian assistance and disaster relief (HADR) operations, occurring at any place in the world. This capability was long considered to be of secondary importance among the world's militaries. However, in the present geopolitical context, where international relations are increasingly complex, counter-terrorism efforts are high on the agenda, and conventional warfare is unlikely among major powers, global HADR capability is regarded as one of the prerequisites to becoming a world power. As a newcomer to the superpower club, or rather, as the only nation to potentially challenge US capability, China must take this task seriously. Traditionally, China has maintained a certain distance from international involvement and has been less enthusiastic about HADR operations than other global powers. It is only in the last decade, as its global interdependence has increased and its power in the international arena has grown, that China has become less reluctant to engage with the international community. In addition to a growing awareness of the situation, China has begun to rival other powers in its struggle for natural resources. This has forced it to rapidly shift its position from reluctance to active involvement. In theory, natural resource competition could happen anywhere around the world, so the military must have the capability to carry out a range of operations across the globe, ranging from HADR to 'gunboat diplomacy.'

An important event that also contributed to a shift in policy was China's bitter experience with the Indonesian tsunami relief effort in 2004 and 2005. In comparison with Japan, the United States, Australia and even European states, China failed to respond adequately to the disaster. As a result it played only a minor role in the international HADR operation. China assessed the negative effect of its conduct at the time and came to the conclusion that its international reputation, credibility and prestige were hurt very badly. A more serious impact, and the most serious consequence for them to accept, was the fact that Chinese leaders lost face in the international community. Subsequently, the PLA made a 180 degree shift away from their old policy very quickly. An example of this was the launch of a new hospital ship, the *Daishan Dao*. This ship is already being deployed in humanitarian and friendship missions to Africa, which is one of the most important strategic areas for resource competition. The idea of operating *Daishan Dao* may have come from the regular USN deployment of two hospital ships as 'ambassadors for peace'.

Besides the hospital ship, the PLAN has recently added amphibious ships and landing craft to its inventory as well. These would be indispensable assets for enduring HADR operations in distant waters. In addition, the roles of aircraft carriers will be, no doubt, significant. It is quite clear that carriers would serve the dual purpose of being a visible

symbol of national and naval power on the one hand, and a practical operational asset on the other. Taken together, aircraft carriers and amphibious ships with large flight decks and well docks would be ideal assets to carry out HADR and other non combat operations. They possess large payloads, helicopters, small landing craft capability, and long operational endurance.

Analysis of enhanced military capabilities

In the last section, I consider some of the rationales for the PLAN force build up, as well as some of the advantages and disadvantages this entails. In order to further deepen the understanding of the PLAN, this section analyses three important components of its new technological capabilities.

Aircraft carriers

Currently, the PLAN is refitting an ex-Russian aircraft carrier. If completed, this ship could become its first operational aircraft carrier in just a few years time. Along with the refitting of the carrier, the PLAN has already launched various preparatory programs to make the carrier operable. These efforts include the acquisition of carrier borne aircraft as well as the establishment of land training facilities to prepare pilots for carrier landings. It is also reported that actual at-sea carrier landing practice will be conducted on a Brazilian Navy carrier. Recent reports suggest that progress in the carrier program has been on track. Even so, it would not be easy for the PLAN to actually operate an aircraft carrier as a functioning naval asset. The first issue is the number of aircraft carriers that China will construct in the future. The first hull would naturally be experimental in nature. The real question is how many will eventually be built, and used for what missions? At some point in the near future, China will have to take all of its tasks and missions into account in order to reach a comprehensive decision on this. If it decides to go ahead this will entail a whole list of other capabilities. The PLAN would need robust carrier protection forces, especially ASW forces, wide area ocean surveillance forces and combat logistic support forces.

The most important thing for carrier operations is carrier protection. The PLAN must figure out how to protect an aircraft carrier from potential threats. A carrier is obviously a hard target to sink, but at the same time a carrier is also an ordinary ship subject to combat casualty. In case of casualty or damage, the ship could lose its operational capability as a carrier, or ultimately, it would sink. When the incredibly valuable nature of a carrier is taken into account, any carrier should be fully protected from air, surface, and sub-surface threats. Judging by the existing equipment and training of the PLAN, its aircraft carrier protection capability seems seriously insufficient from what it should be. This is especially the case when it comes to ASW capability and wide area ocean surveillance, which are still in their infancy and demand urgent improvement. If these do not improve, then China's aircraft carriers, whatever their number, will

remain easy targets for the United States and surrounding navies, especially for their submarine forces.

In addition to the abovementioned carrier related forces, in order for China to accomplish national objectives, the PLAN would need sea control and sea denial forces, amphibious forces, and an auxiliary fleet. Future force build-ups will thus allow foreign observers to infer the strategic mission priorities of the navy.

Anti-access area denial and anti-ship ballistic missiles

As briefly discussed in the previous section, AA/AD has been a new Chinese-military strategy. This new strategy concept is clear and easy to understand. In recent years, anti-ship ballistic missiles have emerged as a potential weapon to realise AA/AD strategy. In theory it is true that they could be an attractive weapon. However, there is a difference between a weapon and weapons system. In order to develop a fully functioning anti-ship ballistic missile weapons system, the PLA would have to upgrade all elements of its military operations such as intelligence, surveillance, and logistics. Operations of long range weapons are far more challenging than those of short range ones. Even short range over the horizon weapons, such as the Harpoon surface-to-surface missile weapons system, entail many operational constraints. For example, shooting a Harpoon at a target 50 miles away in a real world scenario under a multi-ship environment is no easy task. Inadvertently shooting the ships of a non-belligerent is the last thing any navy wants to do. This suggests that it will be difficult to employ these missiles long range as an operational weapon

At the same time, we should pay close attention to the progress of anti-ship ballistic missile development. We need to collect information on the development of key elements of this revolutionary weapons system such as sensors including space based surveillance and targeting systems, land based over the horizon radars, maritime patrol assets and the ballistic missile itself. We must ensure precise attention to the overall weapons systems. Japan in particular, which sits in close proximity to China, should closely monitor its various at-sea tests. If China wants to transform its excellent idea in to a practical weapons system, various types and enormous numbers of at-sea tests will be indispensable and a prerequisite for final certification and actual deployment. Both the USN and JMSDF know the amount of at-sea tests conducted by the United States when it developed the most successful but challenging Aegis-equipped anti-air combat system. Without these astounding efforts the combat system could have never been the most reliable and capable anti-air combat system in naval history. Similarly, without well designed and large numbers of at-sea tests, bright conceptual weapon systems like anti-ship ballistic missiles would not serve as reliable combat worthy weapons. What Japan and the JMSDF have seen so far in terms of developments by the PLAN are very few at-sea tests; practically none. Nevertheless, if it proves successful, it may serve as a trump card to deny the USN access to the East Asia region, particularly the

South and East China seas, including Taiwan and Okinawa. Since this program is tied to China's national prestige, it is safe to assume that all possible efforts will be made to realise it. It might be reasonable to expect that it will just be a matter of time before the PLAN establishes an operational anti-ship ballistic missile.

At the same time, even in the event this occurs, there will surely be many weaknesses and shortfalls in this weapons system that the United States and Japan can exploit. There are so many things the two navies should do, and can do, to neutralise the capability and substantially degrade the operational effectiveness of this revolutionary anti-ship weapons system. Ironically, the concept of anti-ship ballistic missiles and its development provide a new area for cooperation between Japan and the United States. One thing concealed behind anti-ship ballistic missiles in the AA/AD concept is submarines. For any surface combatants, submarines have been the most serious threat for more than a century. This remains true today. For any navy, one nightmare is a rapid expansion of submarine forces in a rival navy. A Chinese carrier force will surely have some operational and substantial political impacts in the future however, since the nature of operations will be the same as for US carrier forces, a poor carrier protection capability in the PLAN will ensure the USN maintains an overwhelming superiority in any carrier operations. If the PLAN shifts its resource allocation from carrier programs to submarine programs, countermeasures by both the JMSDF and USN would be extremely difficult. The opposite is also true. Submarine forces of regional navies, such as Indonesia, Vietnam, Malaysia, Singapore, and Australia would pose serious threats to PLAN carriers operating in the South China Sea in the future. For these regional nations, a submarine force in their navies could be the most cost effective conventional deterrent force to counter Chinese capability.

Asymmetric warfare

Last but not least is the important subject of asymmetric warfare. The PLA has been allocating a substantial amount of their resources to this area. Most of its efforts have focused on cyber warfare and anti-satellite capability. This should be of particular concern to the United States and Japan since shooting down a satellite or generating confusion in command networks is perhaps an even more serious threat than aircraft carriers or AA/AD. In the maritime arena, a related type of asymmetric warfare concerns fibre optic cables. There are countless fibre optic cables on the ocean floor that run between continents. Most intercontinental digital communications depend heavily on them. Their security will thus become a new issue for the security communities in both Japan and the United States to consider.

One last thing to note is that asymmetric warfare can be used by any nation or organisation in the world, at any time, regardless of whether it is wartime, contingency, crisis or peacetime; on a 24/7 basis. If somebody wisely and wilfully employs asymmetric warfare in peacetime, even the most powerful military in the world, if

attacked unprepared, would be substantially weakened prior to actual deployment. As a result, the weaker side could claim victory on the battlefield. In a sense, asymmetric warfare is like a chronic disease the victim diagnoses when it is already too late. China may gradually be employing all possible measures of asymmetric warfare on regular bases and be waiting for total exhaustion of the United States. If this really happened, an exhausted US and its military could no longer counter all out military confrontations against PLA forces in the region. A campaign title of the PLA could be 'exhaust rival, confuse adversary, then deliver final blows to your enemy.' There will be a lot for both Japan and the United States to do in this context.

Thoughts on China's concept of island chains

Although the concept of island chains has been frequently used to explain the strategy of the PLAN, from a practical military strategy and planning point of view, it has only limited significance. Firstly, these lines are drawn on or in close proximity to Japanese territories. In general, drawing national defence lines on non-allied foreign territory is meaningless. It is as if Cold War era Japan had drawn two lines: one on the Great Wall on the Chinese mainland as a first line of defence; and another on the coastline of the Eurasian continent facing the East China Sea as a second line of defence. Obviously, no one buys this idea.

What is more relevant are the strategic choke points in the East China Sea that make life difficult for all naval forces operating in the region. The first choke point is the first chain of islands stretching from the Kuril Islands in the northern Pacific Ocean through to the main islands of Japan and on to the Okinawa Islands. The second chain of islands runs from the Philippine Sea to the Indonesian archipelago. Any naval forces operating in these waters will surely meet intensive surveillance and continuous tracking by forces of the JMSDF and USN. The PLAN is no exception. If China seriously counts these island chains among their strategic defence lines, the defence of the Okinawa island chain becomes vitally important for Japan. Japanese defence authorities are beginning to take preparatory measures. In the Japanese government's strategy document, the *National Defense Program Guideline* published in December 2010, it is made very clear for the first time since the end of WWII that more defence resources will be allocated in the western part of Japan.

This was a striking departure from the decade's long 'north-first' strategy of Japan. Even though the Japanese government does not specify the meaning of western Japan in the document, it is easy to interpret it as the island chain of Okinawa. So for China, the Okinawa island chain will not be its defence line, but rather the most serious strategic choke point that would hinder their naval operations in the north western Pacific Ocean. One analogy could be Japan's control of three strategic straits, (Tsushima, Tsugaru and Soya), in the Cold War period, which really tormented, the then Soviet Pacific Fleet, especially those units stationed at Vladivostok. The next thing to consider is the vast

water area between the first and second island chains. Generally speaking, this is an area where both US forces and the JSDF have overwhelming military superiority, supported by various military bases in Japan including Okinawa and Iwo Jima, and those on Guam. It could be quite interesting to examine operational concepts of the PLAN from this perspective. For US forces and the JSDF, especially the USN and JMSDF point of view, this area has been 'my waters, not his,' and will continue to be so. Of course it is indispensable that two navies, together with their sister services, should ensure continued efforts to maintain this superiority.

There is a second reason why the concept of island chains is of limited utility to navies. Lines drawn on charts or maps, unlike in ground operations, have almost no meaning in real naval operations. Of course, for planning purposes, various kinds of lines are drawn, but if we take the fundamental and practical nature of naval operations into account, with factors like manoeuvrability, flexibility and agility, lines drawn on a chart have only limited significance. To illustrate this point, we should consider the lessons of Japan in WWII. In September 1943, the Zettai-Kokubo-Ken (Absolute Defence Perimeter) of Imperial Japan had an outer line stretching from the northern tip of the Chishima-Retto Islands (Kuril Islands) through the middle of the Pacific Ocean and New Guinea to the Dutch-East-Indies (Indonesia). It was very similar to China's second island chain. The existence of this line had given a certain 'classroom' confidence to the Japanese military and government that it could defend its homeland from growing pressures within the United States at that difficult juncture of the war. However, the highly mobile carrier task forces of the USN easily broke through the line and had no problem carrying out their mission. That piece of naval history taught us a valuable lesson: the line may have had some meaning for the strategic planning of Japan as a last-ditch line of defence, but once the United States broke through it ended up being nothing but a pie in the sky idea. What had significance in naval operations was the ability to gain sea control by destroying enemy naval forces and bases on islands, not a conceptual line itself drawn on charts. This is another reason why we should pay close attention not to these two lines but to actual force build-ups and PLAN capability.

Conclusion

To allied and friendly nations in the East Asia region, the United States and its armed forces look occasionally like they are shadowboxing against an elusive enemy called the PLA. Yes, China has been building capable naval forces to establish national objectives, however, there are many shortfalls and disadvantages in recent PLAN modernisation efforts. These shortfalls and disadvantages will surely be opportunities for both Japanese and US forces in coming years. In addition to this, from every practical aspect, the United States has an overwhelming military superiority over China today and will continue to for the foreseeable future. By overstating the magnitude of the China threat without mentioning problematic areas of its strategy, the United States can sometimes generate serious security concerns among its allies and may then be

perceived by others to have lost its confidence. This state of affairs is not ideal. In many cases US allies in the region, as well as friendly nations, feel various kinds of pressure from China and they silently regard the United States as a source of psychological and practical support - political, diplomatic and military. Instead of shadowboxing then, the United States should be ready to show China its real military capability and confidence if and when necessary. If the United States executes this poorly, then China could successfully erode the confidence of allied partners and friends and eventually erode the confidence of ordinary people as well. By so doing, China may gain victory over the United States, at least psychologically, without fighting a real war. China's aim could be targeting the 'minds of American people, especially that of leaders in Washington DC,' rather than at physical US forces.

At the same time, underestimating the China threat is just as dangerous. The United States and its allies should work together to identify the potential threat that the PLA could pose, as well as its weaknesses. Such cooperation would provide lasting security to the region. In this context only a balance of 'carrot and stick' will guarantee regional stability in East Asia, especially between the United States and China. What the United States and its allies, especially Japan and Australia, have to do now is send a clear signal to China by showing close cooperative postures and real combined military capabilities. For the United States this is not the time to shadowbox the enemy; rather, it is a time to use wisdom to identify real problems and sort out the best answers to them.

Nuclear capability aside, the JMSDF is the second largest navy in conventional maritime operations in the world. Similarly, the RAN's fleet, despite its size, has been a very capable navy for years. Both the JMSDF and RAN are two of a few navies in the world which have real ASW capability supported by other modern naval warfare skills. The USN is, no doubt, the largest and the most capable navy in the world. For the USN, JMSDF and RAN fleets, cooperating together will ensure a robust augmenting force in the future maritime security environment. If we combine and integrate these forces wisely together our three navies will be able to provide great naval capability to support our national decision makers. Consequently, it is quite clear that this new cooperative posture would allow for substantial political flexibility in decision making processes for regional issues, especially Chinese related ones.

However, it is also true that there is a lot for us to do together to realise this trilateral naval cooperative posture. For example, the JMSDF has to develop a new operational concept for the South China Sea, which has been out of its area of responsibility for decades. Similarly, to say nothing of common strategy, there are no roles and missions assigned among the three navies for the western Pacific Ocean, South China Sea and Indian Ocean. However for both the JMSDF and RAN, future cooperative postures with the USN in these outer waters, if successfully developed, would certainly increase trilateral deterrence capability in our region and would send clear signals to China in terms of naval power. At the same time, another coordination mechanism among

these nations, especially three navies, which is absent today, will be a key factor for facilitating future naval cooperation. To fully utilise these ambitious postures, the United States, Japanese and Australian navies should jointly review and define new 'roles and missions among the three navies in East and Southeast Asia as well as the Indian Ocean,' which will be flexible and easily adapted to address the future naval expansion of China. This will be a key objective for the future of Japan, Australia and the United States.

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