



**NEMESIS:
OIL AND MISSILES IN THE 21st CENTURY**

PART 2 of 3

SERIALIZED STUDY BY –

CAPT. David L.O. Hayward
Australian Army Reserve (Retd.)

Theoretical Outcomes

The West has not been able to stop the carnage in Syria by means of a political, economic, or military solution.

Theoretical outcomes from the civil war include: (1) birth of a new pro-Iran Islamic state; or (2) creation of a new politically weak state with no discernible allegiance to either East or West; or (3) a new totalitarian state contrived by a strong Iranian/Russian comprehensive political, economic, and military takeover; or (4) a Middle East state troops deployment within Syria to act as arbitrator (possibly Saudi Arabia, or Kuwait or UAE, or a combination of Gulf Cooperative Council (GCC) states) for a one/two year period, or (5) coupled with the establishment of a “No Fly” Zone, deployment of UN peacekeeper troops to separate and quell the rebel fractions and possibly to support the Syrian Armed Forces; or (6) legal censure of the war crimes committed by all fractions and commencement of due international legal process to charge, arrest, and intern offenders; or (7) escalation of the civil war into a new conflict with Israel, partly encircled as it is with SRBM/MRBM based on the Gaza Strip, in South Lebanon, Syria, and Iran; or (8) further conflict with Turkey if more inaccurate Scud missiles launched in Syria stray over the border into refugee camps or Turkish villages. Turkish troops could well take reprisals.

Whatever the outcome, the West believes the Assad regime will soon be toppled and the present incumbents charged with war crimes. This could be regarded as a *deus ex machina* solution. It may never happen.

All of the possible outcomes, except for (4) above, are disadvantageous to the West especially the potential for outbreaks of unwanted new regional wars. Thus far it has not been possible to instigate a “No Fly” Zone. China and Russia have constantly vetoed this pro tem solution. The crisis constitutes a “flashpoint” which could embroil the entire Middle East and ultimately lead to WWIII. Political dialogue/negotiations must and are continuing in an urgent attempt to solve the internal multi-faceted issues and to foster a moratorium to put a stop to the civil war.

The West must do something. Some military analysts suggest France, Germany, and the UK should go it alone, invade Syria, and put 'boots on the ground'. This hardline action would be disastrous and is evocative of the Suez crisis in 1956.

In Washington DC, the American Foreign Policy Council (AFPC) is working hard with members of US Congress, the Executive Branch, the US policymaking community, other government agencies and Western governments to come up with a satisfactory answer to mitigate the Syrian crisis.

Perhaps the West is powerless to solve the situation? Game, set and match to Syria, Iran, Russia and China?

Western Reaction

Just as before as in the late 1970's, the West has again reacted angrily to increasing militarism and political unrest alongside the main oil transit routes from the Arabian Gulf eastwards to India, ASEAN, China, Taiwan, Japan, South Korea, Australasia, and other oil-consumer nations in the Western Pacific .

New air-sea-battle lines are emerging to counter Iran's continued intransigence in areas such as nuclear weapons proliferation, China's "String of Pearls", 'anti-access', and 'area-denial' maritime stratagems.

Counter measures include: (1) the deployment of super carriers by the US Fifth Fleet to the Middle East, upgrades to Diego Garcia, and to Bahrain¹, procurement by Arab states of 100 plus Euro Typhoon fighter aircraft to counter IRIN and IRGCN initiatives to gain maritime sea control in the Strait of Hormuz; (2) the future deployment of additional super carriers by the US

¹ Bahrain is now called Naval Support Activity Bahrain (NSA Bahrain). It is home to US Naval forces Central Command and the US Fifth Fleet.

Seventh Fleet in SE Asia², reactivation of Cam Ranh Bay naval base in Vietnam³, construction of INS Kadamba in India⁴, improved ship repair facilities at Changi naval base in Singapore⁵, deployment of US Marines to Darwin, redeployment of 80,000 US troops to Guam, and supply of a new missile defence X-Brand radar system to Japan and possibly elsewhere in SE Asia⁶.

The impending global deployment of X-Brand radar systems is treated in more detail later in this paper.

US Navy Deployment

Just as in the Gulf Tanker War, the US Navy has urgently deployed carrier battle groups to the Arabian Gulf, and to the Gulf of Oman. It was decided recently that the US Navy should always have at least two rotational carrier battle groups in the area. With the current diplomatic impasse between Israel and Iran, the stakes have been raised. Warships from 25 nations recently converged on the Strait of Hormuz as Israel and Iran moved towards the brink of war. Ostensibly, the deployment was for the largest war games ever held in the region. Three US super carrier battle groups took part in the war games, comprising USS “Abraham Lincoln” (CVN-72), USS “John C Stennis” (CVN-74) and USS “Carl Vinson” (CV-65). The three Nimitz Class super carriers each have more than the entire complement of the Iranian air force.

² This intended deployment represents about 60% of total US naval assets. Deployment will be in the Northern Indian Ocean, Nan Hai, Dong Hai, Yellow Sea, Sea of Japan, and Western Pacific

³ Redeveloped to permit entry and bunkering facilities for Western warships. Dominates the Nan Hai and effectively replaces the abandoned US Subic Bay naval base in the Philippines

⁴ New naval base on the Indian sub Continent, south of Goa

⁵ Changi naval base is now able to berth US Nimitz Class supercarriers. In the future, the base may be able to accommodate the new Ford Class supercarriers. The “Gerald R Ford” (CVN-78) is under construction and is due to be commissioned in 2015.

⁶ To contain threats from North Korea and counter China’s growing missile capabilities, the US has announced its intention to deploy a new missile defence shield in Japan and Asia. The resulting radar arc would cover North Korea, China, Taiwan, and possibly some ASEAN countries. Michael Moore, “The Telegraph”, 2012-11-02 and Shaun waterman, “Washington Times”, 2012-9-17

Earlier in 2012, there were four US carrier groups in the region when the USS “Enterprise” (CV-65) visited the Arabian Gulf.

The US Navy’s recently announced intention to deploy additional super carriers in SE Asian and Western Pacific waters may yet prove to be nothing more than media rhetoric. Severe “sequestration” cuts to the US defense budget proposed for January 2013 may obviate the intended deployment.⁷ At the present time, only two carriers are deployed, namely the “George Washington” (CVN-71) and “John C. Stennis” (CVN-74) in the Western Pacific.⁸

Official sources at the US DOD in Washington deny there will be any cut back in the future deployment of super carriers to the Western Pacific. But to the contrary, Cesare Marchetti in his mathematical model suggests post-sequestration funding shortfalls will prevent the US from successfully ramping-up to support the next war funding effort possibly in 2027 or earlier.⁹ It remains to be seen if the US Navy will be able to assume a dominant presence in the Western Pacific in future decades.

This month the “Washington Times” reported US Marines will serve long deployments for the next few years because of ongoing crises in the Middle East and a shrinking number of US carriers available for deployment. The USS “Enterprise” (CV-65) was deactivated last December, and the USS “Abraham Lincoln” (CVN-72) is undergoing a four year overhaul to increase its life span. This has reduced the US fleet of carriers from eleven to nine, as the US Navy struggles to maintain a two carrier presence in the Middle East as required by the Obama administration since 2010.¹⁰

⁷To quote: ‘... the US DOD will cut more than \$1 trillion out of the defense budget over the next decade’. Carroll, Chris, “Stars and Stripes”, reporting for “Stripes Central”, Washington, 2012-11-02

⁸ Stratfor, Naval Update, 2012-09-26

⁹ Marchetti, Cesare, Victor Strategy Inc. (Southern Pines NC), see his findings using a logistic/diffusion mathematical model, posted in “Composites World (CW), Industry News, 2012-11-02, refer to www.vector-strategy.com

¹⁰ Wong, Kristina, “Navy to stretch deployments; aircraft carrier fleet down to 9”, The Washington Times, Thursday, 10 January, 2013.

To further comment, Diego Garcia and Guam are too far removed and provide insufficient defence assets to fully protect the global oil supply chain. Nevertheless, Diego Garcia has been upgraded to assume “fullest capability soonest” and troops have been re-deployed to Guam (from Japan) and to Darwin (Australia). More importantly, Cam Ranh Bay naval base in Vietnam is being modernised as a substitute for the previous loss of Subic Bay. Singapore has ‘de facto’ become the new “hub” of the US Navy’s Seventh Fleet operational capability in SE Asia. Manama (Bahrain) is now the home of the US Fifth Fleet. The latter’s area of responsibility includes about 6.5 million sq. kms. of blue-water spanning the coastlines of 27 countries.

Bahrain, virtually at the ‘fountain head’ of the global oil supply, has taken on a much more significant role. On 27 May 2010, the Pentagon announced that NSA Bahrain is to receive US\$580 million to double the size of the naval station. The ASRY floating dock and other infrastructure is to be upgraded.

If necessary the US could cut off crude oil supply to its perceived adversaries. This would be a drastic last resort step with dire consequences for world peace.

US Missile Defence Agency (MDA)

The US is well aware of the increasing offensive rocket and ballistic missile threat to the oil supply chain, stemming from Iran, China, North Korea, and rogue States. The very real threat pertains to the so-called “axis of resistance” comprising Iran, Syria, and the non-states Hezbollah, Hamas, and Palestinian Islamic Jihad. In March 2012, the Pentagon Missile Defense Agency announced a new watershed defense policy: the US is seeking to build regional shields against ballistic missiles in both Asia and the Middle East.

At present, the US and its allies (except for Israel) lack the ability to counter the rocket threat as well as facing the danger of being numerically overwhelmed by the ballistic missile threat.

Apart from a few defensive gaps, Israel is better prepared than is the US and its other regional allies. Israel has fielded the 'Iron Dome' system to defend against short/medium range rockets from Gaza, and has used Patriot PAC-2/GEM and Arrow II/III interceptors to counter short/medium range ballistic missiles from Syria and Iran. However, Israel does not have enough Iron Dome batteries to defend against high volume attacks of short/medium range rockets. The anticipated deployment of the David's Sling interceptor in 2014 will enable Israel to deal with Hezbollah's long range rockets.¹¹

The US has yet to allocate resources to develop improved counter rocket systems. The existing Phalanx Counter Rocket, Artillery, and Mortar System/C-RAM is largely ineffective.

According to the MDA, there are some seven/eight main missile defence programs. The Obama administration has expanded some and recast or cut others.¹² Technical details for each program can be accessed at the Arms Control Association.¹³

The Pentagon has disclosed the US is seeking to build regional shields against ballistic missiles in both (1) Asia and (2) the Middle East. The US has stated the systems are designed to protect against states like Iran and North Korea.

For (1), the US has already deployed powerful early-warning X-Band radar in northern Japan and plans to install a second system on an unnamed southern Japanese island. The system is described as a "large, phased-array fire control sensor, featuring precision discrimination and interceptor support".¹⁴ Regional powers, particularly ASEAN countries, Japan, South Korea, and Australasia would be protected. In the longer term, the reality is the Japan-

¹¹ Ibid, Eisenstadt, "The Middle East Environment", Defense Dossier, AFPC

¹² The eight main US missile defence programs are: (1) Ground-Based Midcourse "kinetic kill" EKV/CE-II, (2) Aegis ship-based Ballistic Missile Defense (BMD), (3) Theatre High-Altitude Area Defense (THAAD), (4) Patriot Advanced Capability-3 (PAC-3), (5) Space Tracking and Surveillance System (STSS), (6) Space-Based Infrared System-high (SBIRS-high), (7) Airborne Laser (ABL), and (8) Kinetic Energy Interceptor (KEI) – now temporarily scrapped.

¹³ Refer to www.armscontrol.org

¹⁴ As described by its manufacturer, Raytheon Company

based system is looking at the 'elephant in the room', which is China. The missile defense requirements for Asia are comprehensively outlined by Klinger.¹⁵

This paper separately examines operational/proposed missile defense systems for India, Taiwan, Japan and South Korea in some detail below.

For (2), the US also intends to deploy two X-Band systems to the United Arab Emirates (UAE), and one to Qatar to deter any Iran missile attack. Again, the US intends to sell more than US\$4.2 billion in missile defence systems to Kuwait including sixty Patriot Advanced Capability missiles, twenty launching platforms, and four X-Band radars.

Saudi Arabia has bought a large arsenal of Patriot systems, the latest being US\$1.7 billion in upgrades in 2011.

The US is also set to supply two missile defence launchers for a THAAD system to be located in the United Arab Emirates.

US Navy warships on continuous deployment in the Arabian Gulf are equipped with Aegis missile defense systems including advanced tracking radars and interceptor missiles.

It is ascertained there may be some partial protection for incoming enemy ICBMs targeted at the Gulf littoral states once advanced capability missile shields are operational.

These advanced systems do not guarantee 100% effectiveness especially as Iran is increasing both the type and number of missiles fielded in the region. The Iranian Republican Guard has allegedly pointed 1,000 missiles at US bases in the Middle East. "There will be war and we will win" says the Republican Guard. There are some historic rivalries and political constraints

¹⁵ Klinger, Bruce, "Missile Defense Requirements of the Asia Pivot", Defense Dossier, American Foreign Policy Council (AFPC), Issue 6, January 2013, subscribed to/downloaded/retrieved from the Internet

preventing the US from applying a homogenous approach to a comprehensive “umbrella” defense solution for the Arabian Gulf littoral states.

Indian Navy

India has taken a positive stand in protecting its maritime interests. The new naval base of INS Kadamba (near Goa) in southern India is rapidly expanding, together with enhancements to the existing Indian naval bases. ADM Sureesh Mehta, India’s Navy Chief, has asserted “... each pearl in the (PLAN) string is a link in a chain of the Chinese maritime presence”.

If PLAN sources perceive Indian intentions to be aimed at containing China, they also see India rapidly building the capabilities necessary to do so. *Modern Navy* has covered India’s naval build-up fairly extensively. In April 2003, it ran an article titled: “Will the South China Sea Become the ‘Second Persian Gulf?’” that laid out India’s 2003 plan to spend \$62 billion over the next 22 years to modernize the navy, and also detailed India’s growing interactions with ASEAN.

In a December 2005 article, *National Defense* asserted that India seeks to have a top four navy by 2010.¹⁶ An October 2005 article in the *PLA Daily* described the efforts India is making as part of its new strategy to “destroy the enemy in distant seas” (远海歼敌). As part of this effort, India spent \$3.5 billion buying submarines from France, and plans under “Project 75” to build 20 nuclear attack submarines equipped with long distance cruise missiles

¹⁶ Gao Xinsheng, “Zhongguo haifang fazhan mianlin de zhuyao tiaozhan yu duice” [The Main Challenges and Answers to the Development of China’s Maritime Defense and Policy Countermeasures], *Guofang*, no. 11 (2005), The author is from the Shenyang Artillery Academy, Basic Maritime Defense Tactics Teaching and Research Office (沈阳炮兵学院基础部海防战术教研室).

over the next 30 years. In addition, India is building aircraft carriers, with the first locally constructed aircraft carrier expected to be operational in 2012.¹⁷

Indeed, the *PLA Daily* also reported that India wants to develop an aircraft carrier fleet on a par with England's - this new fleet will allow it to move into the Pacific.¹⁸

Indian Missile Developments

India is surprisingly advanced in developing missile defence shield systems. Phase 1 of the planned development to initially protect two major cities, New Delhi and Mumbai, has been largely completed according to the Indian Defence Research and Development Organisation (DRDO) located at Bhawan, near New Delhi. The system will eventually be extended to cover other major cities in India. The Phase 1 development is comparable to the US Patriot PAC-3 system.

The new two-tiered BMD system will require minimum human intervention due to the complex automation of tracking devices and counter-measures. Human intervention will be required only to abort the mission. To ensure maximum protection against air-borne threats, DRDO intends to put together a mix of counter-attack missiles, which will be able to shoot down enemy missiles, both within earth's atmosphere (endo-atmospheric) and outside it (exo-atmospheric). The shield has undergone a series of successful tests. It can destroy an incoming ballistic missile with a range of up to 2,000 km.

¹⁷ *Jiefangjun Bao*, "Yindu tuijin yuanghai jianmie de xin zhanlue" [India Pushes a New Strategy of Destroying the Enemy in Distant Seas], November 9, 2005, 12.

¹⁸ *Jiefangjun Bao*, "Hangmu youyixia de Yatai zhanlue qiju" [Asia's Strategic Chessboard of Aircraft Carriers], July 20, 2005, 9.

The BMD system comprises two components: (1) Prithvi Air Defence (PAD) or Pradyumna Ballistic Missile Interceptor, and (2) Advanced Air Defence (AAD) or Ashwin Ballistic Missile Interceptor.

PAD is an anti-ballistic missile developed to intercept incoming ballistic missiles outside of the atmosphere (exo-atmospheric). Based on the Prithvi missile, PAD is a two stage missile with a maximum interception altitude of 50 to 80 km. PAD has capability to engage 300 to 2,000 km class of ballistic missiles at a speed of Mach 5. LRTR is the target acquisition and fire control radar for the PAD missile. It is an 'active phased-array radar' able to track 200 targets at a range of 600 km.

AAD is an anti-ballistic missile designed to intercept incoming ballistic missiles in the endo-atmosphere at an altitude of 30 km. AAD is a single stage missile. Guidance is similar to that of PAD: it has an inertial navigation system, midcourse updates from ground based radar and interactive homing in the terminal phase.

Successful testings have been conducted by launching modified Prithvi missiles from Launch Complex III at Chandipur Orissa. Radars at Konark, Paradip detected the missile and continuously tracked it. Target information was conveyed to an AAD battery located on Wheeler Island, some 70 km across the sea from Chandipur. The AAD was launched when the Prithvi reached an apogee of 110 km. The AAD made a direct hit at an altitude of 15 km and at a speed of Mach 4.

"Swordfish" long range tracking radar (LRTR) is the target acquisition and fire control radar for the BMD system. The LRTR has a range of 600 to 1,500 km and can spot objects as small as a cricket ball.

Phase 2 of the BMD system is to develop two new anti-ballistic missiles, namely AD-1 and AD-2. These missiles are able to intercept IRBMs. The two new missiles have a range of 5,000 km and are similar to the US THAAD

system. India is also developing a new advanced missile codenamed PDV, designed to be operational by 2013. Phase 2 is to be completed by 2016.

Currently, India has little or no protection from incoming ICBMs.

The US and India are likely to cooperate to fully develop the BMD shield system according to a senior US diplomat when visiting India in July 2012.

Some early doubts have been expressed within India as to the viability of the BMD system.¹⁹ These are likely to be discounted in the light of recent progress and a future US-India strategic partnership.

Currently, India is also moving ahead with plans to test a new, submarine-launched ballistic missile. Once operational, the K-15 – which has a range of 435 miles – will be capable of being outfitted with either a conventional payload or a tactical nuclear warhead.²⁰

Both Pakistan and China are angered by India's forthcoming success. China is developing its own missile defence system to counter the missile arsenals of India and others. China is likely to assist Pakistan, one of its closest allies in Asia, by helping Islamabad match India's BMD capability. Pakistan is reported to be developing manoeuvrable re-entry vehicles to maintain a credible strategic deterrent in the face of Indian countermeasures.

India is ranked fourth in the world by its oil imports. Consumption is in excess of 3.1 mbbl/day.

Taiwan (Republic of China)

Taiwan's military is developing an offensive surface-to-surface (SAM) missile with a 1,200 km range. Codenamed "Cloud Peak" (Yunfeng), the missile is

¹⁹ Debak Das, "India: How Credible is its Ballistic Missile Defence?", research intern, NSP, IPCS, 29 November 2012, email debak.d@gmail.com

²⁰ "Global Security" Newswire, 18 December 2012

outfitted with a ramjet engine capable of Mach 3 speed. Production of the missile is to begin in 2014. Taiwan has also deployed other offensive missiles on the island such as the Hsiung Feng (Brave Wind) 2E land attack cruise missile (LACM), and other variants of the Hsiung Feng missile family. The Taiwanese Ministry of National Defense (MND) has expanded its defense budget to modernize its SAM missile inventories, to procure rocket boosters for the AIM-120 air-to-air missile, to obtain new rocket motors to equip its Standard Missile 1, to conduct efficiency tests for its aging MIM23 Hawk SAM missiles, and plans to acquire AGM-65G Maverick, AGM-84L Harpoon, and Magic II missiles. The MND will also increase production of the domestically produced Tien Chien II missiles.

Taiwan will be partially covered by a US anti-missile shield resulting from current and proposed deployments of X-Band radar in Japan and elsewhere in SE Asia.²¹ To quote from the Wall Street Journal (WSJ): *“If you’re putting one in southern Japan and one in the Philippines, you’re sort of bracketing Taiwan ...”* Mr. Lewis said, *“So it does look like you’re making sure that you can put a missile defence cap over the Taiwanese.”* (WSJ: “US Plans to foster missile defence in Asia”: 23 August 2012).

In addition, Taiwan is building a missile defence shield in direct response to Chinese missiles pointed in its direction. It is estimated up to 1,500 Chinese short/median- range missiles (some equipped with advanced GPS systems), plus another 500 cruise missiles (CM), are now aimed at Taiwan.²² The Taiwanese shield comprises six Patriot III missile batteries and an early warning radar, based on the indigenously developed Tien Kung II (Sky Bow) SAM system and Patriot III (PAC-3) missiles. Specifically, the early warning radar component is the new Raytheon long-range early warning and surveillance UHF radar system.

²¹ Thim, Michael, “Taiwan in the Context of US Missile Defense Infrastructure in Asia”, Wordpress, 24 August 2013, retrieved from <http://michalthim.wordpress.com/2012/08/24/taiwan-in-the-context-of-us-missile-defence>, 13 February 2013

²² Taiwan is the principal receiver of missile threat from China, refer to “Report on Chinese Military Power”, prepared annually by the US Department of Defense (DOD)

In taking delivery of the new Raytheon early warning radar system, which provides 360 degrees coverage, and a 3,000 nautical mile reconnaissance capability, Taiwan is able to detect North Korean and Chinese missile launches. The system was installed in late December 2012 at Loshan air force base in Hsinchu County. The radar can collect information of offensive military activity in some areas in Northeast Asia and Southeast Asia, including in the disputed Diaoyutai Islands (Dong Hai) and the Taiping Island in the Spratly Island Group (Nan Hai). The new radar system can give Taiwan six minutes warning of a hostile missile launch.

The US Seventh Fleet, when deployed near Taiwan, is able to provide supplementary cover from SM-3 missiles installed on vessels equipped with the Aegis system.

Beyond this intermediate cover, Taiwan urgently needs Terminal High Altitude Air Defense (THAAD) units.²³ The US Government may not supply Taiwan with THAAD units as this would greatly anger the Chinese and North Korean Governments. For similar reasons, Taiwan is not likely to acquire the new X-Brand radar system either now or in the foreseeable future.

Lockheed Martin was awarded a contract in January 2013 to product 168 Patriot Advanced Capability (PAC-3) missiles for the US Government and Taiwan. The new contract is worth US\$755 million. Taiwan is the fifth international customer for the PAC-3.²⁴

Yin Zhou, a Beijing based military expert, has stated “the US will not spend so much energy on Taiwan, to implement ballistic missiles, interceptor missiles and GPS radars everywhere. ... Just a GPS radar costs more than US\$1

²³ “Taiwan Builds Missile Defence Shield in face of Chinese Missile Build Up”, Defence Tech, retrieved 6 August 2012

²⁴ “Taiwan Missile Threat”, a project of the George C Marshall and Claremont Institutes: 11 January, 2013

billion ... And to 'protect' Taiwan is just a move for the US to deal with China, not an ultimate goal.”²⁵

MAJGEN Xu Guangyu, senior researcher at the China Arms Control and Disarmament Association (Beijing) recently suggested that both sides urgently needed to put aside their political disagreements and work together to tackle the territorial problem amid an escalation of tensions with Japan.²⁶

Useful background reading in reference to the Taiwan flashpoint is to be found in a 17-page research paper produced by Mumin Chen at the University of Denver.²⁷

Taiwan is ranked fifteenth in the world by its oil imports. Its consumption is approximately 0.88 mbbbl/day.

Japan

The Japan Maritime Self-Defence Force (JMSDF) is primarily tasked with the defense of Japan. The JMSDF has a large fleet with significant blue-water operating capabilities. Whilst based strictly on defensive armament, main tasks to be undertaken by the force are to maintain control of sea lines of communication (SLOCs) and to patrol territorial waters. Oil tanker and mercantile shipments to Japan will thus be protected.

The JMSDF operates some 150 major warships. These include: four helicopter destroyers (DDH: “helicopter carriers”) comprising Shirane and Hyuga Classes, eight guided-missile destroyers (DDG: Hatakaze, Kongo, and Atago Classes), 33 destroyers (DD: Hatsuyuki, Asagiri, Murasame, Takanami, and

²⁵ Xiaokun Li, in Beijing and Yingzi Tan, in Washington, “US insists missile defense targets DPRK, not China” China Daily, updated: 2012-08-25, at 00:29

²⁶ Chan, Minnie, “Taiwan’s Ma Ying-Jeou urged to pursue higher level military exchanges”, South China Morning Post, source URL retrieved 12 February 2013, refer to Web site <http://www.scmp.com/news/china/article/1139693/taiwans-ma-ying-jeou-urged-pursue-higher-level-military-exchanges>

²⁷ Chen, Mumin, “Theatre Missile Defense and Cross-Strait Relations”, Graduate School of International Studies, University of Denver, email address: muchen@du.edu

Akizuki Classes), 6 destroyer escorts or frigates (DE: Abukuma Class), and many other supportive vessels in JMSD fleet. Some of the DDG are equipped with Aegis combat capability.²⁸

Current JMSDF strength and capabilities have been designed to support US Navy operations in the East Asia region. Defense analysts believe the JMSD, in terms of its capability to conduct non-nuclear operations, is possibly second only to the US. Indeed, some assert the size and non-strike defensive operations capabilities are almost two times as large as that of the US Seventh Fleet. The JMSD and US Seventh Fleet combine effectively together as a formidable force to neutralise PLAN maritime strategies.

James Hardy has recently appraised the evolving power of the Japanese Navy.²⁹

Klinger states “Tokyo has long pursued a minimalist security policy. Even when faced with growing regional security threats, Japan has reduced its overall defense budget for ten consecutive years. Despite this, Japan has significantly augmented its missile defence program, spurred by concerns over North Korea’s growing missile and nuclear capabilities”.³⁰

Again, Klinger explains “Japan has developed and deployed a layered integrated missile defense system consisting of Kongo Class Aegis destroyers with Standard Missile-3 (SM-3) interceptors for high altitude missile defense and land based Patriot Advance Capability-3 (PAC-3) units for terminal phase interception”.³¹

²⁸ See “List of Active Japanese Navy Ships 2012”, You Tube video, 17 March 2012, downloaded and retrieved from www.youtube.com/watch?v=cHTu9g54WMA, 17 February 2013

²⁹ Hardy, James, “Japan’s Navy: Sailing Towards the Future”, The Diplomat, 21 January 2013, refer to <http://thediplomat.com/2013/01/21/japans-navy-steaming-towards-the-future>

³⁰ Ibid, Klinger, page 18

³¹ Ibid

“For the future, Japan announced it will equip two Atago Class destroyers with Aegis systems; expand PAC-3 deployment from three anti-aircraft groups to six anti-aircraft groups, and develop an additional fire unit of PAC-3”.³²

In 2012, land-based PAC-3 missile batteries were deployed to Okinawa, Miyako, and Ishigaki Islands bordering the Dong Hai in the south east.

Additional missile inventories held by Japan include AAM variants (Types 04, 69, 90, 99), ASM (Types 80, 91, 93), ATM's (six variants), SAM approximately nine variants), SSM (three variants), and SM-3 Block-II/IIA (joint development with the US).³³

The US has deployed two forward-based (FBM) AN/TPY2 X-Band early warning radar systems in Japan. These are located at Shariki base in Tsugaru City, on the coast of Aomori prefecture in northern Japan (Honshu Island), and at an undisclosed location in southern Japan. These systems constitute a vital component of the anti-missile shield system and are integrated with localised Joint Tactical Ground Stations (JTAG). The northern based JTAG is located at the remote Misawa Air Base in Japan, one of only four in the world. It is thought the US operates three other JTAGs in Germany, Qatar and South Korea. BRIGEN John Seward, a former deputy commanding general of operations for the US Army Space and Missile Defense Command, stated in January 2008 “Japan is one of our strongest allies in the ballistic missile defense arena”.³⁴

Some defense analysts assert the US may deploy another X-Band radar system in the Philippines, but this is not confirmed.

Steve Hildreth, a missile defence expert with the Congressional Research Service, an advisory arm of Congress, has stated “the US was laying the foundations for a region wide missile defense system that would combine US

³² Ibid

³³ Wikipedia, “List of Missiles by Country”, downloaded and extrapolated from http://en.wikipedia.org/wiki/List_of_missiles_by_country

³⁴ Associated Press, “Japan, US rush to build anti-missile shield”, updated 28 January 2008, retrieved from www.nbcnews.com/id/22886176/ on 18 February 2013. Statement made by Brigadier General John E. Seward

ballistic missile defences with those of regional powers, particularly Japan, South Korea, and Australia”.³⁵

It is not known if the US intends to deploy a Terminal High-Altitude Area Defense (THAAD) anti-missile battery in Japan. However, the AN/TPY2 X-Band early warning radar system is designed to interface with THAAD batteries just as easily as with other components of the missile shield system. THAAD includes its own radar along with interceptors, communications, and fire control units.³⁶ (Two THAAD systems have been ordered by the United Arab Emirates (UAE)).

The northern and western Pacific is also defended by a Raytheon sea-based X-Band (SBX) radar system. This system is a floating, self-propelled, mobile radar station designed to operate in high winds and heavy seas.³⁷ This state-of-the-art radar station, costing US\$1 billion, can be deployed anywhere in the northern Pacific Ocean. The SBX homeport is Adak, Alaska, which is located approximately midway along the Aleutian Islands chain. The SBX has often been deployed to Pearl Harbor and elsewhere.

Under the current constitutional interpretation, Japanese missile defense systems would not be allowed to intercept missiles attacking the United States. Likewise these systems are unable to protect a US naval vessel defending Japan from missile attack, even if the US vessel was adjacent to a Japanese destroyer equipped with Aegis capability.

³⁵ Nicholson, Brendan, Defence Editor, “Anti-ballistic missiles could be linked to Australian systems”, The Australian, 24 August, 2013, retrieved from <http://www.theaustralian.com.au/national-affairs> on 18 Feb 2013

³⁶ THAAD is a US Army system designed to shoot down SRBM/MRBM/IRBM with an interceptor that slams into its target. It can accept cues from Lockheed’s Aegis weapons system, satellites, and other external sensors. It can work in tandem with the Patriot PAC-3 air-defense missile system

³⁷ Wikipedia, “Sea-based X-Band Radar”, retrieved from http://en.wikipedia.org/wiki/Sea-based_X-band_Radar

on 18 February 2013. See also “Raytheon: Sea-Based X-Band Radar (SBX) for Missile Defence”, retrieved from www.raytheon.com/newsroom/feature/.../cms04_018157.pdf on 18 February 2013. Other Internet sources apply. The latter .pdf file provides an excellent schematic as to how SBX operates as a cornerstone of the US multi-tiered missile defense shield in the northern Pacific Ocean. Other systems are detailed.

Japan is almost wholly dependent upon oil supply from the Middle East. According to the Energy Information Administration (EIA), Japan's crude imports from the Middle East were estimated at 82 per cent in 2011.³⁸ Currently, Japan is seeking to reduce its oil imports from Iran, whilst increasing oil imports from the Bahrain, Kuwait, Qatar, Saudi Arabia, and UAE in compensation.

Japan has increased oil infrastructure investments in the Middle East over past years to improve its own prospects for energy security.³⁹

The ongoing dispute between Japan and China (and Taiwan) over the sovereignty of the gas reserves contained in (1) the Shirakaba/Chunxiao and (2) the Asunaro/Longjing undersea oil/gas fields in the Dong Hai have nearly led to a local conflict.⁴⁰ (Japanese names for these gas fields are denoted first, followed by the Chinese name).

For (1) above, the Chunxiao gas field is barely seven minutes flying time from the new Chinese air base at Shuimen in Fujian province. The base is equipped with S-300 SAM missiles, the J-10, and the Sukhoi Su-30 jet fighter, plus unmanned ground attack drones. China has established air supremacy over the Dong Hai. Shuimen base is only 246 km from Taipei and 380 km from the uninhabited Tianyutai islands. The latter are claimed by China and Japan as the Diaoyuta and Senkaku islands respectively.

For (2) above, the Asunaro/Longjing gas field is located further north, practically due east from Shanghai and Ningbo on the Chinese mainland. Okinawa is situated further to the east in the western Pacific. This is the general area more hotly disputed between Japan and China and of less interest to Taiwan.

³⁸ EIA, "Japan's crude imports by source 2011", Country Analysis Briefs, 4 June 2012, www.eia.doe.gov

³⁹ Toichi, Dr. Tsutomu, "Japan-GCC States Interdependence through Energy Security and Investment", Institute of Energy Economics, Japan (IEEJ), December 2007, www.ieej.or.jp, email report@tky.ieej.or.jp

⁴⁰ Staff Reporter, "Prepare for War in 2013, PLA Forces told", www.WantChinaTimes.com, 15 January, 2013

A comprehensive account of these disputes in the Dong Hai has been given by Professor Guo Rongxing at the Brookings Institute in Washington DC.⁴¹

Japan is ranked third in the world in terms of its oil imports. Consumption is greater than 4.4 mbbbl/day.

It is to be noted that current disputes between China and ASEAN countries, pertinent to undersea oil/gas reserves in the Nan Hai (disputed Paracel and Spratly Islands), are not detailed in this paper. The ASEAN countries involved in the disputes include Brunei, Singapore, Malaysia, the Philippines and Vietnam. Taken collectively, these countries (except for Singapore) are not relatively significant oil importers when compared with Japan: Brunei (0.13), Singapore (2.1), Malaysia (0.35), Philippines (0.34), and Vietnam (0.27). Figures in parenthesis are expressed in million barrels oil per day (mbbl/day).

South Korea (Republic of Korea) and North Korea (DPRK)

South Korea (ROK) has a much smaller Navy than that of Japan. The ROK Navy comprises 170 commissioned ships and is larger by some 20 vessels than those commissioned in the JMSDF naval force. The total displacement of the ROK fleet amounts to only some 180,000 tons.

The ROK Navy includes some 20 destroyers and frigates, 14 submarines, 100 corvettes and fast attack craft, amphibious and mine warfare ships, auxiliary ships, plus other supportive vessels.

These include: three modern guided-missile destroyers (DDG: King Sejong the Great Class), six ASW destroyers (DD: Chungmugong Yi Sunshin Class), three destroyers armed with SAM missiles (DD: Kwanggaeto the Great Class), and eight older destroyers. The King Sejong Class features the Aegis

⁴¹ Guo, Professor Rongxing, "Territorial Disputes and seabed petroleum exploitation: some options for the east China Sea", Peking University, Spring 2010, released at the Brookings Institution, Washington, September 2010

combat system combined with AN/SPY-1D multi-function radar antennae. This Class is one of the most heavily armed warships in the world.⁴² The amphibious and assault ships include one landing transport helicopter carrier (LPH: Dokdo Class). The submarine fleet includes nine 1,200 ton SS (KSS-I) Chang Bogo Class, three (KSS-II) Sohn Wonyil Class, and two SSM Dolgorae Class midget class boats.

As with the JMSDF, the ROK Navy interfaces and works well with the US Seventh Fleet.

North Korea (DPRK) is known to have deployed some 800 Scud short-range tactical ballistic missiles pointed at targets in South Korea (ROK). These targets include Seoul, ROK defence assets and US military infrastructure.

In addition to SRBM, MRBM, IRBM, the DPRK is thought to be developing ICBM capability. This is of grave concern to the West. The Sino-Russian bloc is providing technological assistance to the DPRK.

North Korea missile inventories include: Scud missiles (as above), 300 No Dong MRBM, and 200 Musudan IRBM. The Paektusan-2 (commonly known as the Taepodong-2) is thought to be not longer operational. The Scud missiles have an approximate range of 320 to 500 km and can target all of South Korea. The No Dong can target all of Japan with a range of 1,300 km. The Musudan, with a range up to some 4,000 km can strike US bases in Okinawa and Guam.

It is to be noted that China has the largest offensive missiles inventory in SE Asia. Discussion on China's missiles and emerging anti-missiles is beyond the scope of this paper, but the threat remains to Australasia, India, ASEAN countries, Taiwan, Japan, South Korea, and to the US.

⁴² Wikipedia, "List of Ships of the Republic of Korea Navy", retrieved from http://en.wikipedia.org/wiki/List_of_ships_of_the_Republic_of_Korea_Navy on 18 February 2013

ROK has a limited missiles inventory. This comprises an offensive capability inherent in the following missile classes: Cheolmae-2 (KM-SAM) surface-to-air missiles, Chiron surface-to-air missiles, C-Star ship-to-ship missiles, Haeseong anti-ship missiles, Hyunmoo III cruise missiles, and Pegasus SAM.⁴³ This is not a complete list and actual numbers are not known. The Hyunmoo III is made entirely with ROK developed components.

In order to diffuse the situation with North Korea, the ROK has stepped back from joining a regional homogeneous defense network with the US. Instead, the ROK has sought to go it alone with expressions of interest in Israel's "Iron Dome" rocket interceptor system, with development of an independent Air and Missile Defense Cell (AMD-Cell) in Osan, with reliance on older PAC-2 technology, and with indigenous manufacture of the new Cheongung MRBM destined for operational deployment commencing in 2015.

Last year, ROK Defense Minister Kim Kwan-jin indicated the South is working toward initial defense architecture and will implement the anti-missile web "within the next few years". The ROK military also declared its intention to wrap up work on a missile shield by 2015 capable of shooting down SRBM/MRBM fired from the North.

"In contrast with Japan's strong development and deployment of missile defense systems, South Korea's efforts have been disappointing. Despite the steadily increasing North Korean missile threat, progressive South Korean Presidents ... deliberately downplayed the danger to South Korea in order to garner domestic support for their attempts to foster reconciliation with Pyongyang"⁴⁴.

"They were fearful that deploying a missile defense system – or even criticizing North Korea over its military provocations and human rights abuses

⁴³Ibid, Wikipedia, "List of Missiles by Country"

⁴⁴ Ibid, Klinger

– would anger Pyongyang, lead to a collapse of the inter-Korean engagement policy and strain relations with China”.⁴⁵

South Korea needs to improve its capabilities while Japan needs to improve its abilities (e.g. the will to use its existing capabilities).

According to Klinger, South Korea should: (1) deploy a multi-layered missile defense system that is interoperable with a US regional missile network to provide for a more coherent and effective defense of allied military facilities and the South Korean populace; (2) purchase and deploy PAC-3 ground based missiles and SM-3 missiles; (3) augment missile defense planning and exercises with US forces and initiate trilateral missile defense cooperation and exercises with the US and Japan; (4) Implement and establish a regional missile defense network with Japan and (5) establish new military relationships, including sharing security information. For example, linking sensors would improve defense capabilities against short range ballistic missiles.⁴⁶

South Korea is ranked seventh in the world by its oil imports. Its consumption is around 2.5 mbbbl/day.

In both the Middle East and SE Asia, the developing missile race between many nations is reaching a damaging crescendo – a ‘perfect storm’ crisis for humanity?

Views expressed in this article are not necessarily those of SAGE International

⁴⁵ Ibid, page 18

⁴⁶ Ibid, Klinger, page 18