

CHINA'S ANTI-ACCESS & AREA-DENIAL OPERATIONAL CONCEPT AND THE DILEMMAS FOR JAPAN

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This sub-thesis has been submitted in partial fulfilment for the degree of Master of Arts Strategic Studies at the Australian National University in the year 2012.

I Sam Goldsmith certify by signing this document that this sub-thesis is to the best of my knowledge an original piece of work, that all sources have been fully cited, and that the sub-thesis has not been submitted for any other qualification.

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GLOSSARY OF ACRONYMS

A2/AD: Anti-Access/Area-Denial	LACM: Land Attack Cruise Missile
AEW&C: Airborne Early Warning and Control	MaRV: Manoeuvrable Re-entry Vehicle
ASAT: Anti-Satellite	MRBM: Medium Range Ballistic Missile
ASBC: Air-Sea Battle Concept	MSDF: Maritime-Self Defence Force
ASBM: Anti-Ship Ballistic Missile	OTH: Over The Horizon
ASCM: Anti-Ship Cruise Missile	PAC-3: Patriot 3 missile
ASDF: Air-Self Defence Force	PGM: Precision Guided Munition
BMD: Ballistic Missile Defence	PLA: People's Liberation Army
C4ISR: Command Control Communications Computers Intelligence Surveillance Reconnaissance	PLAA: PLA Army
CCP: Chinese Communist Party	PLAAF: PLA Air Force
CIWS: Close In Weapon's System	PLAN: PLA Navy
CPGS: Conventional Prompt Global Strike	PLASAF: PLA Second Artillery Force
CSG: Carrier Strike Group	PRC: People's Republic of China
CVN: nuclear powered aircraft carrier	SAM: Surface to Air Missile
DDH: helicopter destroyer	SLBM: Submarine Launched Ballistic Missile
EEZ: Exclusive Economic Zone	SLOC: Sea Lines Of Communication
EMP: Electro-Magnetic Pulse	SM-3: Standard Missile 3
ESSM: Evolved Sea Sparrow Missile	SOF: Special Operations Forces
EU: European Union	SRBM: Short Range Ballistic Missile
FOB: Forward Operations Base	SSBN: nuclear-powered ballistic missile submarine
GMAC: Gaining and Maintaining Access Concept	SSGN: nuclear-powered guided missile submarine
GPS: Global Positioning System	SSN: nuclear-powered attack submarine
GSDF: Ground-Self Defence Force	STOAL: Short Take-Off Arrested Landing
HPM: High-Powered Microwave	STOVL: Short Take-Off Vertical Landing
IRBM: Intermediate Range Ballistic Missile	UNCLOS: United Nations Convention on the Law of the Sea
ICBM: Intercontinental Ballistic Missile	UNSC: United Nations Security Council
ISR: Intelligence Surveillance Reconnaissance	US: United States
JOAC: Joint Operational Access Concept	USAF: United States Air Force
JSDF: Japan Self-Defence Force	USMC: United States Marine Corps
	USN: US Navy
	VLS: Vertical Launch System
	WMD: Weapon of Mass Destruction

ABSTRACT

The People's Republic of China is developing a sophisticated Anti-Access/Area-Denial operational concept utilising a variety of defensive military capabilities, entwined with offensive components. The United States, Japan and other Asia-Pacific countries remain sceptical about China's defensive rationale for developing this operational concept because it threatens to undermine Asia-Pacific security. Specifically, the threat posed by China's military modernisation to the security of Japan may force the Japanese Government to adopt a more self-reliant defence posture. However, there are a variety of factors that complicate Japan's perception of China and restrict the number of feasible response options open to the Japanese Government. As such, this sub-thesis will examine the nature of China's Anti-Access/Area-Denial operational concept in addition to the factors complicating Japan's response and finally the ways that Japan may respond to the rising power of China.

INTRODUCTION

For the People's Republic of China (PRC), the 1995-1996 Taiwan Straits crisis came as a great shock to the Chinese Communist Party (CCP) leadership. This is because in response to the PRC's 1995-1996 campaign of military coercion that was orchestrated against Taiwan, two United States Navy (USN) Carrier Strike Group's (CSG) were deployed to the Taiwan Straits.¹ The inability of the People's Liberation Army (PLA) to prevent this deployment made the CCP leadership acutely aware that Taiwan could never be reunified with China unless American military dominance was counterbalanced or weakened.² As a result, the PRC backed down and initiated a long-term policy of equipping the PLA with sophisticated military capabilities, to be used under a new Anti-Access and Area-Denial (A2/AD) operational concept, thereby preventing future American intervention in Chinese affairs.³ These capabilities range from ballistic missiles to anti-satellite weapons and are allocated to the PLA's respective services, the PLA Army (PLAA), PLA Navy (PLAN), PLA Air Force (PLAAF) and PLA Second Artillery Force (PLASAF).⁴

The United States (US) and allies like Japan are gravely concerned that A2/AD capabilities could potentially deny access to and freedom of manoeuvre within

¹ A.F.Krepinevich, *Why Air-Sea Battle?*, Centre for Strategic and Budgetary Assessments, Washington DC, 2010, p. 13

² A.F.Krepinevich, *Why Air-Sea Battle?*, p. 2 & 7; M.A.Gunzinger, *Sustaining America's Strategic Advantage in Long-Range Strike*, Centre for Strategic and Budgetary Assessments, Washington DC, 2010, p. 12

³ A.F.Krepinevich, *Why Air-Sea Battle?*, p. 2 & 16

⁴ Information Office of the States Council..., 'China's National Defense in 2010: III Modernisation of the People's Liberation Army'

significant portions of maritime Southeast Asia, East Asia and the Western Pacific that contain sea-lanes vital to the global economy.⁵ This is because A2/AD capabilities could potentially be used to initiate and or support offensive military operations in the Asia-Pacific. Uncertainty regarding the PRC's future ambitions is further reinforced by its vigorous stance on territorial disputes with neighbouring countries, suggesting that China may evolve into a revisionist power. That is, a power willing to use its newly acquired strength to redress the international order, for its own interests.⁶

Japan is threatened by the PLA's A2/AD operational concept, as it could potentially undermine the credibility of the Japan-US Alliance that has secured Japan using the US Militaries nuclear and conventional deterrent.⁷ For instance, A2/AD long-range strike capabilities could threaten Japan by deterring or preventing the US from intervening during a future Sino-Japanese conflict. Conversely, A2/AD capabilities have never been subjected to wartime use in a conflict against a technologically capable adversary such as the United States. Indeed, it possible that the potential A2/AD threat has been overestimated, however the Japanese Government cannot afford to miscalculate the potency of A2/AD and is faced with the dilemma of how to respond.

⁵ United States Navy & United States Marine Corps & United States Coast Guard, *A Cooperative Strategy for 21st Century Seapower*, International Seapower Symposium, Newport, 2007, p. 5

⁶ J.Ikenberry, 'The Rise of China and the Future of the West: Can the Liberal System Survive', *Foreign Affairs*, Vol. 87, Iss. 1, 2008, p. 23

⁷ W.Shuichi, 'Article Nine of the Japanese Constitution and Security Policy: Realism versus Idealism in Japan since the Second World War', *Japan Forum*, Vol. 22, Iss. 3-4, 2010, p. 406; United States Department of Defense, *Nuclear Posture Review Report 2010*, United States Government, Washington DC, 2010, p. 4; A.S.Ding, 'China's Growing Military Capability in Search of a Strategy', *The International Spectator: Italian Journal of International Affairs*, Vol. 44, Iss. 2, 2009, p. 102; S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation: Toward Allied Air-Sea Battle*, Project 2049 Institute, Virginia, 2012, p. 1 & 9

This sub-thesis will examine not only the nature of the threat posed by A2/AD, but also the Japanese perception of the PRC and the contested debate over potential responses. It is important to note that this examination will be limited to literature available in English. However, this will not detract from the rigour of the following investigation as Japanese security debates are confined to tight circles in and around the defence ministry that are heavily influenced by their American counterparts, meaning that important literature will be available in English.⁸

⁸ L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

I. PURPOSE OF A2/AD

In order to understand why the PRC is pursuing A2/AD, one must firstly understand the role played by historical and contemporary factors. Historically, there are two factors that have played a relatively minor role in shaping China's pursuit of A2/AD. The first is the erosion of Chinese military prestige due to consecutive defeats by technologically superior and externally aggressive powers. For instance China was defeated during the First and Second Opium Wars by superior British forces, in addition to two defeats by Japan in the First Sino-Japanese War 1894-1895 and the Second Sino-Japanese War 1937-1945.⁹ Thus A2/AD may be interpreted as a way for the CCP to rebuild China's military prestige by endowing the PLA with the capability to deter and if necessary defeat technologically superior adversaries.¹⁰

The second factor is that on occasion, the PRC has been denied the status as a diplomatic and sovereign equal on the world stage. In the Korean War, US war planners ignored CCP wishes for foreign combat forces not to approach the Yalu River that was viewed as the Chinese border.¹¹ By failing to heed CCP warnings, US-led combat forces demonstrated a lack of respect for PRC sovereignty.

⁹ J. Newsinger, 'Britain's Opium Wars', *Monthly Review*, Vol. 49, Iss. 5, 1997, pp. 37-38, p. 41; D. Scott, *China and the International System 1940-1949: Power Presence and Perceptions in a Century of Humiliation*, State University of New York Press, Albany, 2008, pp. 40-41, p. 24 & 117; D. Lary, *The Chinese People at War: Human Suffering and Social Transformation 1937-1945*, Cambridge University Press, New York, 2010, p. 1

¹⁰ R. Cliff, *Anti-Access Measures in Chinese Defense Strategy*, RAND Corporation, Santa Monica, 2011, pp. 2-3; L. Goldstein, 'China's Falkland Lessons', *Survival*, Vol. 50, No. 3, 2008, p. 71

¹¹ J. Liu, 'Making the Right Choices in Twenty-First Century Sino-American Relations', *Journal of Contemporary China*, Vol. 7, Iss. 17, 1998, p. 92; J. Chay, *Unequal Partners in Peace and War: The Republic of Korea and the United States 1948-1953*, Praeger, Westport, 2003, p. 212

Consequently, A2/AD may be interpreted as a way for the PRC to demand greater respect from all countries including the US.

On the other hand, contemporary factors have been far more influential in determining both the scope and intensity of the PRC's pursuit of A2/AD. This is because, whilst the A2/AD operational concept may partially be justified by historical factors, contemporary factors constitute the bulk of justification for A2/AD as they represent its operational objectives. These operational objectives represent both those declared by the CCP leadership and also those attributed to the PRC by the US.

The first objective of A2/AD is to safeguard the PRC's "territorial integrity" by preventing external powers from interfering in Chinese territorial affairs, that is a subtle reference to a future PRC-Taiwan reunification conflict.¹² This is an objective officially declared by the CCP, due to the PLA's inability to prevent the two US CSGs from intervening during the 1995-1996 Taiwan Straits crisis.¹³ Consequently, the PRC has designed A2/AD to progressively deny the US Military access for the first, second and third island chains (see Appendix I), thereby preventing external intervention and forcing Taiwan to settle the reunification dispute on Chinese terms.¹⁴ In addition, the PRC is modernising the PLASAF

¹² Information Office of the States Council..., 'China's National Defense in 2010: II National Defense Policy'; T.Fravel, 'China's Search for Military Power', *The Washington Quarterly*, Vol. 31, Iss. 3, 2008, pp. 127-128; R.O'Rourke, *China Naval Modernisation: Implications for US Navy Capabilities*, Congressional Research Service, Washington DC, 2012, pp. 4-5; D.Van-Vranken-Hickey, 'The Taiwan Strait Crisis of 1996: Implications for US Security Policy', *Journal of Contemporary China*, Vol. 7, Iss. 19, 1998, p. 408; Y.Deng, *China's Struggle for Status: The Realignment of International Relations*, Cambridge University Press, New York, 2008, p. 114

¹³ D.Van-Vranken-Hickey, 'The Taiwan Strait Crisis of 1996....', pp. 407-408; Y.Deng, *China's Struggle for Status...*, p. 114

¹⁴ National Ground Intelligence Centre, *China: Medical Research on Bio-Effects of Electro-Magnetic Pulse and High-Power Microwave Radiation*, United States Army Intelligence and Security Command, Charlottesville, 2005, p. 6; Information Office of the States Council..., 'China's National Defense in

nuclear arsenal to provide a credible nuclear second-strike capability in order to deter attacks against the Chinese mainland.¹⁵

The second objective is for A2/AD to protect the PRC's Sea-Lines of Communication (SLOC) running through maritime chokepoints in Southeast Asia, from interdiction by external powers.¹⁶ This is an objective both declared by the CCP and as attributed by the US. The strategic justification is that the Chinese economy relies on up to 80 percent of crude oil imports from the Middle East, safely transiting long and exposed sea-routes.¹⁷ A2/AD capabilities can provide protection for Chinese SLOC's by enabling the deployment of force projection assets, reinforced by long-range strike capabilities and a global satellite navigation and intelligence network.¹⁸ Another way that A2/AD can

2010: II National Defense Policy'; T.Fravel, 'China's Search for Military Power', pp. 127-128; Information Office of the State Council..., 'China's National Defense in 2008: I The Security Situation'; X.Wu, 'The End of the Silver Lining: A Chinese View of the US-Japanese Alliance', *The Washington Quarterly*, Vol. 29, Iss. 1, 2005, p. 125; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 21; Office of the Secretary of Defense, *Annual Report to Congress...*, 2008, p. 20; Office of the Secretary of Defense, *Annual Report to Congress...*, 2006, p. 24

¹⁵ R.Babbage, *Australia's Strategic Edge in 2030*, The Kokoda Foundation, Canberra, 2011, p. 14; B.Zhang, 'American Nuclear Primacy or Mutually Assured Destruction: The Future of US China Strategic Balance of Power', in Y.Hao & G.Wei & L.Dittmer (eds), *Challenges to Chinese Foreign Policy: Diplomacy Globalisation and the Next World Power*, University Press of Kentucky, Lexington, 2009, p. 73; R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 8; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 58; R.Cliff et al., *Entering the Dragon's Lair: Chinese Anti-Access Strategies and their Implications for the United States*, RAND Corporation, Santa Monica, 2007, p. 71

¹⁶ R.O'Rourke, *China Naval Modernisation...*, 2012, p. 5; T.Fravel, 'China's Search for Military Power', pp. 128-129

¹⁷ R.D.Kaplan, 'The South China Sea is the Future of Conflict', *Foreign Policy*, September/October, Iss. 118, 2011, pp. 80-82; M.Stokes, *China's Evolving Conventional Strategic Strike Capability: The Anti-Ship Ballistic Missile Challenge to US Maritime Operations in the Western Pacific and Beyond*, Project 2049 Institute, Virginia, 2009, p. 6; S.Chen & J.Feffer, 'China's Military Spending: Soft Rise or Hard Threat?', *Asian Perspective*, Vol. 33, Iss. 4, 2009, p. 59; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 20; J.Lee, 'China's Expanding Maritime Ambitions in the Western Pacific and the Indian Ocean', *Contemporary Southeast Asia*, Vol. 24, No. 3, 2002, p. 552

¹⁸ R.O'Rourke, *China Naval Modernisation...*, 2012, pp. 17-19, p. 10 & 22; R.O'Rourke, *China Naval Modernisation: Implications for US Navy Capabilities*, Congressional Research Service, Washington DC, 2008, p. 19; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 4; Japan Ministry of Defense, *Defense of Japan 2011*, p. 79; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 8; T.Hemmingsen, 'Enter the Dragon: Inside China's New Model Navy', *Jane's Navy International*, 20 April 2011

¹⁸ J.Lee, 'China's Expanding Maritime Ambitions...', pp. 552-553

protect PRC SLOC's is by establishing strategic partnerships with countries in the Indian Ocean including Pakistan, Myanmar and Iran. Potentially such arrangements could yield PLA access to local bases that would enable a sustained PLA forward-deployed deterrent against external interdiction.¹⁹

The third objective, as attributed to the CCP by the US, is for A2/AD to displace US Military primacy in the Western Pacific by using advanced capabilities to deny US force projection and forward-deployed forces freedom of operation within maritime Southeast Asia and the Western Pacific. Facing contested opposition from the PRC, America may be unable to offer a credible conventional or nuclear deterrent to key regional allies such as South Korea and Japan, thus threatening US influence.²⁰ In turn, this may create a power vacuum that the PRC could fill, making it the focal point of the Asia-Pacific region. Indeed, it is possible that A2/AD is driven by a covert Chinese ambition to eventually dominate the Asia-Pacific region.

A2/AD's fourth objective as attributed by the US is to symbolise the PRC's emergence as a major world power. One particular capability that the CCP views as symbolically important is the acquisition of full-deck aircraft carriers, capable of launching and recovering Short Take-Off Arrested Landing (STOAL) naval aviation assets.²¹ Due to their immense acquisition and operation costs, ownership of full-deck aircraft carriers has been restricted to a select group of

¹⁹ *ibid.*

²⁰ R.O'Rourke, *China Naval Modernisation...*, 2012, p. 5; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, Centre for Strategic and Budgetary Assessments, Washington DC, 2009, p. 39

²¹ T.P.Ehrhard & R.O.Work, *Range Persistence Stealth and Networking: The Case for a Carrier Based Unmanned Combat Air System*, Centre for Strategic and Budgetary Assessments, Washington DC, 2008, pp. 37-40

powerful countries, namely three of the five permanent United Nations Security Council (UNSC) members, the US, France and Russia.²² Additionally, Great Britain that is also a permanent UNSC member did possess aircraft carriers carrying Short Take-Off Vertical Landing (STOVL) aircraft, but has since retired these in favour of a new class of full-deck aircraft carriers.²³ Indeed CCP officials lament the fact that China is a permanent member of the UNSC without an aircraft carrier capability, let alone a full-deck aircraft carrier capability that is associated with major power status.²⁴ As such, the PRC attaches significant importance to aircraft carriers, as their introduction into the PLAN would symbolise the PRC's attainment of peer status alongside its fellow permanent members of the UNSC.²⁵

DIVERGENT VIEWS OF A2/AD

Although the PRC argues that A2/AD is designed for defensive purposes, its inclusion of offensive capabilities has caused considerable angst throughout the Asia-Pacific community over China's potential to evolve into an expansionist military power.²⁶ It is stated in the 2008 and 2010 PRC Defence White Papers that, "China will never seek hegemony...no matter how developed it becomes".²⁷

²² *ibid.*

²³ *ibid.*

²⁴ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 62

²⁵ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 62; R.O'Rourke, *China Naval Modernisation...*, 2012, pp. 19-20

²⁶ Information Office of the State Council..., 'China's National Defense in 2008: I The Security Situation'; Information Office of the State Council..., 'China's National Defense in 2008: II National Defense Policy'; Information Office of the States Council..., 'China's National Defense in 2010: II National Defense Policy'; J.Van-Tol et al., *Air-Sea Battle: A Point of Departure Operational Concept*, Centre for Strategic and Budgetary Assessments, Washington DC, 2010, p. 3

²⁷ *ibid.*

Furthermore, Zheng Bijian the former Vice-Chairman of the Central Party School stated that “China will not follow the path of....Germany and Japan leading up to World War II, when these countries violently plundered resources and pursued hegemony”.²⁸ On the other hand, the US and other Asia-Pacific countries are sceptical about PRC claims that A2/AD is designed for defensive purposes due to four factors. Firstly, the PLA has been rapidly modernising and expanding its military capabilities, whilst failing to increase transparency with regard to its long-term strategic ambitions.²⁹

Secondly, A2/AD capabilities possess operational ranges far in excess of what would be sufficient for defensive purposes. In fact, some capabilities from Anti-Ship Ballistic Missiles (ASBM) to nuclear submarines could be used offensively to threaten global maritime traffic transiting chokepoints in Southeast Asia, the Straits of Sunda, Lombok, Malacca and Makassar, that are all far from Chinese shores.³⁰

Thirdly, the PRC has on many occasions been assertive with its neighbours over a variety of conflicting territorial claims and disputes. In 1962, the PRC attacked

²⁸ E.Ratner, ‘The Emergency Security Threats Reshaping China’s Rise’, *The Washington Quarterly*, Vol. 34, Iss. 1, 2011, p. 37

²⁹ S.Chen & J.Feffer, ‘China’s Military Spending...’, p. 61; Japan Ministry of Defense, *Defense of Japan 2011*, p. 72 & 74; D.Roy, ‘Stirring Samurai-Disapproving Dragon: Japan’s Growing Security Activity and Sino-Japan Relations’, *Asian Affairs*, Vol. 31, Iss. 2, 2004, p. 89; United States Department of Defense, *Quadrennial Defense Review Report: February 2010*, United States Government, Washington DC, 2010, p. 31

³⁰ R.D.Kaplan, ‘The South China Sea is the Future of Conflict’, pp. 80-82; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 3 & 31 & 46; R.O’Rourke, *China Naval Modernisation...*, 2008, pp. 44-45, p. 10 & 15; D.Roy, ‘Stirring Samurai-Disapproving Dragon...’, p. 90; L.Buszynski, ‘The South China Sea: Oil Maritime Claims and US-China Strategic Rivalry’, *The Washington Quarterly*, Vol. 35, Iss. 2, 2012, p. 145; Y.Chijiwa, ‘Japan’s Security Outlook Its Implications for the Defense Policy’, *NIDS Joint Research Series No. 5: Asia Pacific Countries Security Outlook and its Implications for the Defense Sector No. 1*, The National Institute for Defense Studies, Tokyo, 2010, p. 164

India in the Himalaya's over conflicting territorial claims.³¹ In the South China Sea, where the PRC claims nearly the entire maritime area (see Appendix II), China has not only used military force to annex islands in 1974 and 1988, but also to harass other claimants and enforce the legitimacy of its claims on opposing powers.³² Moreover, in the East China Sea, the PRC on several occasions has vigorously asserted its maritime claims.³³ In addition, the PRC has maintained a hostile posture towards Taiwan, with both the 2004 Chinese Defence Whitepaper and the 2005 Chinese 'Anti-Secession Law' implying that the PRC may be willing to use armed force to prevent Taiwanese independence.³⁴ In all, these instances suggest that China is willing to use armed force as an instrument to settle territorial disputes with its neighbouring countries.

Fourthly, the PRC has demonstrated considerable disregard for international law and norms. One aspect is its breach of the United Nations Convention on the Law of the Sea (UNCLOS) that governs the maritime claims of all coastal states. Articles 56 and 57 allow a state to claim and control an Exclusive Economic Zone

³¹ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 15; Y.Deng, *China's Struggle for Status...*, p. 111; M.Malik, *China and India: Great Power Rivals*, First Forum Press, London, 2011, p. 75; R.Bedi, 'Mirrored Manoeuvres: India and China', *Jane's Defence Weekly*, 24 May 2012

³² R.D.Kaplan, 'The South China Sea is the Future of Conflict', p. 81; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 15; United States Department of Energy Information Administration, 'South China Sea', March 2008; B.Womack, *China Among Unequals: Asymmetric Foreign Relationships in Asia*, World Scientific, London, 2010, p. 333; L.Buszynski, 'The South China Sea...', p. 140

³³ R.Babbage, *Australia's Strategic Edge in 2030*, p. 33; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 15; Japan Ministry of Defense, *Defense of Japan 2011*, p. 75 & 82; M.J.Valencia, 'The East China Sea Dispute: Context Claims Issues and Possible Solutions', *Asian Perspective*, Vol. 31, Iss. 1, 2007, p. 131

³⁴ D.A.Shlapak et al., *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*, RAND Corporation, Santa Monica, 2009, p. 7; Chinese National People's Congress, 'Anti-Secession Law', 14 March 2005; Information Office of the State Council..., 'China's National Defense in 2004: Chapter II National Defense Policy'; D.Van-Vranken-Hickey, 'The Taiwan Strait Crisis of 1996....', pp. 407-408; Y.Deng, *China's Struggle for Status...*, p. 114

(EEZ) no greater than 200 nautical miles from the coastline.³⁵ In the South China Sea, the PRC claims nearly the entire maritime body, far exceeding the limits of UNCLOS (see Appendix II). The PRC's claim is justified by history, a claim that no other parties to the dispute recognise including the Philippines, Brunei, Taiwan, Indonesia and Malaysia.³⁶

The other aspect is the PRC's extensive program of state-sponsored espionage to illegally obtain advanced US Military technology. The underlying purpose of the PRC's drive to acquire advanced military technologies is to erode the American and Japanese technological superiority, thereby increasing the PLA's probability of successfully achieving A2/AD's objectives. In 2007 Chi Mak, a naturalised US citizen and former employee of a US defence corporation, was convicted of revealing Top Secret information on the USN's next-generation submarine propulsion, Aegis radar and stealth technology to the PRC.³⁷ In 2009, Hing Shing Lau was convicted of trying to illegally export commercially acquired thermal imaging cameras to the PRC.³⁸ In 2010, there were at least two attempts by Chinese nationals to export commercially acquired components used in military technologies to China and a further two incidents involving naturalised US citizens who had access to classified information.³⁹ The sensitive technologies

³⁵ United Nations, 'United Nations Convention on the Law of the Sea', 10 December 1982, p. 43-44

³⁶ L.Buszynski, 'The South China Sea...', p. 140; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 60; United States Department of Energy..., 'South China Sea'

³⁷ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, pp. 44-45; Federal Bureau of Investigation, 'The Insider Threat: An Introduction to Detective and Deterring an Insider Spy', 2012

³⁸ United States Attorney's Office, 'Chinese Man Indicted for Attempting to Illegally Export Thermal Imaging Cameras', 10 June 2009

³⁹ United States Attorney's Office, 'Washington Man Charged in Connection with Attempts to Ship Sensitive Military Technology to China', 6 December 2010; United States Attorney's Office, 'Former Boeing Engineer Sentenced to Nearly 16 Years in Prison for Stealing Aerospace Secrets for China', 8 February 2010; United States Attorney's Office, 'Two Chinese Nationals Convicted of Illegal Exporting

involved ranged from computer chips to Global Positioning System (GPS) and satellite communications systems.⁴⁰ This was followed by the sentencing of Noshir Gowadia in 2011, a naturalised US citizen who worked on Top Secret US Government projects and helped the PRC design a stealthy cruise missile, in addition to providing information on the B2 stealth bomber.⁴¹ Indeed the numerous instances whereby the PRC has used Chinese nationals and naturalised US citizens to obtain classified military technologies demonstrates that the PRC is engaged in illegal activity contravening international norms.⁴²

If the PRC does aspire to dominate the Asia-Pacific region, this would not only explain the lack of transparency in Chinese defence policy and long-term strategic ambitions, but also why A2/AD capabilities possess operational ranges far in excess of what would normally be deemed appropriate for defensive purposes. Furthermore, such a national ambition would also explain the PRC's behaviour in contravening both international law and norms. To the PRC's neighbours, its behaviour partially resembles a hostile, revisionist power that uses coercion and illegal activity to achieve its objectives. As a result, many of China's neighbours including Japan, India, Russia, Singapore, South Korea, Vietnam, the Philippines and Australia, are all wary of the potential threat posed

Electronics Components Used in Military Radar and Electronic Warfare', 17 May 2010; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 6

⁴⁰ United States Attorney's Office, 'Washington Man Charged...'; United States Attorney's Office, 'Former Boeing Engineer Sentenced...'; United States Attorney's Office, 'Two Chinese Nationals Convicted...', 17 May 2010; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 6

⁴¹ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 6; United States Department of Justice, 'Hawaii Man Sentenced to 32 Years in Prison for Providing Defense Information to People's Republic of China', 25 January 2011

⁴² Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 10

by A2/AD.⁴³ Whilst the precise nature and extent of the threat posed by A2/AD remains unclear, the evidence suggests that A2/AD was created with the underlying purpose of furthering Chinese national ambitions, that may be incompatible with the interests of other Asia-Pacific powers.

⁴³ Japan Ministry of Defense, *Defense of Japan 2011*, pp. 74-75, p. 72; United States Department of Defense, *Joint Operational Access Concept*, United States Department of Defense, Washington DC, 2012, p. 1 & 4; R.O'Rourke, *China Naval Modernisation...*, 2008, p. 52; United States Department of Defense, *Quadrennial Defense Review Report: February 2010*, p. 60; J.Mearsheimer, 'The Gathering Storm: China's Challenge to US Power in Asia', *The Chinese Journal of International Politics*, Vol. 3, No. 4, 2010, pp. 390-391, p. 382; R.Bedi, 'Mirrored Manoeuvres: India and China'; K.Takahashi & J.Hardy, 'Japan and Australia Sign Intel Sharing Agreement', *Jane's Defence Weekly*, 18 May 2012; United States Department of Defense, *Nuclear Posture Review Report 2010*, p. 5

II. A2/AD CAPABILITIES

The PLA's military modernisation program has focussed on equipping its four branches, the PLAA, PLAN, PLAAF and PLASAF, with capabilities to win future wars against technologically superior adversaries in maritime Southeast Asia and the Western Pacific.⁴⁴ At the strategic level, the PRC relies on its doctrine entitled 'National Military Guidelines for the New Period'.⁴⁵ Under these guidelines the PLA's operational concept of 'Active Defense' will utilise 'Assassin's Mace' (*shashoujian*) capabilities to asymmetrically compensate for Chinese technological deficiencies and allow the PLA to prevail in high-technology conflicts.⁴⁶ This 'Active Defense' concept is essentially what the US and its allies describe as the A2/AD concept of operations.⁴⁷

⁴⁴ T.G.Mahnken, 'China's Anti-Access Strategy in Historical and Theoretical Perspective', *Journal of Strategic Studies*, Vol. 34, Iss. 3, 2011, p. 317; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 2 & 44 & 58; R.O'Rourke, *China Naval Modernisation...*, 2008, p. 80; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, p. 36; Y.Ji, 'Meeting the Challenge of Asia's Changing Security Environment: China's Response to the New Threats', *NIDS Joint Research Series No. 6: Asia Pacific Countries Security Outlook and its Implications for the Defense Sector No. 2*, The National Institute for Defense Studies, Tokyo, 2011, pp. 130-131 & 153-154; R.Cliff et al., *Entering the Dragon's Lair...*, pp. 23-26; I.Rehman, *Deflecting the Assassin's Mace: The Pentagon's New Air-Sea Battle Concept and its Strategic Relevance to India*, Institute for Defence Studies and Analyses, New Delhi, 2010, p. 4; Information Office of the States Council..., 'China's National Defense in 2010: III Modernisation of the People's Liberation Army'

⁴⁵ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 22; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 3

⁴⁶ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 22; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 3; A.F.Krepinevich, *Why Air-Sea Battle?*, pp. 13-15, p. iii; J.Van-Tol et al., 'Air-Sea Battle', 18 May 2010, , p. 8; J.Van-Tol et al., *Air-Sea Battle...*, p. 29; Office of the Secretary of Defense, *Annual Report on the Military Power of the People's Republic of China*

A2/AD or 'Active Defense' operates a variety of military capabilities that have been arranged into a multi-layered configuration for denying US forces access to and freedom of manoeuvre within significant portions of maritime Southeast Asia and the Western Pacific.⁴⁸ Specifically, China plans to deny US force projection and forward-deployed forces access to the first, second and third island chains, that, in order of importance demarcate differing zones of Chinese strategic interest.⁴⁹ The island-chain concept was created by Admiral Liu Huaqing in 1988.⁵⁰ The first island chain runs south from Japan including Taiwan and the Philippines (see Appendix I).⁵¹ The second island chain runs west of the Aleutian Islands, through the Mariana Islands to the eastern tip of Papua New Guinea (see Appendix I), whereas the third island chain runs from the Aleutian Islands to Antarctica.⁵² For China, the purpose of the island-chain concept is to articulate objectives that will provide the PRC with strategic depth

2003, United States Department of Defense, Washington DC, 2003, p. 21; Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2005*, United States Department of Defense, Washington DC, 2005, p. 24 & 26 & 33; Office of the Secretary of Defense, *Annual Report to Congress...*, 2006, p. 24; Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2007*, United States Department of Defense, Washington DC, 2007, p. 15; Office of the Secretary of Defense, *Annual Report to Congress...*, 2008, p. 20; Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2009*, United States Department of Defense, Washington DC, 2009, p. 20

⁴⁷ A.Krepinevich, *The Quadrennial Defense Review: Rethinking the US Military Posture*, Centre for Strategic and Budgetary Assessments, Washington DC, 2005, p. 8 & 91; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 15; I.Rehman, *Deflecting the Assassin's Mace...*, p. 4

⁴⁸ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 28; A.Krepinevich, *The Quadrennial Defense Review...*, p. 31; M.Gunzinger & C.Dougherty, *Changing The Game: The Promise of Directed-Energy Weapons*, Centre for Strategic and Budgetary Assessments, Washington DC, 2012, p. 4

⁴⁹ L.Buszynski, 'The South China Sea...', pp. 146-147; R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 8; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 58; K.Furukawa, 'Nuclear Arms Control and Disarmament: Views among Japan's National Security Community', *Security Challenges*, Vol. 6, No. 4, 2010, p. 38

⁵⁰ J.Yang, 'China's Security Challenges: Priorities and Policy Implications' in *NIDS Joint Research Series No. 5: Asia Pacific Countries Security Outlook and its Implications for the Defense Sector No. 1*, The National Institute for Defense Studies, Tokyo, 2010, pp. 153-154

⁵¹ *ibid.*

⁵² *ibid.*

or a maritime buffer-zone against the perceived threat of US force projection capabilities. Conversely, the US is gravely concerned by the PRC's A2/AD concept of operations and the potential ambition to deny its forces access to the three-island chains and in effect access to Asia.⁵³

ANTI-ACCESS (A2)

A2 capabilities are long-range capabilities designed to prevent an enemy force from entering an area of operations.⁵⁴ PLA A2 operations may include attacking enemy Forward Operations Bases (FOB), air bases and port facilities to complicate the opposing forces logistics arrangements or reinforcement plans.

PLA A2 capabilities are arranged into a multi-layered system (see Figure A). For operations out to 3300km from the Chinese mainland, the PLA will use CSS-2 Intermediate Range Ballistic Missiles (IRBM) and Land Attack Cruise Missiles (LACM) launched from Chinese H-6 bombers to attack US FOBs and support infrastructure in the Western Pacific (see Figure A).⁵⁵ For operations out to 2000km from the Chinese mainland, the PLA will use road-mobile CSS-5 ASBMs and CSS-5 Medium-Range Ballistic Missiles (MRBM) in addition to DH-10 LACM and Anti-Ship Cruise Missiles (ASCM) launched by FB-7 and H-6 aircraft (see Figure A).⁵⁶ These weapons will be used to deter and if necessary attack US

⁵³ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 28; United States Department of Defense, *Quadrennial Defense Review Report: February 2010*, p. 31

⁵⁴ United States Department of Defense, *Joint Operational Access Concept*, p. 6

⁵⁵ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 31; R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 5

⁵⁶ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, pp. 2-4, p. 29 & 31; Japan Ministry of Defense, *Defense of Japan 2011*, p. 78; T.Hemmingsen, 'Enter the Dragon...'; R.Babbage, *Australia's Strategic Edge in 2030*, p. 19

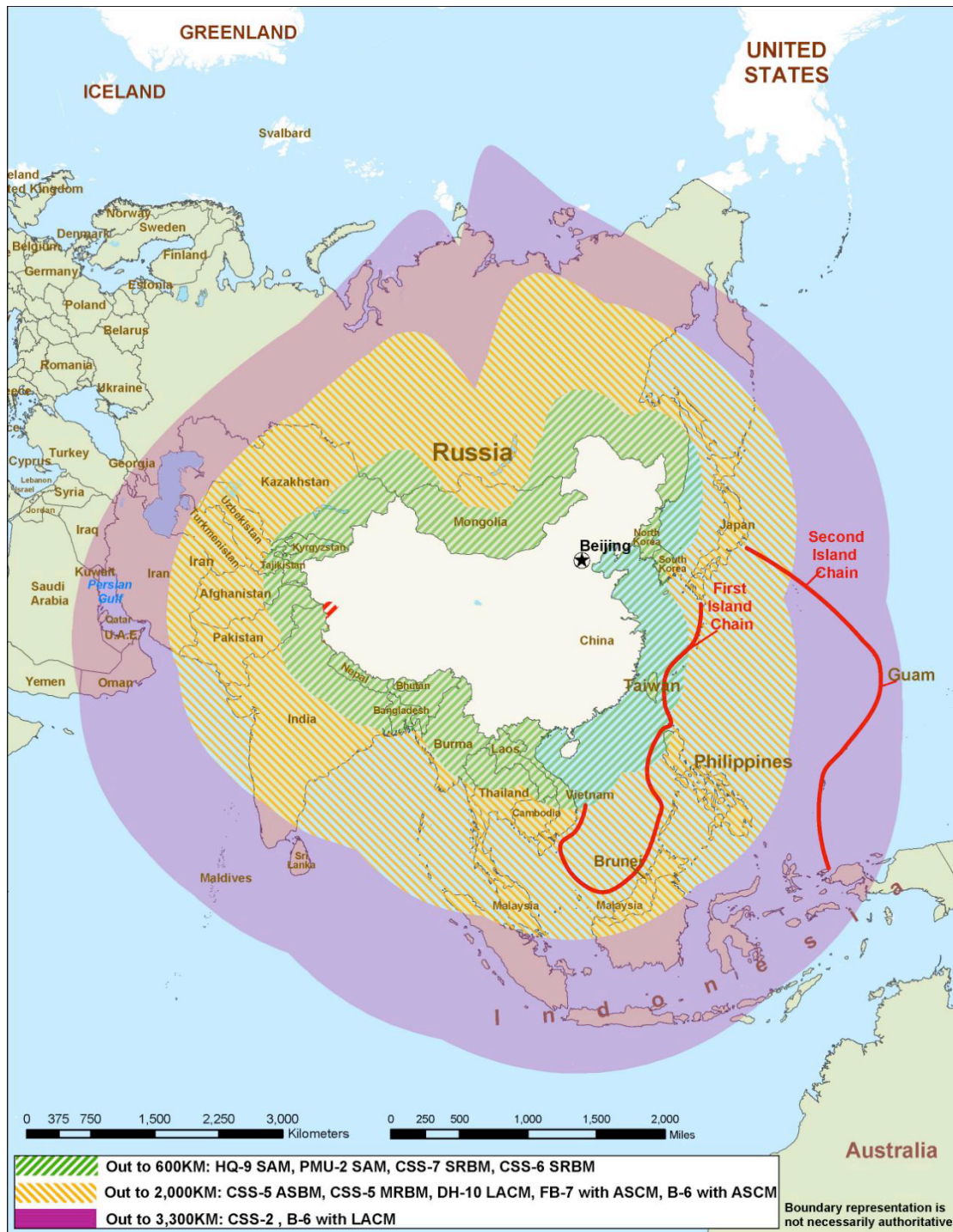
surface ships, FOBs and support infrastructure within their operational envelope.⁵⁷ For operations out to 600km the PLA will use CSS-6 and CSS-7 Short Range Ballistic Missiles (SRBM), Chinese HQ-9 Surface to Air Missiles (SAM) and Russian PMU-2 SAMs for air and Ballistic Missile Defence (BMD) (see Figure A).⁵⁸ It is also expected that these SAMs will be supplemented in the future by the HQ-19 air and BMD interceptor.⁵⁹

⁵⁷ S.La-Grone, 'China's ASBM has undergone extensive testing', *Jane's Navy International*, 29 December 2010; R.O'Rourke, *China Naval Modernisation...*, 2008, pp. 4-5; M.Cook, 'Deakin University Fullbright Symposium: Japan's Triple Challenge', August 2011, p. 7; R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 5

⁵⁸ R.O'Rourke, *China Naval Modernisation...*, 2008, p. 4; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, pp. 31-32

⁵⁹ I.Easton, *The Great Game in Space: China's Evolving ASAT Weapons Programs and their Implications for Future US Strategy*, Project 2049 Institute, Virginia, 2009, p. 2

FIGURE A: PLA A2 WEAPON RANGES



SOURCE: Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011*, United States Department of Defense, Washington DC, 2011, p. 31

There are also a variety of A2 strike capabilities that operate across all three layers, for instance Anti-Satellite (ASAT) weapons using both modified MRBMs and lasers to disable or destroy US space-based assets.⁶⁰ Other examples include cyber attacks to disable global communications and use of nuclear-powered attack (SSN) and ballistic missile (SSBN) submarines for attacking enemy support infrastructure.⁶¹ Other A2 strike capabilities include High Powered Microwave (HPM) and Electro-Magnetic Pulse (EMP) weapons to blind US Command Control Communications Computers Intelligence Surveillance and Reconnaissance (C4ISR) assets such as satellites, but also to disable surface ships and the use of Precision-Guided Munitions (PGM) by rendering GPS satellite constellations inoperable.⁶²

It is also important to note that A2 capabilities will include a credible PLA nuclear second-strike capability to deter attacks against the Chinese mainland and also to deter the US from using its nuclear deterrent on behalf of its allies.⁶³ For instance, in a hypothetical PRC-Taiwan conflict, facing a potential US-Japanese victory the PRC may threaten to assert “escalation dominance”.⁶⁴ That is, to threaten US forces in theatre and/or the continental United States with nuclear weapons, a threat that the US may be unwilling to meet given the

⁶⁰ M.A.Gunzinger, *Sustaining America’s Strategic Advantage in Long-Range Strike*, p. 23; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 18; I.Easton, *The Great Game in Space...*, pp. 2-5

⁶¹ R.Babbage, *Australia’s Strategic Edge in 2030*, p. 25; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, pp. 5-6, p. 3; R.O’Rourke, *China Naval Modernisation...*, 2008, p. 11; R.O’Rourke, *China Naval Modernisation...*, 2012, p. 17; Japan Ministry of Defense, *Defense of Japan 2011*, p. 78;

⁶² R.O’Rourke, *China Naval Modernisation...*, 2008, pp. 23-24; R.Cliff et al., *Entering the Dragon’s Lair...*, pp. 51-52, p. 41 & 56 & 59; R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 7

⁶³ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 25

⁶⁴ D.Wilkening & K.Watman, *Nuclear Deterrence in a Regional Context*, RAND Corporation, Santa Monica, 1995, pp. 41-42

potential for a wider nuclear confrontation.⁶⁵ Presently the PLASAF nuclear arsenal consists of between 50 and 75 silo-based Intercontinental Ballistic Missiles (ICBM) that is supplemented by the JL-2 Submarine Launched Ballistic Missile (SLBM) to be deployed from PLAN *JIN class* SSBNs.⁶⁶

All PLA A2 capabilities rely on three key support mechanisms. The first is a land-based fibre-optic communications network dedicated solely for use by the PLA, making it difficult for external powers to locate and attack.⁶⁷ The second is the Chinese 'Compass' (*Beidou*) satellite navigation network to enable the use of PGMs and PLA navigation, regardless of access to the US GPS network.⁶⁸ The third is an over-the-horizon (OTH) sensor network to detect approaching air and maritime targets, that may also be used to help co-ordinate PLA A2 strike capabilities. This sensor network includes the *Skywave* OTH radar system extending PLA detection capabilities out to 3000km from the mainland and a seabed sonar network.⁶⁹

⁶⁵ *ibid.*, pp. 41-4

⁶⁶ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 24

⁶⁷ Information Office of the States Council..., 'China's National Defense in 2010: III Modernisation of the People's Liberation Army'; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 24

⁶⁸ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 8; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, p. 37; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 24; J.Van-Tol et al., *Air-Sea Battle...*, p. 19; R.Babbage, *Australia's Strategic Edge in 2030*, p. 23; Information Office of the States Council..., 'China's National Defense in 2010: III Modernisation of the People's Liberation Army'; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 5; I.Easton, *The Great Game in Space...*, p. 3; T.Hemmingsen, 'Enter the Dragon...'; H.Lu, 'China launches 11th satellite for independent navigation system', 25 February 2012

⁶⁹ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, pp. 22-23; M.Stokes, *China's Evolving Conventional Strategic Strike Capability...*, pp. 18-19; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 29; R.O'Rourke, *China Naval Modernisation...*, 2012, p. 29; R.D.Kaplan, 'The Geography of Chinese Power', *Foreign Affairs*, Vol. 89, Iss. 3, May-June 2010, p. 35; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 19

AREA DENIAL (AD)

AD capabilities are designed to restrict an enemy forces freedom of manoeuvre within an area of operations.⁷⁰ For Air AD operations the PLAAF will use more than 150 Russian-built Su-27 and Su-30 combat aircraft, reinforced by SA-20 SAMs.⁷¹ In addition, the PLAAF will use new breeds of indigenously-built combat aircraft including the J-10, J-11B and the J-20 stealth fighter.⁷² To augment this force is a fleet of KJ-200 Airborne Early Warning and Control (AEW&C) aircraft as well as H-6 bombers.⁷³ These H-6 aircraft are a particular threat to US Military and Japan-Self Defense Force (JSDF) capabilities because they have a mission radius of 1600 nautical miles and a payload of six LACMs, several ASCMs or several Kh-31PM anti-radiation missiles.⁷⁴ These anti-radiation missiles pose a serious threat to US and Japanese forces because they are specifically designed to target critical capabilities including Aegis equipped air-defence surface ships, E-2C/D Hawkeye AEW&C aircraft, as well as Patriot PAC-3 ballistic missile defence interceptor batteries.⁷⁵ For maritime AD operations, the PLAN will use a surface fleet of Type-052C class air warfare destroyers, Type-054A class guided missile frigates and Type-022 class fast-attack missile patrol boats.⁷⁶ These

⁷⁰ United States Department of Defense, *Joint Operational Access Concept*, p. 6

⁷¹ R.O'Rourke, *China Naval Modernisation...*, 2012, p. 28; A.Borgu et al., *A Big Deal: Australia's Future Air Combat Capability*, Australian Strategic Policy Institute, Canberra, 2004, pp. 31-32

⁷² Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 4; R.O'Rourke, *China Naval Modernisation...*, 2012, p. 28; J.Grevatt & J.Kerr, 'China Sets the Tone', *Jane's Defence Weekly*, 11 Feb 2011; A.Borgu et al., *A Big Deal...*, pp. 31-32

⁷³ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p.p. 4

⁷⁴ A.F.Krepinevich, *Why Air-Sea Battle?*, pp. 20-21, p. 17; Japan Ministry of Defense, *Defense of Japan 2011*, p. 78; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 4; R.Babbage, *Australia's Strategic Edge in 2030*, p. 22

⁷⁵ A.F.Krepinevich, *Why Air-Sea Battle?*, p. 21

⁷⁶ R.O'Rourke, *China Naval Modernisation...*, 2008, p. 19 & 30; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 4; R.O'Rourke, *China Naval Modernisation...*, 2012, p. 22

assets will be supported by thousands of sea-mines, and a fleet of conventional submarines, including the Russian *Kilo class*.⁷⁷

⁷⁷ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 23; R.O'Rourke, *China Naval Modernisation...*, 2012, p. 10; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 21

III. ASSESSING A2/AD

HOW DO WE KNOW A2/AD EXISTS?

It is important to note that PRC publications fail to mention an A2/AD concept of operations.⁷⁸ One of the core reasons is that the US Department of Defense alleges that A2/AD goes by the title of 'Active Defense' in Chinese military strategy, utilising 'Assassin's Mace' capabilities to win wars against technologically superior opponents.⁷⁹ 'Assassin's Mace' capabilities also support the existence of A2/AD because the phrase 'Assassin's Mace' in Chinese translates to *Shashoujian*.⁸⁰ This is a reference to an ancient hand-mace that could be used to swiftly cripple stronger opponents just prior to or soon after the initiation of hostilities.⁸¹ Indeed, A2/AD capabilities are remarkably similar to 'Assassin's Mace' capabilities as they are both designed to endow the user with the capability to swiftly gain the upper hand in conflicts against stronger opponents, thus supporting the US Department of Defense charge that A2/AD is the same as 'Active Defense'.

The Chinese military modernisation program further supports the existence of A2/AD as it shares striking similarities with declared PLA operational concepts

⁷⁸ Information Office of the State Council..., 'China's National Defense in 2000 & 2000 & 2006 & 2008 & 2010 : II National Defense Policy'

⁷⁹ R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 2; Office of the Secretary of Defense, *Annual Report to Congress...*, 2005, p. 5 & 21 & 26 & 33; Office of the Secretary of Defense, *Annual Report to Congress...*, 2006, p. 24; Office of the Secretary of Defense, *Annual Report to Congress...*, 2007, p. 15; Office of the Secretary of Defense, *Annual Report to Congress...*, 2008, p. 22; Office of the Secretary of Defense, *Annual Report to Congress...*, 2009, p. 20; A.Krepinevich, *The Quadrennial Defense Review...*, p. 8 & 91; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 15; I.Rehman, *Deflecting the Assassin's Mace...*, p. 4

⁸⁰ A.F.Krepinevich, *Why Air-Sea Battle?*, pp. 13-14; J.Van-Tol et al., *Air-Sea Battle...*, p. 29

⁸¹ *ibid.*

and capabilities.⁸² Firstly, both A2/AD and 'Active Defense' have the objective of winning local wars under high-tech or informationalised conditions.⁸³ Secondly, both A2/AD and 'Active Defense' place a clear emphasis on prioritising the procurement of advanced PLAN, PLAAF and PLASAF capabilities, over PLAA capabilities.⁸⁴ Thirdly, 'Active Defense' calls for long-range conventional strike capabilities, a capability that is also a core component of A2/AD.⁸⁵

The PRC already perceives itself to be the victim of the 'China threat' concocted by the US and its allies.⁸⁶ Given that the US and many other countries are concerned about the potential A2/AD threat and the PRC's future strategic ambitions, if China was to admit possessing an operational concept entitled A2/AD, it may only serve to exacerbate existing anxieties.⁸⁷ This also explains why A2/AD is referred to as 'Active Defense' in Chinese strategic publications.

The US 2010 Quadrennial Defense Review and 2007-2012 Department of Defense reports to Congress, in addition to numerous other publications by the RAND Corporation and the Centre for Budgetary and Strategic Assessments, all

⁸² Information Office of the State Council..., 'China's National Defense in 2000 & 2002 & 2006 & 2008 & 2010: II National Defense Policy'

⁸³ Information Office of the State Council..., 'China's National Defense in 2008: II National Defense Policy'-III Reform and Development of the PLA; Information Office of the State Council..., 'China's National defense in 2000 & 2002 & 2006 & 2010: II National Defense Policy'

⁸⁴ Information Office of the State Council..., 'China's National Defense in 2004: Chapter III Revolution in Military Affairs with Chinese Characteristics

⁸⁵ Information Office of the State Council..., 'China's National Defense in 2008: VI The Air Force, 2009; Information Office of the State Council..., 'China's National Defense in 2008: VII The Second Artillery Force, 2009; Information Office of the State Council..., 'China's National defense in 2006: II National Defense Policy', 2006; Information Office of the State Council..., 'China's National Defense in 2004: Chapter III Revolution in Military Affairs with Chinese Characteristics; Information Office of the State Council..., 'China's National Defense in 2010: III Modernisation of the People's Liberation Army'

⁸⁶ Z.Tao, 'Strategic Intent Behind China Threat Theory Concocted by US', 12 June 2012

⁸⁷ J.Mearsheimer, 'The Gathering Storm...', p. 382

charge China with pursuing an A2/AD operational concept.⁸⁸ Furthermore, five additional non-US based sources also confirm the existence of the A2/AD operational concept. The first three are senior members of the Japanese defense community that have acknowledged and/or implied the existence of A2/AD.⁸⁹ Sugio Takahashi is a Senior Fellow at the Japanese National Institute for Defense Studies who argues that A2/AD exists because China has invested considerable resources in creating capabilities such as ASBMs that form the backbone of A2/AD and that A2/AD has been a concern for the US strategic planning community for over a decade.⁹⁰ The second is Katsuhisa Furukawa, a Senior Fellow at the International Assessment and Strategy Centre and a consultant with the Japanese Foreign Ministry. He argues that A2/AD exists since a variety of offensive and defensive PRC military capabilities, backed by China's expanding defence budget, have been integrated for the purpose of defending China and other scenarios including a future PRC-Taiwan reunification conflict.⁹¹ The third source from the Japanese security community is retired Lieutenant General Noboru Yamaguchi and a current professor at the National Defense Academy of Japan who supports the existence of A2/AD.⁹²

⁸⁸ United States Department of Defense, *Quadrennial Defense Review Report: February 2010*, p. 31; Office of the Secretary of Defense, *Annual Report to Congress...*, 2007, pp. 15-18; Office of the Secretary of Defense, *Annual Report to Congress...*, 2009, pp. 20-23; Office of the Secretary of Defense, *Annual Report to Congress...*, 2010, p. 25; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 2 & 28; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 21; M.Gunzinger & C.Dougherty, *Changing The Game...*, p. 4; R.Cliff, *Anti-Access Measures in Chinese Defense Strategy*, p. 3; R.Cliff et al., *Entering the Dragon's Lair...*, pp. 17-20; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 1-2; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, pp. 36-37

⁸⁹ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, p. 1 & 6; N.Yamaguchi, 'America's Return to Asia Requires Japan's Strategic Response', *Association of Japanese Institutes of Strategic Studies*, No. 147, 2012, p. 3; K.Furukawa, 'Nuclear Arms Control...', p. 35 & 38

⁹⁰ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, pp. 1-2

⁹¹ K.Furukawa, 'Nuclear Arms Control...', p. 35

⁹² N.Yamaguchi, 'America's Return to Asia...', p. 3

The fourth source is the Japanese National Institute for Defense Studies 2011 report on Chinese military capabilities.⁹³ This report alleges that A2/AD exists, due to the considerable concern being generated by the US strategic community, but also due to the PLA's development of long-range strike and standoff weapons such as the ASBM and ASCM that could be used to achieve A2/AD objectives in wartime.⁹⁴ Whereas the fifth source is the 2011 Taiwanese National Defense Report that outlines in elaborate detail both A2/AD objectives and the capabilities involved.⁹⁵ Out of all five supplementary sources, the 2011 Taiwanese National Defense Report offers the most convincing evidence for the existence for the existence of the A2/AD operational concept. This is because the report not only addresses why China is pursuing A2/AD but also how emerging PLA capabilities will be used to achieve these objectives.

STRENGTHS OF A2/AD

One strength of A2/AD is that it gives the CCP a powerful political tool with two major benefits. The first is that A2/AD undermines confidence in the continuity of US Asia-Pacific strategic and diplomatic primacy. Whereas the second benefit is that A2/AD signals to the Chinese public and external powers, that the PRC is a major power possessing sufficient military strength to resist bullying by external powers. In doing so, A2/AD may be perceived by the CCP as a tool to boost national pride thereby offsetting China's history of humiliating defeats.

⁹³ National Institute of Defense Studies, *NIDS China Security Report 2011*, The National Institute for Defense Studies, Tokyo, 2011, pp. 12-13, p. 46

⁹⁴ *ibid.*, pp. 12-13, p. 46

⁹⁵ National Defense Report Editing Committee, *2011 Republic of China National Defense Report*, Ministry of National Defense, Taipei, 2011, pp. 72-73, p. 39 & 62

A second strength of A2/AD is the inherent flexibility of its capabilities to be used for offensive or defensive operations.⁹⁶ In addition to being capable of defending the Chinese mainland from external aggression, A2/AD medium and long-range strike capabilities could be used to provide on-demand fire-support for PLA operations in a similar way that artillery batteries support United States Marine Corps (USMC) operations on land.⁹⁷ Consequently, A2/AD capabilities may enable the PLA to defend the Chinese mainland and SLOC's in Southeast and East Asia, whilst simultaneously supporting attacks against US and Japanese assets in Western Pacific.

A third strength is that A2/AD ballistic missile capabilities will provide the PLA with a long-range strike capability that US and Japanese BMDs may find difficult to counter. One reason for this is that PLA ballistic missiles are planned to be equipped with Manoeuvrable Re-entry Vehicles (MaRV) and technologies to increase their survivability against US and Japanese BMD interceptors.⁹⁸ Shedding further doubt on the effectiveness of US and Japanese BMD interceptor missiles such as the Standard Missile 3 (SM-3) and Patriot 3 (PAC-3) missile, is that they have never been successfully used under contested wartime conditions.⁹⁹ Thus it is unknown if they will be capable of providing a reliable

⁹⁶ Office of the Secretary of Defense, *Annual Report to Congress...*, 2007, p. 16; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 38

⁹⁷ United States Marine Corps Combat Development Command, *Artillery Operations*, United States Department of Defense, Albany, 2002, p. 1

⁹⁸ R.O'Rourke, *China Naval Modernisation...*, 2008, pp. 4-5; Japan Ministry of Defense, *Defense of Japan 2011*, p. 78; M.Stokes, *China's Evolving Conventional Strategic Strike Capability...*, p. 26; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 22

⁹⁹ M.Stokes, *China's Evolving Conventional Strategic Strike Capability...*, p. 5; L.Hagstrom & J.Williamson, 'Remilitarisation Really? Assessing Change in Japanese Foreign Security Policy', *Asian Security*, Vol. 5, Iss. 3, 2009, pp. 251-253; Japan Ministry of Defense, *Defense of Japan 2011*, p. 180 & 234 & 238

BMD capability.¹⁰⁰ Another reason is that the PLA plan to use ballistic missile attacks in support of air and maritime strike operations, meaning that the defensive capabilities of US and Japanese assets could be overwhelmed. This is because the PLA is capable of launching in excess of 100 simultaneous MRBM, ASBM, ASCM and combat aircraft threats to swarm designated targets.¹⁰¹ Due to both the increased survivability of PLA ballistic missiles and their likely use in support of swarm tactics, PLA ballistic missiles pose a serious challenge to US and Japanese BMD capabilities.

A fourth strength of A2/AD is that asymmetric HPM, EMP, ASAT and anti-radiation weapons may be used to target US and Japanese assets, that Chinese strategists theorise are vital to US and JSDF war-fighting capabilities.¹⁰² For example, US and Japanese forces rely on GPS and Intelligence Surveillance Reconnaissance (ISR) satellite constellations to guide PGMs and long-range strike capabilities in addition to gathering intelligence.¹⁰³ HPM and EMP weapons are likely to be effective against US and Japanese C4ISR assets because their emissions damage or destroy sensitive electronics vital to modern military capabilities from satellites to surface ships and aircraft.¹⁰⁴ ASAT weapons also threaten US Military satellites, whereas anti-radiation weapons such as the Kh-31PM will be used to specifically target vital US and Japanese capabilities, including Aegis surface ships, AEW&C aircraft as well as PAC-3 BMD batteries.¹⁰⁵

¹⁰⁰ *ibid.*

¹⁰¹ R.Cliff et al., *Entering the Dragon's Lair...*, pp. 90-91, p. 93

¹⁰² *ibid.*, pp. 45-46

¹⁰³ R.Cliff et al., *Entering the Dragon's Lair...*, pp. 51-52, p. 59; I.Easton, *The Great Game in Space...*, p. 3 & 5

¹⁰⁴ R.O'Rourke, *China Naval Modernisation...*, 2008, pp. 23-24; I.Easton, *The Great Game in Space...*, pp. 3-5, p. 11; R.Cliff et al., *Entering the Dragon's Lair...*, pp. 56

¹⁰⁵ I.Easton, *The Great Game in Space...*, pp. 2-3; A.F.Krepinevich, *Why Air-Sea Battle?*, p. 21

Indeed, if the PLA is successful in destroying or disabling all of these targets, it is likely that both US and Japanese forces would be rendered incapable of fighting. By contrast, it is unlikely that PLA forces would be incapacitated to the same extent as the PRC appears to be investing in land-based C4ISR redundancy measures to augment their satellite capabilities. For example, the PLA is in the process of completing an extensive network of land-based fibre-optic and shortwave communications, in addition to a network of OTH sensors.¹⁰⁶ As a result, even if US and Japanese forces were able to disable or destroy PLA satellite constellations, it is possible that the PLA's land-based sensor and communication network may be capable of maintaining PLA A2/AD operations.

WEAKNESSES OF A2/AD

The first weakness of A2/AD is that its offensive potential may persuade the PRC's regional neighbours including Japan, India, Vietnam and Australia to pursue closer ties with the US. Objectives of pursuing closer ties with America may be to bolster national defence capabilities, strengthen security guarantees or alternatively to form an anti-PRC containment coalition.¹⁰⁷

The second weakness of A2/AD is that its success rests entirely on the successful co-ordination of various capabilities.¹⁰⁸ For instance successfully using an ASBM

¹⁰⁶ Information Office of the States Council..., 'China's National Defense in 2010: III Modernisation of the People's Liberation Army'; M.Stokes, *China's Evolving Conventional Strategic Strike Capability...*, pp. 18-19; R.Babbage, *Australia's Strategic Edge in 2030*, p. 16 & 23; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 29; R.O'Rourke, *China Naval Modernisation...*, 2012, p. 29; J.Van-Tol et al., *Air-Sea Battle...*, p. 19; R.D.Kaplan, 'The Geography of Chinese Power', p. 35; T.Hemmingsen, 'Enter the Dragon...'

¹⁰⁷ L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

¹⁰⁸ T.T.Hemmingsen, 'Enter the Dragon...'; R.O'Rourke, *China Naval Modernisation...*, 2012, p. 52

to target a moving aircraft carrier will require approximate target location information to be communicated to the ASBM launch facility, in addition to further guidance from satellite, airborne or land-based sensor systems to update the warheads with the targets precise location upon re-entry. Notice that a failure of any one of these systems from communications to OTH targeting technologies, caused by fault or enemy interference would result in a failed long-range strike. Indeed, the challenge for the PLA will be successfully co-ordinating its capabilities in a wartime environment contested by a technologically and operationally experienced adversary such as the United States.

In contrast to the PLA, the US Military operates globally 24 hours per day, 365 days per year and thus has considerable experience in generating and maintaining high-tempo joint-service operations in foreign theatres of war.¹⁰⁹ Presently the US Military plans on exploiting the perceived co-ordination weakness of A2/AD under the United States Armed Forces Joint Operational Access Concept (JOAC).¹¹⁰ One way for the US to exploit A2/AD is to use SOFs in advance of air and maritime task forces to destroy, disrupt or weaken PLA capabilities, thereby allowing other services to operate with greater freedom of action.¹¹¹ A second way might be to use nuclear-powered submarine battle groups, composed of SSN and nuclear-powered guided-missile submarines (SSGN), to covertly enter an area of operations and attack A2/AD capabilities

¹⁰⁹ R.O.Work, *The US Navy: Charting a Course for Tomorrow's Fleet*, Centre for Strategic and Budgetary Assessments, Washington DC, 2008, p. 11

¹¹⁰ United States Department of Defense, *Joint Operational Access Concept*, p. 1 & 4

¹¹¹ United States Department of Defense, *Joint Operational Access Concept*, pp. 21-22; United States Marine Corps, *Marine Corps Doctrinal Publication: Marine Corps Operations*, United States Department of Defense, Washington DC, 2001, pp. 1-2 & 10-13, p. 8

with LACM and SOF payloads.¹¹² A third way might be to equip USN Aegis air defence surface ships with directed-energy point-defence weapons. This would vacate space within the ships missile magazines to carry more offensive arsenals as opposed to being primarily filled with point and area defence missiles.¹¹³ Whereas a fourth way might be to equip USN aircraft carriers with the developmental F/A-XX long-range strike aircraft that is planned to have an operational range in the order of 1500 nautical miles.¹¹⁴

¹¹² R.O.Work, *The US Navy...*, pp. 20-21

¹¹³ J.Van-Tol et al., *Air-Sea Battle...*, p. 46; M.Gunzinger & C.Dougherty, *Changing The Game...*, p. 15 & 26 & 41 & 43

¹¹⁴ R.O.Work, *The US Navy...*, p. 19

IV. HOW A2/AD THREATENS JAPAN

The PLA A2/AD operational concept and capabilities threatens Japan in four major ways. Firstly, A2/AD threatens to undermine the Japan-US Alliance that forms the backbone of Japanese security policy.¹¹⁵ Under the post-war constitution, Japan has been constitutionally prohibited from possessing offensive military capabilities such as aircraft carriers, ballistic missiles and nuclear weapons.¹¹⁶ In 1951, Japan formally aligned itself with the US under the *Japan-United States Security Treaty* and again under the 1960 variant.¹¹⁷ Essentially, the treaties permit Japan to develop limited military capabilities for self-defence purposes, whilst the security of the Japanese home-islands from external aggression is underwritten by the US Military conventional and nuclear deterrent.¹¹⁸ Even today, Japan relies on US security guarantees for protection against nuclear, ballistic missile and full-scale attacks, thus circumventing the need for Japanese nuclear and offensive conventional weapon capabilities.¹¹⁹

¹¹⁵ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, pp. 6-7, p. 1; K.Furukawa, 'Nuclear Arms Control...', p. 35 & 38; N.Yamaguchi, 'America's Return to Asia...', p. 3; T.Kawakami, 'The Obama Administration's Security Strategy and Japan-US Alliance', *Association of Japanese Institutes of Strategic Studies*, No. 105, 2010, pp. 1-3

¹¹⁶ B.Howe, 'Between Normality and Uniqueness: Unwrapping the Enigma of Japanese Security Policy Decision-Making', *Modern Asian Studies*, Vol. 44, Iss. 6, 2010, p. 1317

¹¹⁷ C.W.Hughes, 'Japan's Post-war Security Trajectory and Policy System', *The Adelphi Papers*, Vol. 44, Iss. 368-369, 2004, p. 22; N.Sajima & K.Tachikawa, *Japanese Sea Power: A Maritime Nation's Struggle for Identity*, Sea Power Centre Australia, Canberra, 2009, p. 66; Japan Ministry of Defense, *Defense of Japan 2011*, p. 265; Ministry of Foreign Affairs of Japan, *Treaty of Mutual Cooperation and Security Between Japan and the United States of America: Article V*, 19 January 1960

¹¹⁸ C.W.Hughes, 'Japan's Post-war Security Trajectory...', pp. 21-22; N.Sajima & K.Tachikawa, *Japanese Sea Power...*, p. 66; T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', *The Washington Quarterly*, Vol. 33, Iss. 4, 2010, p. 49; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, p. 39

¹¹⁹ *ibid.*

However, the perceived over-reliance on the US deterrent has troubled Japanese security circles for decades and especially neo-conservatives, as it leaves Japan vulnerable to potential abandonment.¹²⁰ Several sources have independently argued that A2/AD poses a direct threat to Japanese security as it could undermine the credibility of US conventional forces in defending Japan.¹²¹ For instance ASBMs and MRBMs are planned to be used in conjunction with other capabilities to deny US force projection and forward-deployed assets operational access to the Western Pacific.¹²² As a result, it is possible that A2/AD may significantly raise the cost of defending Japan to US forces, sufficient to deter the use of the US conventional deterrent to aid Japan.¹²³ In the case of the US nuclear deterrent, it is possible that under certain circumstances future American administrations may be prevented or deterred from exercising its nuclear capability on Japan's behalf.¹²⁴ One future scenario is that PLA A2/AD capabilities may prove sufficiently capable of defending the Chinese mainland from concentrated, hostile ballistic missile attacks and/or capable of penetrating US/Japanese BMD networks. When combined with the existence of a credible PLA nuclear second strike capability, the US may be deterred from using its

¹²⁰ C.W.Hughes, 'Japan's Post-war Security Trajectory...', pp. 22-23; T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', p. 49; T.Takahashi, 'Japanese Neo-Conservatism...', p. 27

¹²¹ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, pp. 6-7, p. 9; National Institute of Defense Studies, *NIDS China Security Report 2011*, pp. 12-14; X.Wu, 'The End of the Silver Lining...', p. 125

¹²² J.Van-Tol et al., *Air-Sea Battle...*, p. 30; M.Cook, 'Deakin University Fullbright Symposium: Japan's Triple Challenge', pp. 6-7; R.Babbage, *Australia's Strategic Edge in 2030*, p. 19; Japan Ministry of Defense, *Defense of Japan 2011*, p. 78; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 31; R.O'Rourke, *China Naval Modernisation...*, 2008, pp. 4-5; M.Stokes, *China's Evolving Conventional Strategic Strike Capability...*, p. 5 & 26; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, p. 22

¹²³ R.Cliff et al., *Entering the Dragon's Lair...*, pp. 90-91, p. 93; A.S.Ding, 'China's Growing Military Capability in Search of a Strategy', p. 102; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, p. 39; United States Department of Defense, *Nuclear Posture Review Report 2010*, p. xi

¹²⁴ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, pp. 24-25; T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', p. 49

nuclear deterrent against China, for fear of an unacceptable retaliatory attack on the continental United States.¹²⁵ As a result of either scenario, the US may decide to withdraw its forward-deployed forces or to share power with the PRC by demarcating spheres of influence to prevent further escalation of Sino-American rivalry, either of which would effectively abandon Japan.

The US is acutely aware that its refusal or inability to exercise its nuclear and conventional deterrent on behalf of its allies would have far reaching implications, including the emergence of many more nuclear-armed states.¹²⁶ Consequently, the US has moved to reassure its allies, including Japan, by stating in the 2010 US Nuclear Posture Review that it will continue to provide a “strong and reliable” nuclear deterrent on behalf of its allies.¹²⁷ Another measure to reassure Japan of its commitment is its conduct of numerous joint military exercises with the JSDF, in addition to joint tests of the SM-3 and PAC-3 BMD interceptors.¹²⁸ In addition, the US Government further reaffirmed its commitment to defend Japan by taking the unprecedented symbolic step of home-porting a nuclear-powered aircraft carrier in Japan.¹²⁹ Certainly, both US Government publications and actions indicate that America has every intention of using its nuclear and conventional deterrent on behalf of allies such as Japan, thus the potential for abandonment is presently an unlikely outcome.

¹²⁵ United States Department of Defense, *Nuclear Posture Review Report 2010*, pp. 5-6, p. xi; T.Sunohara, ‘The Anatomy of Japan’s Shifting Security Orientation’, p. 49; C.W.Hughes, ‘Japan’s Post-war Security Trajectory...’, pp. 22-23; A.S.Ding, ‘China’s Growing Military Capability in Search of a Strategy’, p. 102; T.P.Ehrhard, *An Air Force Strategy for the Long Haul*, p. 39

¹²⁶ United States Department of Defense, *Nuclear Posture Review Report 2010*, pp. 4-6

¹²⁷ *ibid.*, pp. 5-6

¹²⁸ Japan Ministry of Defense, *Defense of Japan 2011*, p. 214; Japan Ministry of Defense, ‘Successful completion of the Aegis Ballistic Missile Defense intercept flight test in Hawaii’, 17 December 2007; Japan Ministry of Defense, ‘Successful completion of the Patriot system flight test in New Mexico - United States’, 17 September 2008

¹²⁹ T.P.Ehrhard & R.O.Work, *Range Persistence Stealth and Networking...*, pp. 36-37

Secondly, A2/AD threatens Japan by potentially undermining the power of the JSDF and in turn its ability to secure the Japanese home-islands from attack and to make armed force contributions to Japan's wider security context.¹³⁰ With the world's 6th largest military spending, the JSDF has constructed one of the world's largest and technologically advanced defence forces capable of sea denial, sea control, BMD and limited force projection operations.¹³¹ The JSDF currently operates five ISR satellites, in addition to 360 combat aircraft, 48 destroyers, 22 submarines and 8 divisions of land forces.¹³² In contrast, the PLA operates 29 motorised, mechanised and airborne divisions, 490 combat aircraft, 79 frigates and destroyers, in addition to 53 submarines, 28 amphibious ships and more than 1000 ballistic missiles.¹³³ Due to the PLA's numerical superiority, this leaves just the JSDF technological superiority and operational experience to counter the numerical superiority of the PLA. However the PLA is rapidly modernising its service branches that threatens to erode the JSDF technological superiority. Furthermore, A2/AD capabilities such as ASBMs and OTH targeting systems could potentially be used as a force multiplier by providing tactical fire-support for PLA operations. Alternatively, ASBMs may be used to unacceptably

¹³⁰ K.Furukawa, 'Nuclear Arms Control...', pp. 34-35, p. 38; N.Yamaguchi, 'America's Return to Asia...', p. 3; T.Kawakami, 'The Obama Administration's Security Strategy and Japan-US Alliance', *Association of Japanese Institutes of Strategic Studies*, No. 105, 2010, pp. 1-3

¹³¹ Stockholm International Peace Research Institute, *Background paper on SIPRI military expenditure data*, Stockholm International Peace Research Institute, Solna, 2012, p. 4; B.Howe, 'Between Normality and Uniqueness...', p. 1317; X.Wu, 'The End of the Silver Lining...', p. 124; D.Roy, 'Stirring Samurai-Disapproving Dragon...', pp. 87-88; L.Hagstrom & J.Williamson, 'Remilitarisation Really?...', pp. 249-250; Japan Ministry of Defense, *Defense of Japan 2011*, pp. 179-180, p. 183 & 186 & 194 & 221 & 227 & 234 & 254; Japan Ministry of Defense, *Defense Programs and Budget of Japan: Overview of FY2012 Budget*, Japan Ministry of Defense, Tokyo, 2012, pp. 10-11 & 19-20, p. 2 & 7 & 14 & 48; IHI Maritime United Inc., 'Naval Vessels/Patrol Vessels', 2012; Japan Ministry of Defense, *Japan's BMD*, p. 5; Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, Ministry of National Defense Republic of Korea, Seoul, 2010, p. 19

¹³² Japan Ministry of Defense, *Defense of Japan 2011*, p. 179 & 183 & 254; L.Hagstrom & J.Williamson, 'Remilitarisation Really?...', p. 251

¹³³ Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, pp. 27-29, p. 24

threaten JSDF assets operating outside Japanese territorial waters, thereby preventing the JSDF from making security contributions to Japan's wider security context. Consequently, the rapid improvements in the quality and quantity of PRC military capabilities may endow the PLA with new asymmetric capabilities that threaten to undermine Japanese security by preventing the JSDF from securing the Japanese home-islands or from making security contributions to the country's wider security context.

The third way that A2/AD threatens Japan is by potentially equipping the PLA with the capacity to interdict Japan's SLOC's in maritime Southeast Asia and East Asia. Each year, approximately 90 percent of all global commerce and around 66 percent of all global petroleum is transported by the sea, nearly half of which passes through four maritime chokepoints in Southeast Asia, the straits of Malacca, Sunda, Lombok and Makassar.¹³⁴ Nearly 60 percent of Japanese energy supplies transit these chokepoints, making Japanese SLOC's vulnerable to interdiction by foreign powers.¹³⁵ Furthermore, a substantial portion of Japanese shipping passes through the Luzon Straits, located between the north-western tip of the Philippines and the southern tip of Taiwan (see Appendix II).¹³⁶ While A2/AD capabilities are in theory already capable of threatening Japanese shipping, the risk would be considerably elevated if China ever successfully annexed Taiwan. This is because the PLA would be able to base air and naval assets on the island of Taiwan, thereby strengthening not only its

¹³⁴ United States Navy et al., *A Cooperative Strategy for 21st Century Seapower*, p. 5; R.D.Kaplan, 'The South China Sea is the Future of Conflict', pp. 80-82

¹³⁵ R.D.Kaplan, 'The South China Sea is the Future of Conflict', pp. 80-82

¹³⁶ D.Roy, 'Stirring Samurai-Disapproving Dragon...', p. 99; L.Buszynski, 'Japan's Security Policy...', p. 103; D.Roy, 'The Sources and Limits of Sino-Japanese Tension', *Survival*, Vol. 42, Iss. 2, 2005, pp. 199-200

ability to interdict Japanese shipping transiting the Luzon straits but also to project force into the Western Pacific (see Appendix II).¹³⁷

The fourth way that A2/AD threatens Japan is by potentially increasing CCP assertiveness over territorial disputes in the East China Sea between the PRC and Japan.¹³⁸ With the increase in firepower and defensive capabilities provided by A2/AD, the CCP may be lured into a false sense of invulnerability from US and Japanese military actions. Indeed, if the CCP believed that the PRC was sufficiently secure from external attacks, it may pursue an even more assertive stance on its range of territorial disputes with Japan.

In all, A2/AD threatens Japan by potentially destabilising the Japan-US Alliance, whilst reducing the JSDF's ability to defend the Japanese home-islands and make armed force contributions to the countries wider security context. Additionally, A2/AD capabilities may be used to threaten Japanese shipping, whilst possibly increasing CCP assertiveness over Sino-Japanese territorial disputes. As a result of these four factors, A2/AD poses a threat to Japan, however, the precise nature and extent of the threat remains unclear and will likely remain the case until PLA capabilities are used under wartime conditions.

¹³⁷ *ibid.*

¹³⁸ Japan Ministry of Defense, *Defense of Japan 2011*, p. 82; R.Babbage, *Australia's Strategic Edge in 2030*, p. 33; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 15; The Japan Times, 'Tensions with China show no signs of easing', 28 September 2010

V. THE JAPANESE RESPONSE

FACTORS INFLUENCING THE EXTENT OF THE JAPANESE RESPONSE

Two factors will have significant influence over how Japan responds to A2/AD.

The first factor is the extent to which the United States responds and is able to counter the A2/AD threat to Japan.¹³⁹ As mentioned earlier, A2/AD potentially threatens not only the security of the Japanese home-islands but also the countries long and exposed SLOC's running through maritime Southeast Asia and East Asia. The current US response revolves around JOAC that co-ordinates two sub-operational doctrines of the US armed forces.¹⁴⁰ One doctrine is the USN and United States Air Force (USAF) 'Air-Sea Battle Concept' (ASBC).¹⁴¹ This doctrine aims to deter Chinese aggression by maintaining a stable military balance in the Asia-Pacific, and if necessary to achieve favourable operational conditions for US forces in any future conflict.¹⁴² The other doctrine is the United States Army and USMC 'Gaining and Maintaining Access Concept' (GMAC), emphasising the importance of land and littoral war-fighting operations in assisting other services to enter contested operational areas and defeat A2/AD capabilities.¹⁴³

¹³⁹ N.Yamaguchi, 'America's Return to Asia...', p. 3:

¹⁴⁰ United States Department of Defense, *Joint Operational Access Concept*, p. 1 & 4; United States Army Capabilities Integration Centre & United States Marine Corps Combat Development Command, *Gaining and Maintaining Access: An Army-Marine Corps Concept*, United States Department of Defense, Washington DC, 2012, p. 3

¹⁴¹ United States Department of Defense, *Joint Operational Access Concept*, p. 4; J.Van-Tol et al., *Air-Sea Battle...*, pp. 9-11, p. 17 & 39 & 49 & 67 & 72 & 95

¹⁴² United States Department of Defense, *Joint Operational Access Concept*, p. 4; J.Van-Tol et al., *Air-Sea Battle...*, pp. 9-11, p. 17 & 39 & 49 & 67 & 72 & 95

¹⁴³ A.L.Robinson, 'TRADOC continues to refine develop joint concept using GMAC', United States Army, 24 May 2012; United States Army Capabilities Integration Centre..., *Gaining and Maintaining Access...*, p. 7; United States Marine Corps, *Marine Corps Doctrinal Publication: Marine Corps Operations*, pp. 1-2 & 10-13; United States Marine Corps Combat Development Command,

In combining the ASBC and GMAC doctrines, JOAC argues that the combined strengths of all services will be used to simultaneously target multiple PLA capability weaknesses, along “multiple lines of operations in multiple domains”, thus enabling US forces to operate effectively.¹⁴⁴ For instance, JOAC, GMAC and USMC publications all mention the use of Special Operations Forces (SOF) to enter enemy territory ahead of the main force and disable A2/AD weapons such as anti-ship and surface to air missiles, thereby allowing aircraft and surface ships to operate with greater freedom of action.¹⁴⁵

In support of JOAC, US force projection and long-range strike capabilities are being improved by the Department of Defense in order to ensure that they remain capable of credibly defeating A2/AD. For instance, the US is developing a Conventional Prompt Global Strike (CPGS) system capable of striking targets anywhere on the earths surface, hardening its FOBs in the Western Pacific against a variety of threats and launching new generations of GPS and ISR satellites that will be more resilient to the A2/AD threat.¹⁴⁶ Additionally, the USN has plans to expand its aircraft carrier fleet to twelve ships, introduce a new Gerald Ford class of nuclear-powered aircraft carriers (CVN) and to equip them with F/A-XX long-range strike aircraft.¹⁴⁷

Amphibious Operations in the 21st Century, United States Department of Defense, Washington DC, 2009, p. 8 & 10

¹⁴⁴ United States Department of Defense, *Joint Operational Access Concept*, pp. 20-21, p. 17

¹⁴⁵ United States Department of Defense, *Joint Operational Access Concept*, pp. 21-22; United States Army Capabilities Integration Centre..., *Gaining and Maintaining Access...*, p. 7; United States Marine Corps, *Marine Corps Doctrinal Publication: Marine Corps Operations*, pp. 10-13; United States Marine Corps Combat Development Command, *Amphibious Operations in the 21st Century*, p. 8 & 10

¹⁴⁶ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, pp. 7-8; I.Easton, *The Great Game in Space...*, pp. 8-10

¹⁴⁷ Office of the Director Operational Test and Evaluation, *FY 2011 Annual Report*, United States Department of Defense, Washington DC, 2011, p. 115; R.O'Rourke, *China Naval Modernisation...*, 2008, p. 15; J.Cordon et al., *Leveraging America's Aircraft Carrier Capabilities: Exploring New Combat*

As mentioned earlier, the security of the Japanese home-islands has been guaranteed for decades by the Japan-US Alliance framework, that has supplemented JSDF capabilities with the powerful US nuclear and conventional deterrent.¹⁴⁸ In addition, the prospect of Japan acquiring nuclear weapons along with other self-reliant military capabilities is, at present, a politically untenable solution due to widespread pacifism within contemporary Japanese culture.¹⁴⁹ By contrast, the Japan-US Alliance enjoys high support from the Japanese public with approval ratings around 70 percent.¹⁵⁰ As a result, the US response will affect the Japanese response to A2/AD, since any Japanese response supporting the US Alliance will be politically feasible option.

The second factor influencing the Japanese response is the presence of several hindrances limiting the ability of the Japanese Government to arm the JSDF with self-reliant military capabilities. One hindrance is the 1947 pacifist Japanese constitution and its effect on the polarised debate within the Japanese security community over how to respond to China. After the devastation of World War II, the national shame of unconditional surrender to the Allies prompted a profound shift in Japanese culture from militarism to pacifism.¹⁵¹ This shift was further reinforced by the purge of political, bureaucratic and military conservatives from

and Non-Combat Roles and Missions for the US Carrier Fleet, RAND Corporation, Santa Monica, 2006, p. 18; T.P.Ehrhard & R.O.Work, *Range Persistence Stealth and Networking...*, pp. 38-39; S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, pp. 7-8; R.O.Work, *The US Navy...*, p. 19

¹⁴⁸ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, p. 1; B.Howe, 'Between Normality and Uniqueness...', p. 1317; United States Department of Defense, *Quadrennial Defense Review Report: February 2010*, p. 31; D.A.Shlapak et al., *A Question of Balance...*, pp. 101-102, p. xix; United States Department of Defense, *Sustaining US Global Leadership: Priorities for 21st Century Defense*, United States Department of Defense, Washington DC, 2012, p. 4; R.Babbage, *Australia's Strategic Edge in 2030*, pp. 55-56, p. v

¹⁴⁹ K.Hirata, 'Who Shapes the National Security Debate? Divergent Interpretations of Japan's Security Role', *Asian Affairs: An American Review*, Vol. 35, Iss. 3, 2008, p. 132

¹⁵⁰ T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', p. 41

¹⁵¹ N.Sajima & K.Tachikawa, *Japanese Sea Power...*, p. 63 & 65; T.Takahashi, 'Japanese Neo-Conservatism...', pp. 22-23; C.W.Hughes, 'Japan's Post-war Security Trajectory...', p. 21

high office by the Tokyo International War Tribunal.¹⁵² In 1951, Prime Minister Shigeru Yoshida signed the original Japan-United States Security Treaty that allowed Japan to acquire limited capabilities to be used only for self-defence, with the security of Japan ultimately underwritten by the US Militaries conventional and nuclear forces.¹⁵³ This position became known as the Yoshida line and presently manifests itself in the form of widespread pacifism that is overly opposed to strengthening the Japan-US Alliance and JSDF participation in US-led operations abroad.¹⁵⁴ Whereas the other major opinion group is the Japanese neo-conservative camp that advocates the removal of Article 9 from the Japanese Constitution, to allow for a more flexible and self-reliant defence posture, to hedge against the potential PRC threat.¹⁵⁵ However, the Japanese constitution complicates the acquisition of self-reliant capabilities since Article 9 states, “the Japanese people forever renounce war as a sovereign right of the nation....land, sea and air force as well as other war potential will never be maintained”.¹⁵⁶ As such, Japan is forbidden from possessing military capabilities with offensive potential such as aircraft carriers, nuclear weapons, ballistic missiles and long-range bombers. In order to amend or remove Article 9, a two-thirds majority of the Diet (Japanese Parliament) would be required, in addition to approval by two-thirds of Japanese voters in a nation-wide plebiscite.¹⁵⁷ These stringent requirements make altering the constitution a formidable task

¹⁵² *ibid.*

¹⁵³ C.W.Hughes, ‘Japan’s Post-war Security Trajectory...’, pp. 21-23; T.Takahashi, ‘Japanese Neo-Conservatism...’, p. 22; B.Singh, ‘Japan’s Security Policy: From a Peace State to an International State’, *The Pacific Review*, Vol. 21, Iss. 3, 2008, pp. 306-307; N.Sajima & K.Tachikawa, *Japanese Sea Power...*, p. 66

¹⁵⁴ B.Singh, ‘Japan’s Security Policy...’, pp. 306-308; T.Takahashi, ‘Japanese Neo-Conservatism...’, p. 22; K.Hirata, ‘Who Shapes the National Security Debate?...’, p. 132

¹⁵⁵ T.Takahashi, ‘Japanese Neo-Conservatism...’, p. 34

¹⁵⁶ Prime Minister of Japan and His Cabinet, ‘The Constitution of Japan’, 3 May 1947

¹⁵⁷ *ibid.*

due to a variety of contested viewpoints. A 2004 poll of Diet members implied that a two-thirds majority may exist, however Japanese politicians were definitely divided over the extent and purpose of modifying the constitution.¹⁵⁸ In 2005 public opinion polls suggested that most Japanese were in favour of amending the constitution, but remained divided over abolishing Article 9 with around 62 percent of respondents opposed.¹⁵⁹ However between 2011 and 2012, the Yomiuri Shimbun found an 11 percent rise in the willingness of the Japanese public to amend the constitution, from 43 to 54 percent, in addition to a 7 percent rise in support of amending Article 9, up from 32 percent in 2011.¹⁶⁰ Presently, amending Article 9 remains a highly contentious proposition amongst members of the Diet and Japanese society, to the extent that a successful referendum is unlikely in the foreseeable future.¹⁶¹

In spite of these constitutional restrictions, Japan has made numerous contributions to the countries wider security context giving the JSDF a new international focus. Starting in 1954 with the creation of JSDF, again in 1976 with the Soviet Union threat and again after the Gulf War, Japan has slowly but consistently expanded the JSDF's military capabilities and types of operations.¹⁶² In 1991, Japan's inability to militarily support the Gulf War instigated legislation

¹⁵⁸ L.Buszynski, 'Japan's Security Policy...', p. 99; K.Nabeshima, 'Caldron of Simmering Views', *The Japan Times*, 2 May 2005; The Japan Times, '85% of lawmakers support revising the Constitution', *The Japan Times*, 5 September 2004

¹⁵⁹ T.Kajimoto, 'Constitution faces long road to amendment: Stage is set but consensus is not', *The Japan Times*, 3 May 2005; A.G.Mulgan, 'Japan's Defence Dilemma', *Security Challenges* Vol. 1, No. 1, 2005, p. 68

¹⁶⁰ Yomiuri Shimbun, 'Poll: 43% of voters support amendments to the constitution', *The Yomiuri Shimbun*, 15 September 2011

¹⁶¹ Masami Ito, 'Conservatives call for revising Constitution', *The Japan Times*, 4 May 2012

¹⁶² N.Sajima & K.Tachikawa, *Japanese Sea Power...*, pp. 66-68 & 76-78; T.Takahashi, 'Japanese Neo-Conservatism...', pp. 23-24; B.Singh, 'Japan's Security Policy...', p. 311; T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', p. 40

in 1992 that allowed the JSDF to be deployed in support of peacekeeping operations.¹⁶³ Since then, the JSDF has deployed forces under the banner of the United Nations to Cambodia, Zaire, Mozambique, the Golan Heights and East Timor.¹⁶⁴ Other examples of deployments include JSDF destroyers and tankers refuelling allied military assets engaged in the War on Terror since 2001, and also the JSDF's provision of humanitarian assistance to Iraq from 2003-2006.¹⁶⁵

Furthermore, the current JSDF force structure and capability mix supports the JSDF's shift to an international focus.¹⁶⁶ For instance, the Marine Self-Defence Force (MSDF) presently operates two 13,500 ton helicopter destroyers, each equipped with 64 Evolved Sea Sparrow Missiles (ESSM), two 20mm Phalanx Close In Weapons Systems (CIWS), six torpedo tubes and an integrated Aegis-type combat system.¹⁶⁷ These high-end defensive capabilities suggests that the JSDF is not preparing itself to conduct humanitarian missions, but rather to conduct military operations in contested environments, far from the Japanese home-islands and friendly air cover. One possibility is that the JSDF is preparing to make contributions to Japan's wider security context or to protect Japanese SLOC's in maritime Southeast and East Asia from the A2/AD threat. However,

¹⁶³ B.Howe, 'Between Normality and Uniqueness...', p. 1326; Y.Soeya, 'Japanese Security Policy in Transition: The Rise of International and Human Security', *Asia-Pacific Review*, Vol. 12, No. 1, 2005, p. 105

¹⁶⁴ Y.Soeya, 'Japanese Security Policy in Transition...', p. 105

¹⁶⁵ C.W.Hughes & E.S.Krauss, 'Japan's New Security Agenda', *Survival*, Vol. 49, Iss. 9, 2007, pp. 157-158, p. 162 & 168; N.Sajima & K.Tachikawa, *Japanese Sea Power...*, p. 64 & 83; J.Monten & M.Provost, 'Theater Missile Defence and Japanese Nuclear Weapons', *Asian Security*, Vol. 1, Iss. 3, 2005, p. 287; T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', p. 43; L.Hagstrom & J.Williamson, 'Remilitarisation Really?...', p. 255

¹⁶⁶ D.Roy, 'Stirring Samurai-Disapproving Dragon...', pp. 87-88; Japan Ministry of Defense, *Defense of Japan 2011*, pp. 179-180, p. 183 & 186 & 194 & 221 & 227 & 234 & 254; Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, pp. 10-11 & 19-20, p. 2 & 7 & 14 & 48; IHI Maritime United Inc., 'Naval Vessels/Patrol Vessels'; Japan Ministry of Defense, *Japan's BMD*, p. 5; Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, p. 19

¹⁶⁷ R.Panda, *Japan Beefs up its Naval Capability*, Institute for Defence Studies and Analyses, New Delhi, 2010, p. 3

despite Japan's expansion of the JSDF's types of capabilities and operations, the Japanese security community will likely require a constitutional amendment in order to fully pursue a self-reliant JSDF force structure.

Another hindrance to a self-reliant JSDF posture is that Japan has no experience in designing, testing or manufacturing advanced military capabilities including stealth aircraft and nuclear-powered naval vessels. Consequently, any meaningful Japanese drive to develop or acquire such self-reliant capabilities would almost certainly require assistance from the US.¹⁶⁸ The problem is that America is unlikely to assist Japan in developing or acquiring such capabilities due to the US Arms Export Control Act. Sub-chapter III, section 2778, paragraph A3 states, "decisions on issuing export licences under this section shall take into account whether the export of an article would contribute to an arms race" or "increase the possibility...of conflict".¹⁶⁹ If the US was to assist Japan in developing or acquiring advanced capabilities such as stealth aircraft, it could potentially result in a Northeast Asian arms race accompanied by the increased threat of armed hostilities. For instance, the North Korean regime already views its Weapons of Mass Destruction (WMD) and ballistic missile capabilities as vital to deterring external threats from interfering with its closed society.¹⁷⁰ By increasing the potential offensive capabilities of the JSDF, it is highly likely that North Korea would intensify its WMD and ballistic missile programs, thus

¹⁶⁸ R.Kazi, 'Japan's Nuclear Policy at Crossroads', *Strategic Analysis*, Vol. 34, No. 3, 2010, p. 442; The Japan Times, 'Nuclear arsenal deemed infeasible in '81', *The Japan Times*, 3 October 2004

¹⁶⁹ United States Government, 'Arm's Export Control Act: 22 USC 2778 – Control of Arms Exports and Imports', *Cornell University Law School*, 2012

¹⁷⁰ Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, p. 27

undermining multilateral attempts to disarm North Korea.¹⁷¹ Notice that even if the US was able to assist Japan without the risk of armed conflict or an arms race, it may very well refuse, just as it did in response to Japanese requests to purchase F-22 Raptor combat aircraft.¹⁷² The reasoning for this is likely to be that such technology is far too sensitive even for export to a power closely aligned with America.

A third hindrance to a self-reliant JSDF posture is the Japanese public's aversion to nuclear-technologies that was recently aggravated by the Fukushima nuclear reactor disaster. In 2011, a Tsunami caused the Fukushima nuclear reactor to fail, spreading deadly radioactive material over a large-area, affecting hundreds of thousands and turning Japanese public opinion against nuclear technologies.¹⁷³ For instance, the Japanese Government's recent decision to restart nuclear reactors sparked nation-wide demonstrations involving tens of thousands.¹⁷⁴ It therefore stands to reason that the acquisition of nuclear-powered aircraft carriers and submarines, let alone the acquisition of nuclear weapons is out of the question for the time being.

¹⁷¹ United States Department of State, 'The Spirit of Prague: America's Commitment to Seek Peace and Security of a World Without Nuclear Weapons', 28 April 2010; United States Department of State, 'Office of Chemical and Biological Weapons: Chemical Weapons Convention', 2012; H.R.Clinton, 'Exchange of New START Instruments of Ratification', 5 February 2011; Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, p. 27

¹⁷² C.W.Hughes, 'Japan's Post-war Security Trajectory...', p. 172

¹⁷³ R.Thakur, 'Nuclear Agenda after 3/11', *The Japan Times*, 17 March 2012

¹⁷⁴ The Japan Times, 'Oi prompts domestic, US anti-nuclear rallies', *The Japan Times*, 24 June 2012

THE CURRENT JSDF CAPABILITY-MIX AND FORCE STRUCTURE

The current JSDF is composed of advanced military capabilities that are divided amongst three services, the MSDF, the Air Self-Defence Force (ASDF) and the Ground Self-Defence Force (GSDF).¹⁷⁵ The MSDF surface fleet is composed of 48 destroyers, including six equipped with the Aegis combat suite and a further two 13,500 ton *Hyuga* class helicopter destroyers (DDH).¹⁷⁶ In addition the MSDF is building one 19,500 ton DDH that will carry a larger complement of rotary-wing aircraft.¹⁷⁷ The MSDF also operates 22 submarines, 150 combat aircraft and a fleet of maritime patrol aircraft.¹⁷⁸ The ASDF is composed mainly of 340 combat aircraft, in addition to a fleet of KC-767 aerial refueling tankers and a fleet of E-2C/D Hawkeye and AEW&C aircraft.¹⁷⁹ In addition, the GSDF has a regular force of 147,000 personnel organized into eight divisions, six brigades, one armoured division and seven anti-aircraft artillery regiments.¹⁸⁰

All three branches of the JSDF are supplemented by three key capabilities. The first is a dual-layer BMD capability primarily designed to defend against the North Korean ballistic missile threat, but can easily be used to defend against PLASAF ballistic missile attacks.¹⁸¹ The mid-course interception phase is assigned to six MSDF Aegis surface ships capable of launching SM-3 exo-atmospheric interceptors, whilst terminal interception is assigned to Patriot

¹⁷⁵ D.Roy, 'Stirring Samurai-Disapproving Dragon...', pp. 87-88

¹⁷⁶ Japan Ministry of Defense, *Defense of Japan 2011*, pp. 179-180; Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 48; J.Hardy, 'Japan lays keel for 22DDH helicopter destroyer carrier', *Jane's Navy International*, 9 February 2009; R.Panda, *Japan Beefs up its Naval Capability*, p. 3

¹⁷⁷ Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 2; IHI Maritime United Inc., 'Naval Vessels/Patrol Vessels'; J.Hardy, 'Japan lays keel for 22DDH helicopter destroyer carrier'

¹⁷⁸ Japan Ministry of Defense, *Defense of Japan 2011*, pp. 179-180, p. 186 & 194 & 221; Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 48

¹⁷⁹ *ibid.*

¹⁸⁰ *ibid.*

¹⁸¹ C.W.Hughes, *China's Military Modernisation and Implications for Northeast Asia*, p. 3

PAC-3 endo-atmospheric missile batteries.¹⁸² The JSDF BMD capability will be strengthened in the future by the introduction of SM-3 Block IIA missiles that is the product of a joint Japanese-US research and development venture.¹⁸³ The second capability is space-based ISR assets, composed of five ISR satellites that are scheduled to be replaced by a next-generation X-Band ISR and communications satellite network.¹⁸⁴ Whereas the third capability supporting JSDF operations is a new cyber warfare capability to defend Japan's information and electronic infrastructure from cyber attacks and malicious software.¹⁸⁵

¹⁸² Japan Ministry of Defense, *Japan's BMD*, p. 5; Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 10; Japan Ministry of Defense, *Defense of Japan 2011*, pp. 179-180, p. 234; C.W.Hughes & E.S.Krauss, 'Japan's New Security Agenda', *Survival*, p. 162

¹⁸³ Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, pp. 19-20, p. 11 & 48

¹⁸⁴ Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, p. 19; Japan Ministry of Defense, *Defense of Japan 2011*, p. 254; Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 14

¹⁸⁵ Japan Ministry of Defense, *Defense of Japan 2011*, p. 183 & 227; Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 7

THE CURRENT JAPANESE RESPONSE: DIPLOMATIC POSTURE

The Japanese Government is currently responding to China's A2/AD threat through an elevated diplomatic posture with the goal of creating an Asia-Pacific collective security community. This is the current Japanese response because PLA capabilities are yet to prove capable of achieving A2/AD's operational objectives in wartime conditions contested by a technologically superior force such as the JSDF or US Military. For the purposes of recapitulation, A2/AD's operational objectives include safeguarding China's territorial integrity disputes from external interference over a future PRC-Taiwan conflict, the protection of Chinese SLOC's from interdiction, the displacement of US Military primacy in the Western Pacific and symbolising the PRC's emergence as a major world power.

The first component of the Japanese diplomatic posture has been to create a network of Japanese Asia-Pacific allies and security partners that will collectively contribute to regional stability by each country bolstering its defence forces. Many countries are wary about the potential threat of China including, Australia, South Korea, the Philippines, Vietnam, Thailand, Indonesia, Mongolia and India.¹⁸⁶ As a result, these countries have all been receptive to approaches by Japanese diplomats for the establishment and/or enhancement of military and economic ties. For instance Mongolia, South Korea, Vietnam, Australia and Singapore have all signed defence agreements of varying levels of commitment

¹⁸⁶ K.Takahashi, 'Japan-Mongolia sign defence pact', *Jane's Defence Weekly*, 12 January 2012; Japan Ministry of Defense, 'Japan-Mongolia Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 4; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', *Japan Defense Focus*, No. 24, December 2011, p. 9; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3; IHS Global Limited, 'Japan-Vietnam agree defence cooperation enhancement', *Jane's Intelligence Weekly*, 26 October 2011; Japan Ministry of Defense, 'Japan-Singapore Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3

with Japan.¹⁸⁷ At one end is Australia that has signed not only a high-level intelligence sharing agreement, but is also in the process of exploring joint-military research and development projects with Japan.¹⁸⁸ Whereas Mongolia, South Korea, Vietnam and Singapore have all maintained and strengthened their co-operative military relationships, but are yet to sign intelligence sharing and joint-research agreements with Japan.¹⁸⁹ It is important to note that South Korea was in the process of finalising a high-level intelligence sharing agreement with Japan but was forced to withdraw due to an adverse reaction by the South Korean public.¹⁹⁰ By contrast, the Philippines, Indonesia, Thailand and India have not as yet concluded security co-operation agreements with Japan, however these countries appear to be moving towards strategic partnerships as they have all pledged to further enhance defence co-operation.¹⁹¹ In addition to strengthening military ties, through officer exchanges and high-level strategic dialogues, Japan has also offered to enhance the defence capabilities of its security partners. For instance in 2011, Japan offered to sell the Indian Navy US-II maritime patrol and rescue aircraft, whilst in 2012, Japan offered to equip the

¹⁸⁷ *ibid.*

¹⁸⁸ Japan Ministry of Defense, 'Japan-Australia Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3; J.Grevatt, 'Australia and Japan to collaborate on developing military technologies', *Jane's Defence Industry*, 11 July 2012

¹⁸⁹ K.Takahashi, 'Japan-Mongolia sign defence pact'; Japan Ministry of Defense, 'Japan-Mongolia Defense Ministerial Meeting', p. 4; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', No. 24, p. 9; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', No. 20, p. 3; IHS Global Limited, 'Japan-Vietnam agree...'; Japan Ministry of Defense, 'Japan-Singapore Defense Ministerial Meeting', p. 3

¹⁹⁰ IHS Global Limited, 'South Korea and Japan seek to boost military co-operation', *Jane's Intelligence Weekly*, 12 January 2011; S.Falletti & J.Hardy, 'South Korea backs out of Japan intel pact', *Jane's Defence Weekly* 29 June 2012

¹⁹¹ IHS Global Limited, 'Japan and Philippines strengthen maritime security ties', *Jane's Intelligence Weekly*, 29 September 2011; K.Takahashi & J.Hardy, 'Japan could provide Philippines with coastguard ships', *Jane's Navy International*, 27 March 2012; Japan Ministry of Defense, 'Japan-Thailand Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', No. 24, p. 9

Philippine Coast Guard with a fleet of maritime surface combatants.¹⁹² It is also important to note that such arms sale proposals have only been allowed due to the Japanese Government's recent decision to relax its strict arms export ban policy.¹⁹³

The second component of the Japanese diplomatic posture is the development of economic relationships with its allies and partners. The reason for this is partly due to the 2010 Chinese fishing trawler incident, during which Beijing suspended all 'rare-earth' exports to Japan.¹⁹⁴ Given that these materials are vital for the sustainment of Japanese high-technology industries, this move highlighted the need for Tokyo to reduce its dependence on China for 'rare-earth' exports.¹⁹⁵ Consequently, Japan has formed economic partnerships with Vietnam and India over the joint development of 'rare-earth' industries.¹⁹⁶

For Japan one advantage is that its diplomatic posture reduces Japanese dependence on trade with China, especially in the area of 'rare-earths'. Indeed by reducing Japanese dependence on the continued co-operation and goodwill of China, it will help insulate Japan against Chinese attempts to coercively manipulate Japanese foreign and security policy.

Another advantage is that by enhancing the military capabilities of Japan's allies and strategic partners, the Japanese Government may not only increase regional

¹⁹² J.Hardy, 'Japan could export US-2 amphibian to India', *Jane's Navy International*, 18 November 2011; K.Takahashi & J.Hardy, 'Japan could provide Philippines with coastguard ships'

¹⁹³ J.Grevatt 'Japanese industry calls for guidance as export ban is eased', *Jane's Defence Weekly*, 4 January 2012

¹⁹⁴ The Japan Times, 'Tensions with China...'; R.Babbage, *Australia's Strategic Edge in 2030*, p. 33

¹⁹⁵ *ibid.*

¹⁹⁶ Ministry of Foreign Affairs of Japan, 'Fifth Japan-India Foreign Ministers Strategic Dialogue', 29 October 2011; Ministry of Foreign Affairs of Japan, 'Japan-Vietnam Joint Statement on the Strategic Partnership for Peace and Prosperity in Asia', 2012

security but also reduce the need for the JSDF to acquire force projection capabilities to protect the countries SLOC's in Southeast Asia and East Asia. Indeed, by strengthening the military forces of Japanese strategic partners, such as Vietnam, the Philippines, Singapore and Indonesia, Japan may in theory be able to rely on a trade-route corridor protected by friendly patrols. On the other hand, a key disadvantage is that with PLA A2/AD capabilities rapidly evolving both in quality and quantity, it is possible that even the collective might of Japan and its strategic partners may prove incapable of deterring A2/AD from being used in an offensive capacity.

OPTION I: JAPAN CAPITULATES

Scenario one; if the current diplomatic posture was to fail, it is possible that the Japanese Government may capitulate and cut a deal with China to prevent armed conflict. This is possible because pacifism is widespread throughout Japanese society.¹⁹⁷ Furthermore, the Japanese business community has a vested interest in ensuring the harmonisation of Sino-Japanese relations, and is generally in favour of making concessions on bilateral disputes that the Japanese security community would never consider.¹⁹⁸ Collectively both of these factors would suggest that Japan is capable of co-existing alongside the PRC and its A2/AD operational concept.

However, five factors make Japanese capitulation a highly unlikely eventuality. The first is that the closed Japanese security community exclusively determines Japanese security policy and has proven highly resilient against pacifist responses to China.¹⁹⁹ One reason for the resilience of this community is the concern amongst security elites that the PRC appears to be evolving into an increasingly erratic and coercive neighbour.²⁰⁰ For instance, in November 2007 the USS Kitty Hawk aircraft carrier battlegroup was refused entry into Hong Kong harbour shortly before its arrival, a decision that was reversed shortly after the Kitty Hawk changed course.²⁰¹ In October 2007, the PRC cancelled the

¹⁹⁷ K.Hirata, 'Who Shapes the National Security Debate? Divergent Interpretations of Japan's Security Role', *Asian Affairs: An American Review*, Vol. 35, Iss. 3, 2008, p. 132

¹⁹⁸ C.W.Hughes, *China's Military Modernisation and Implications for Northeast Asia*, S.Serizawa (ed.), The National Bureau of Asian Research, Washington DC, 2012, p. 2; L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

¹⁹⁹ L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

²⁰⁰ K.Furukawa, 'Nuclear Arms Control...', p. 35 & 38; L.Buszynski, 'Japan's Security Policy in the Koizumi Era', *Security Challenges*, Vol. 2, No. 3, 2006, p. 102; T.Takahashi, 'Japanese Neo-Conservatism: Coping with China and North Korea', *Security Challenges*, Vol. 6, No. 3, 2010, p. 27

²⁰¹ Japan Ministry of Defense, *Defense of Japan 2011*, p. 75

Qingdao port visit of a JSDF surface ship squadron a day before its arrival.²⁰² As the 2011 Japanese Defence White Paper notes “these incidents incite concern over China’s decision-making and behaviour concerning its military”.²⁰³ Indeed the concern is that Chinese Government policy is volatile due to a competitive and factionalised decision-making process, leaving policies liable to significant change with little warning. In turn, making the Chinese claim that the modernised PLA will only be used for peaceful purposes, appear increasingly dubious.²⁰⁴ Consequently, the Japanese security community is very much aware of the potential threat posed by China to Japanese security.²⁰⁵

The second factor is the PRC’s consistent support for North Korea, a country that now threatens the security of the Japanese home-islands.²⁰⁶ China’s support for North Korea has ranged from substantial bi-lateral trade to the PRC’s use of its UNSC veto power to moderate sanctions against North Korea.²⁰⁷ Consequently, North Korea has been allowed by the PRC to develop nuclear and ballistic missile capabilities that are viewed by Japanese security circles as an indirect instrument of PRC power threatening Japan.²⁰⁸

²⁰² *ibid.*

²⁰³ *ibid.*

²⁰⁴ Information Office of the State Council..., ‘China’s National Defense in 2008: I The Security Situation’; Information Office of the States Council..., ‘China’s National Defense in 2010: II National Defense Policy’; K.Furukawa, ‘Nuclear Arms Control...’, p. 35 & 38; L.Buszynski, ‘Japan’s Security Policy...’, p. 102; T.Takahashi, ‘Japanese Neo-Conservatism...’, p. 27

²⁰⁵ K.Furukawa, ‘Nuclear Arms Control...’, p. 35 & 38; L.Buszynski, ‘Japan’s Security Policy...’, p. 102; T.Takahashi, ‘Japanese Neo-Conservatism...’, p. 27

²⁰⁶ IHS Global Limited, ‘North Korea Leaves China with Burden to Bear’, *Jane’s Intelligence Weekly*, 19 June 2009; L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

²⁰⁷ IHS Global Limited, ‘North Korea Extends 150 Day Struggle’, *Jane’s Intelligence Weekly*, 22 September 2009; IHS Global Limited, ‘North Korea Leaves China with Burden to Bear’, *Jane’s Intelligence Weekly*, 19 June 2009; IHS Global Limited, ‘North Korea’s Message in a Missile’, *Jane’s Intelligence Weekly*, 7 April 2009; L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

²⁰⁸ L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

The third factor making capitulation an unlikely outcome is the consistent regurgitation of historical tensions in bilateral diplomacy by the Chinese. The ongoing charge of PRC diplomats is that Japan is morally obligated to compensate China for its past aggression and war crimes through special concessions to accommodate Chinese interests.²⁰⁹ These 'concessionalist' expectations stem from China's defeats by an aggressive Japan during the First and Second Sino-Japanese wars, in addition to Japanese war crimes, knowledge of which has been widely disseminated by CCP propaganda since the early 1980s.²¹⁰ The problem is that this expectation irritates both the Japanese public and diplomatic staff, in turn ensuring the continued volatility of the bilateral Sino-Japanese relationship.

The fourth factor making capitulation unlikely is that recent events have generated considerable mistrust within the Japanese public over China. For instance the 2008 tainted 'Gyoza' incident impacted severely on the Japanese public's perception of China. In early January 2008, there was serious concern in Japan over Chinese imported vegetables and gyoza dumplings that were discovered to contain pesticide residue, posing a serious health risk to consumers.²¹¹ Originally the Chinese investigation delegation on 6 February 2008 stated that the gyoza were injected with pesticide after having left Chinese

²⁰⁹ Y.He, 'History Chinese Nationalism and the Emerging Sino-Japanese Conflict', *Journal of Contemporary China*, Vol. 16, Iss. 50, 2007, pp. 10-11

²¹⁰ D.Scott, *China and the International System 1940-1949...*, p. 13 & 118; G.Xu, 'Anti-Western Nationalism in China 1989-99', *World Affairs*, Vol. 163, Iss. 4, 2001, p. 152; R.I.Hellyer, *Defining Engagement: Japan and Global Contexts 1640-1868*, Harvard University Press, Cambridge, 2009, p. 7; Y.He, 'History Chinese Nationalism...', pp. 6-8

²¹¹ L.Nottage & J.Rheuben, 'Dumplings and Dodgy Foods in Japan: Implications for Australia-Japan Free Trade Agreement', *Sydney Centre for International Law*, Working Paper. 5, 2008, pp. 6-8; R.Yoshida, '10 sick after eating tainted gyoza from China', *The Japan Times*, 31 January 2008; The Japan Times, 'Pesticide found in six gyoza packs in Hyogo', *The Japan Times*, 4 February 2008; The Japan Times, 'Gyoza poisoning mystery widens' *The Japan Times*, 2 February 2008

factories.²¹² On 28 February Chinese authorities accused the Japanese Police of obstructing their investigation and reasserted that the poisonings did not occur in China despite the discovery of tampered packaging by Japanese authorities.²¹³ However by 4 April, Chinese authorities had completely reversed their findings and arrested a former gyoza factory employee on the charge of maliciously contaminating dumplings with a syringe.²¹⁴ This position was reasserted by PRC Ministerial officials in March after a confession was obtained from the accused factory worker and was again confirmed in September 2008 by Chinese officials who stated it was highly likely that the dumplings were deliberately contaminated by disgruntled workers in China.²¹⁵ In particular, this incident tarnished China's reputation amongst Japanese consumers as Chinese food sales in Japan fell sharply, with a Kyodo News survey finding over 75 percent of respondents stating their mistrust of Chinese food products.²¹⁶

The fifth factor making capitulation an unlikely outcome is the continual presence of the Senkaku/Diaoyu Island dispute in Sino-Japanese relations, that only serves to infuriate the Japanese public, security community and business community. Japan legally controls the Senkaku Islands as part of its sovereign territory, however the PRC also claims these islands and thus refers to them as the Diaoyu Islands in Chinese.²¹⁷ In September 2010, a Chinese fishing trawler

²¹² L.Nottage & J.Rheuben, 'Dumplings and Dodgy Foods in Japan...', p. 8; K.Shimizu, 'Gyoza poisoned after leaving factory: China', *The Japan Times*, 7 February 2008

²¹³ L.Nottage & J.Rheuben, 'Dumplings and Dodgy Foods in Japan...', p. 8; The Japan Times, 'Beijing pins gyoza blame on Japan end', *The Japan Times*, 29 February 2008; The Japan Times, 'Gyoza poisoning mystery widens'

²¹⁴ The Japan Times, 'China holds suspected gyoza spiker', *The Japan Times*, 4 April 2010

²¹⁵ The Japan Times, 'China obtains confession in gyoza case', *The Japan Times*, 29 March 2010; The Japan Times, 'China reportedly fingers gyoza factory workers', *The Japan Times*, 1 September 2008

²¹⁶ F.Chang, 'Tainted Gyoza poisoning bilateral ties', *The Japan Times*, 17 March 2008

²¹⁷ C.W.Hughes & E.S.Krauss, 'Japan's New Security Agenda', *Survival*, Vol. 49, Iss. 9, 2007, p. 168

collided with a Japanese Coast Guard vessel within Japanese territorial waters near the Senkaku Islands in the East China Sea.²¹⁸ Shortly after, the Chinese captain was arrested by Japanese authorities and the Chinese Government responded aggressively by ceasing bi-lateral ministerial consultations with Japan, in addition to ceasing all 'rare-earth' material exports to Japan.²¹⁹ This led to a fiercely contested diplomatic standoff between Beijing and Tokyo, and even after Japan released the Chinese captain without charge, China further intensified the situation by demanding an official apology over the incident and compensation.²²⁰ This demand was swiftly rebuked by Japanese Prime Minister Kan who responded by asking that China pay for the damage inflicted on two Japanese Coast Guard vessels.²²¹ The entire incident distressed the Japanese security community as it demonstrated the PRC's willingness to use coercion to enforce the legitimacy of its territorial claims on opposing powers. However, the incident also annoyed the Japanese business community by affecting the production of high-end electronics, a group whose influence is vital to moderating the response of the security community to A2/AD.²²² In addition, the 2010 fishing vessel incident, only served to exacerbate existing negative perceptions of China within the Japanese public.²²³

²¹⁸ Japan Ministry of Defense, *Defense of Japan 2011*, pp. 82-83; R.Babbage, *Australia's Strategic Edge in 2030*, p. 33; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 15; The Japan Times, 'Tensions with China show no signs of easing', 28 September 2010; The Japan Times, 'Japan Rules the Senkakus', *The Japan Times*, 9 September 2011; The Japan Times, 'Japan set to ask China to pay for boats', *The Japan Times*, 27 September 2010;

²¹⁹ The Japan Times, 'Tensions with China...'; R.Babbage, *Australia's Strategic Edge in 2030*, p. 33; The Japan Times, 'Japan set to ask China to pay for boats'

²²⁰ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 15; The Japan Times, 'Kan rejects Beijing's demand for apology', *The Japan Times*, 27 September 2010

²²¹ The Japan Times, 'Kan rejects Beijing's demand for apology'

²²² L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

²²³ T.Takahashi, 'Japanese Neo-Conservatism...', pp. 28-29; The Japan Times, 'Japan Rules the

As a result of all five factors, the concern amongst Japanese security elites, the threat of North Korea, China's concession demands, the Japanese public's mistrust of China and the persistence of territorial disputes in undermining bilateral relations, it is highly unlikely that Japan will for the foreseeable future consider capitulating to the PRC.

OPTION II: ALLIED JOAC POSTURE

Scenario two; the current Japanese diplomatic posture and collective security community fail to deter China from using its A2/AD capabilities offensively against Taiwan. Under these circumstances, the Japanese Government would likely reconsider its response to China and operate alongside the US to aid the defence of Taiwan under Allied JOAC operations.

It is important to note that Taiwan is important to Japan for two main reasons. Firstly, the Japanese identify closely with Taiwan not only due to the geographic proximity between Japan's Ryukyu Islands and Taiwan, but also because from the mid-late 1890s until the end of World War II, Taiwan was administered by Japan.²²⁴ As a result of this geographical and historical relationship, despite the Japanese Government formally acknowledging that that Taiwan is part of China, Japan continues to maintain informal diplomatic relations with its island neighbour.²²⁵ The second reason is that Taiwan is strategically important to Japan since it is located at the northern end of the Luzon Straits, a maritime chokepoint through which significant volumes of Japanese shipping transit (see Appendix II).²²⁶ The loss of Taiwan to the PRC, would allow the PLA to more easily project both air and maritime power into the Western Pacific, thus increasing the threat to the Japanese home-islands and SLOC's in the Western Pacific. Therefore, as a result of any military threat by China to the future independence and security of Taiwan, Japan may participate in US-led JOAC

²²⁴ D.Roy, 'Stirring Samurai-Disapproving Dragon...', p. 99; D.Roy, 'The Sources and Limits...', pp. 199-200

²²⁵ D.Roy, 'Stirring Samurai-Disapproving Dragon...', p. 99; L.Buszynski, 'Japan's Security Policy...', p. 103; D.Roy, 'The Sources and Limits...', pp. 199-200

²²⁶ *ibid.*

operations. This is the most appropriate response because unlike the Allied ASBC as proposed by Sugio Takahashi, an Allied JOAC stands a far greater chance of countering A2/AD asymmetric advantages as it utilises the valuable contributions made by amphibious and land force capabilities.²²⁷ For instance Army and Marine Corps units may conduct littoral and land manoeuvre operations to soften or destroy A2/AD capabilities, thereby enabling other services to operate with greater freedom of action.²²⁸

Under an Allied JOAC involving the United States and Japan, the JSDF would face two key operational challenges. Firstly, the JSDF must be capable of independently securing the Japanese home-islands from A2/AD threats during wartime. PLA A2/AD capabilities include significant numbers of surface ships, submarines, combat aircraft and ballistic missiles, all of which could be brought to bear against any allied force attempting to aid the defence of Taiwan. Given that this is the case, it is likely that Allied JOAC operations will require all available US Military assets. Consequently, US Military assets are unlikely to be available for defending the Japanese home-islands from PLA attacks of reciprocation, leaving the task entirely to the JSDF.

Secondly, the JSDF must be capable of providing secure basing, airfields and port facilities to forward-deployed US forces in the region, as any US intervention

²²⁷ S.Takahashi, *Counter A2/AD in Japan-US Defense Cooperation...*, pp. 1-2 & 6-7, p. 9; National Institute of Defense Studies, *NIDS China Security Report 2011*, p. 42; N.Yamaguchi, 'America's Return to Asia...', p. 3; T.Kawakami, 'The Obama Administration's Security Strategy...', pp. 1-3; United States Department of Defense, *Joint Operational Access Concept*, p. 4

²²⁸ A.L.Robinson, 'TRADOC continues to refine...'; United States Army Capabilities Integration Centre..., *Gaining and Maintaining Access...*, p. 7; United States Marine Corps, *Marine Corps Doctrinal Publication: Marine Corps Operations*, pp. 1-2 & 10-13; United States Marine Corps Combat Development Command, *Amphibious Operations in the 21st Century*, p. 8 & 10; United States Department of Defense, *Joint Operational Access Concept*, pp. 20-22, p. 17

force will be sizeable. For instance the US 7th fleet would be at the core of any intervention force and commands 60-70 ships, 300 aircraft and 40,000 personnel, that can be reinforced by an additional six CSGs within 30 days and by two more within 90 days.²²⁹ In addition, US Army, Marine Corps and Air Force assets would also likely be moved into theatre to support Allied JOAC operations, easily generating a forward-deployed US force up to 100,000 personnel.

In order to support and sustain a large force in the Western Pacific theatre, access to secure basing, airfields and ports will be vital for providing the necessary supplies to successfully prosecute A2/AD targets.²³⁰ For example, CVNs are the US Militaries platform of choice for projecting military force around the world, as each carries and air group of 70+ aircraft in a mobile package that can conduct between 120 and 270 sorties per day.²³¹ However, CVNs require approximately 30,000 tons of aviation fuel for every 4-5 days of air operations, while their escort ships require approximately 60,000 tons of regular fuel for the same period.²³² Therefore, in order to maintain naval air operations, deployed task groups will require significant quantities of fuel. Furthermore, USN aircraft carriers must also be escorted by Aegis Arleigh Burke class destroyers that insulate CSGs against a variety of air, surface and sub-surface threats.²³³ Arleigh Burke class destroyers carry a formidable armament of 90 Mk-41 Vertical

²²⁹ United States Navy 7th Fleet Public Affairs Office, 'US 7th Fleet Changes Hands', 10 September 2010; R.O.Work, *The US Navy...*, pp. 17-18

²³⁰ United States Department of Defense, *Joint Operational Access Concept*, p. 19

²³¹ J.Cordon et al., *Leveraging America's Aircraft Carrier Capabilities...*, p. 11; Office of the Director Operational Test and Evaluation, *FY 2011 Annual Report*, p. 115

²³² R.Cliff et al., *Entering the Dragon's Lair...*, p. 46

²³³ Office of the Director Operational Test and Evaluation, *FY 2011 Annual Report*, p. 115; R.O'Rourke, *China Naval Modernisation...*, 2008, p. 15; J.Cordon et al., *Leveraging America's Aircraft Carrier Capabilities...*, p. 18; T.P.Ehrhard & R.O.Work, *Range Persistence Stealth and Networking...*, pp. 38-39 & 83-84; R.O.Work, *The US Navy...*, p. 24; J.Schank et al., *Acquisition and Competition Strategy Options for the DDX: The US Navy's 21st Century Destroyer*, RAND Corporation, Arlington, 2006, p. 74

Launch System (VLS) cells, each accommodating four point-defence ESSMs or one long range weapon including anti-ship missiles, anti-submarine rockets and Standard Missiles used for air and ballistic missile defence.²³⁴ The problem is that forward-deployed CSGs will likely face in excess of 100 ASBM and bomber-launched ASCM threats.²³⁵ Given that the Aegis escort ships have a finite magazine capacity that cannot be rearmed at sea, the continued protection of CSGs will depend on access to secure FOBs and port facilities in the region.²³⁶

One advantage of an Allied JOAC is that it could potentially be expanded to draw operational resources and contributions from the broad pool of countries that are currently concerned about the PRC's ambitions and the potential threat posed by A2/AD. Countries sharing these concerns include Australia, South Korea, the Philippines, Vietnam, Thailand, Indonesia, Mongolia and India.²³⁷ Integrating other partners into an Allied JOAC would further reduce the costs of counter A2/AD operations by spreading the costs over more participants, potentially making an Allied JOAC a relatively cost-effective option.

On the other hand, one disadvantage of an Allied JOAC is that China would likely interpret it as a US-led drive to curtail China's evolution into a major world

²³⁴ United States Navy, 'General Characteristics: Arleigh Burke Class', 21 November 2011; R.O.Work, *The US Navy...*, p. 24; United States Navy, 'General Characteristics: Ticonderoga Class', 2 November 2011; United States Navy, 'Evolved Sea Sparrow Missile RIM 162-D', 2 November 2011; United States Navy, 'Mk-41 VLS', 18 November 2011; Raytheon Missile Systems, 'Standard Missile Family', 2011; Lockheed Martin Corporation, *Mk-41 Vertical Launching System: Proudly Serving Navies the World Over*, Lockheed Martin, Washington DC, 2009

²³⁵ R.Cliff et al., *Entering the Dragon's Lair...*, pp. 90-91, p. 93

²³⁶ J.Van-Tol et al., *Air-Sea Battle...*, p. 46

²³⁷ J.Mearsheimer, 'The Gathering Storm...', p. 382 & 390; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 33 & 38; J.Lee, 'China's Expanding Maritime Ambitions...', pp. 552-553; R.Bedi, 'Mirrored Manoeuvres: India and China'; K.Takahashi, 'Japan-Mongolia sign defence pact'; Japan Ministry of Defense, 'Japan-Mongolia Defense Ministerial Meeting', p. 4; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', No. 24, p. 9; Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', No. 20, p. 3; IHS Global Limited, 'Japan-Vietnam agree...'; Japan Ministry of Defense, 'Japan-Singapore Defense Ministerial Meeting', p. 3

power. The 2010 Chinese Defense White Paper specifically refers to American measures to contain Chinese power and influence, for example through arms sales to Taiwan.²³⁸ Additionally, the two-decade European Union (EU) ban on high-technology arms exports to China, is perceived by the PRC as part of a larger US-Japanese drive to contain Chinese power.²³⁹ Therefore, any Allied JOAC will likely be interpreted as yet another containment measure and may elicit a strong Chinese response.²⁴⁰

A second disadvantage is that the current JSDF force structure and capability mix is unlikely to be capable of achieving the two operational challenges posed by an Allied JOAC. These operations require the JSDF to independently defend the Japanese home-islands and provide secure support mechanisms to US forces in the face of contested opposition by PLA forces. As a result, the JSDF will have to address two core weaknesses of the JSDF. The first capability weakness is that the MSDF is equipped with too few Aegis ships for both home-island BMD and fleet defence roles. The Japanese Ministry of Defense argues that one Aegis surface ship is capable of protecting all Japanese home-islands from ballistic missile attacks, whilst two greatly improves this capability.²⁴¹ The MSDF currently operates six Aegis destroyers capable of firing SM-3 interceptors for BMD operations.²⁴² The problem is that in wartime all six BMD modified

²³⁸ Information Office of the State Council..., 'China's National Defense in 2008 & 2010: I The Security Situation'

²³⁹ W.Boese, 'EU Retains China Arms Embargo', *Arms Control Today*, Vol. 35, Iss. 1, 2005, pp. 36-37; Japan Ministry of Defense, *Defense of Japan 2011*, pp. 89-90

²⁴⁰ T.J.Christensen, 'Fostering Stability or Creating a Monster: The Rise of China and US Policy toward East Asia', *International Security*, Vol. 31, No. 1, 2006, p. 125

²⁴¹ Japan Ministry of Defense, *Defense of Japan 2011*, p. 236

²⁴² Japan Ministry of Defense, *Defense Programs and Budget of Japan, 2012*, p. 10; Japan Ministry of Defense, *Defense of Japan 2011*, p. 233; D.C.Isby, 'Japan to make all Aegis DDGs SM-3 Capable', *Jane's Missiles and Rockets*, 4 February 2011; R.Panda, *Japan Beefs up its Naval Capability*, p. 10;

destroyers would be required to sustain a robust BMD shield over the Japanese home-islands. This is because, as was discovered with the NATO Response Force, the total force must be three fold the size of each deployment, in order to sustain a single deployment over prolonged periods of time.²⁴³ One group will be deployed, one preparing to deploy and one resting or undergoing scheduled maintenance.²⁴⁴ The problem with having all six Aegis ships tasked with home-island BMD operations during wartime is that it will leave the MSDF surface fleet without adequate insulation against concentrated and sustained PLA attacks. Indeed, if the MSDF is unable to protect its surface ships, then it is unlikely to be capable of independently defending the Japanese home-islands, let alone securing basing and support facilities for US forces. Consequently, the shortage of Aegis BMD capable ships is a deficit that must be rectified.

The second capability weakness is that the JSDF will likely have insufficient SM-3 BMD interceptor missiles to provide the Japanese home-islands with a credible defensive capability against sustained PLA ballistic missile attacks. One reason is that the Japanese Government procured a total of 36 SM-3 interceptor missiles.²⁴⁵ Assuming that one missile equates to one successful intercept, the JSDF will only be able to intercept 36 out of the estimated 100 PLA MRBMs that

L.Buszynski, 'Japan's Security Policy...', p. 100; C.W.Hughes & E.S.Krauss, 'Japan's New Security Agenda', *Survival*, p. 162

²⁴³ R.Kugler, *The NATO Response Force 2002-2006: Innovation by the Atlantic Alliance*, National Defense University: Centre for Technology and National Security Policy, Washington DC, 2007, p. 7; R.J.Yardley et al., *Increasing Aircraft Carrier Forward Presence: Changing the Length of Maintenance Lifecycle*, RAND Corporation, Santa Monica, 2008, pp. 1-2

²⁴⁴ *ibid.*

²⁴⁵ The Japan Times, 'Japan to buy 36 missiles by 2010', 11 January 2006; L.Buszynski, 'Japan's Security Policy...', p. 100

could potentially be used to threaten Japan.²⁴⁶ It is also important to note that the probability of all 36 SM-3s achieving 36 successful intercepts will be decreased by countermeasures enhancing the survivability of PLA ballistic missiles.²⁴⁷ Furthermore, SM-3 interceptors have a unit cost ranging from \$10 million to \$15 million each, depending on the block-variant.²⁴⁸ Indeed, whilst an expensive munitions purchase, the JSDF must acquire more BMD interceptors if it is to credibly defend the Japanese home-islands and provide secure basing to US forces.

²⁴⁶ H.Kaneda et al., *Japan's Missile Defense: Diplomatic and Security Policies in a Changing Environment*, The Institute for International Affairs, Tokyo, 2007, p. 40; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, p. 78

²⁴⁷ H.Kaneda et al., *Japan's Missile Defense...*, p. 40

²⁴⁸ R.O'Rourke, *Navy Aegis Ballistic Missile Defense Program: Background and Issues for Congress*, Congressional Research Service, Washington DC, 2010, p. 4; M.Gunzinger & C.Dougherty, *Changing The Game...*, p. 7

OPTION III: EXTENDED DEFENCE POSTURE

Scenario three; Allied JOAC operations involving Japan and the US have failed to prevent the PLA from militarily annexing Taiwan in a future cross-strait conflict. Indeed, A2/AD capabilities have proven highly capable in denying US and Japanese forces from aiding countries under attack in the first and second island chains (see Appendix I).²⁴⁹ Attempted intervention by US-led forces under Allied JOAC operations has resulted in the loss of several US CSGs, FOBs and significant in-theatre support infrastructure to swarms of highly effective PLA torpedoes, ASCMs, ASBMs and MRBMs.²⁵⁰ In response to mounting US casualties and the potential for a nuclear confrontation with China, US public opinion has turned against the US President with polls showing record numbers of American's demanding a complete withdrawal of all forward-deployed forces from the Western Pacific.

Faced with even the potential for a US withdrawal, such a profound shift in US foreign policy may be sufficient to unite previously adversarial factions of the Japanese Diet and public to successfully amend Article 9 of the Japanese constitution.²⁵¹ Japanese politics is such that sudden change in major policies is not unheard of, as demonstrated by the Japanese Government's swift response to

²⁴⁹ Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, pp. 1-2, p. 23; Office of the Secretary of Defense, *Annual Report to Congress...*, 2012, pp. 2-3, p. 6; R.O'Rourke, *China Naval Modernisation...*, 2008, pp. 4-5

²⁵⁰ R.Cliff et al., *Entering the Dragon's Lair...*, pp. 90-93; Office of the Secretary of Defense, *Annual Report to Congress...*, 2011, pp. 2-4, p. 29 & 31; Japan Ministry of Defense, *Defense of Japan 2011*, p. 78; T.Hemmingsen, 'Enter the Dragon...'; R.Babbage, *Australia's Strategic Edge in 2030*, p. 19; R.O'Rourke, *China Naval Modernisation...*, 2008, pp. 4-5; M.Stokes, *China's Evolving Conventional Strategic Strike Capability...*, p. 5 & 26

²⁵¹ T.Sunohara, 'The Anatomy of Japan's Shifting Security Orientation', p. 49; Prime Minister of Japan and His Cabinet, 'The Constitution of Japan', 3 May 1947

the 1973-1974 oil shocks.²⁵² In the event that the Japanese constitution is successfully amended, the major justification is likely to be the threat of North Korean WMD programs and the PRC's A2/AD threat.²⁵³ Following constitutional reforms, the Japanese Government would be likely to adopt an extended defence posture. The objective of this posture would be to equip the JSDF with military capabilities sufficient for it to independently protect the both the Japanese home-islands and SLOC's from the threat posed by A2/AD.

If Japan was to pursue an extended defence posture it would likely include four major force structure and capability modifications. The first would be a substantial expansion of MSDF surface fleet capabilities to include the addition of conventionally powered aircraft carriers capable of launching and recovering fixed-wing combat aircraft, in addition to enhanced Aegis equipped destroyers. Additionally, the high-value nature of these surface ships means that it is likely that they would be equipped with state-of-the-art point defence technologies. Such technologies may include solid-state lasers, electro-magnetic rail guns and anti-torpedo interceptors, with the purpose of dramatically increasing the survivability of MSDF platforms in highly contested maritime environments.²⁵⁴

The second modification would be the addition of long-range attack submarines, to primarily provide deployed MSDF surface ships with under-sea dominance. However, these submarines may also be used independently for interdicting

²⁵² L.Buszynski, Interview at The Australian National University, Canberra, Friday 27 April 2012

²⁵³ C.W.Hughes, 'Japan's Post-war Security Trajectory...', pp. 163-164; B.Howe, 'Between Normality and Uniqueness...', pp. 1326 & 1329; Japan Ministry of Defense, *Defense of Japan 2011*, p. 61; Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, p. 34

²⁵⁴ M.Gunzinger & C.Dougherty, *Changing The Game...*, p. 15 & 26 & 41 & 43; R.O'Rourke, *China Naval Modernisation...*, 2008, p. 73; W.Ruggaber & W.Hinding, *UDT Europe 2007: Guidance & Control of a Super Cavitating High Speed Underwater Missile*, Diehl BGT Defence, Uberlingen, 2007, p. 4 & 7 & 12

enemy shipping, protecting Japanese SLOC's in Southeast Asia and East Asia, as well as attacking land targets with LACMs or SOFs.

The third modification would likely be the acquisition or development of hypersonic long-range cruise missiles, in addition to long-range stealth aircraft that are currently being developed by the Japanese Ministry of Defence.²⁵⁵ One reason for these technologies is that they may enable the JSDF to provide fire-support and air cover to assets defending the Japanese home-islands and SLOC's from A2/AD. The other reason is that these technologies would enable the JSDF to conduct long-range strikes to deter PLA ballistic missiles attacks against the Japanese home-islands and the countries interests abroad.

The fourth modification would likely be an expansion of the JSDF-owned satellite network. If sufficient numbers of satellites were to be deployed, it would provide the JSDF with an independent global communications/ISR capability and potentially a Japanese satellite navigation system.

One advantage of an extended defence posture is that it would be considerably more capable of securing the Japanese home-islands and SLOC's than the current JSDF force structure. Indeed, an independent Japanese capability to secure the Japanese home-islands would allow Japanese foreign policy to pursue a more independent path, free from the constraints and influence imposed by the Japan-US Alliance.²⁵⁶

²⁵⁵ K.Takahashi, 'Japan's TRDI reveals details of Shinshin', *Jane's International Defence Review*, 11 November 2011

²⁵⁶ C.W.Hughes, 'Japan's Post-war Security Trajectory...', pp. 22-23

However, on the other hand, there is one major disadvantage of a JSDF extended defence posture, being the potential to ignite a Northeast Asian arms race. Historically, the Korean Peninsula has faced multiple invasions by Chinese and Japanese military forces, leaving insecurities deeply embedded within South Korean national identity.²⁵⁷ As a result, South Korea would likely be very uneasy about a rapid Japanese military modernisation program and would likely respond in kind. Additionally, China, noticing the potential for enhanced JSDF capabilities to offset its own capabilities might also respond by increasing both the scope and intensity of its military development programs.²⁵⁸ Whereas, North Korea would likely enhance its military capabilities and use the introduction of JSDF extended defence capabilities to justify its nuclear weapon and ballistic missile programs on the grounds of national defence.²⁵⁹

²⁵⁷ B.S.Agrawal, 'The Opening of Korea and the Kanghwa Treaty of 1876', in M.Caprio & M.Koichiro (eds), *Japan and the Pacific 1540-1920*, Ashgate Variorum, Hampshire, 2006, pp. 305-308; J.Chay, *Unequal Partners in Peace and War...*, pp. 10-11; Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, pp. 26-27 & 29-35, p. 24 & 76; Japan Ministry of Defense, *Defense of Japan 2011*, pp. 59-63; United States Department of Defense, United States Department of Defense, *Joint Operational Access Concept*, p. 19

²⁵⁸ *ibid.*

²⁵⁹ Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, p. 27

CONCLUSION

The People's Republic of China has for some time been developing a sophisticated array of asymmetric capabilities under its A2/AD operational concept, to achieve four operational objectives. The first is to guarantee the territorial sovereignty of China from external interference, including the prevention of US intervention over a potential PRC-Taiwan conflict. The second objective is to defend Chinese SLOC's that run through chokepoints in maritime Southeast Asia and East Asia. The third objective is to displace the United States as the default military power in the Western Pacific, whilst the fourth is to symbolise China's emergence as a major world power.

For Japan, A2/AD poses a serious threat to the country's security in four ways. Firstly, A2/AD threatens to undermine the credibility of US nuclear and conventional capabilities to deter direct attacks against the Japanese home-islands. As a result the US Government has been forced to rearticulate its commitment to defending Japan through the 2010 Nuclear Posture Review, joint BMD interceptor tests and the home-porting of a nuclear-powered aircraft carrier in Japan. Secondly, A2/AD threatens to undermine the ability of the JSDF to secure the Japanese home-islands from external threats and make armed force contributions to Japan's wider security context. By rapidly expanding both the quality and quantity of its A2/AD military capabilities, the PLA threatens to overwhelm the technologically superior but numerically smaller JSDF or alternatively confine its operations to Japanese territorial waters. Thirdly,

A2/AD capabilities will allow the PLA to interdict Japanese shipping transiting maritime chokepoints in Southeast Asia and East Asia. Whereas the fourth threat posed by A2/AD is that such capabilities may increase CCP assertiveness over Sino-Japanese territorial disputes in the East China Sea.

In response to the threat posed by A2/AD to Japanese security, the Japanese Government is responding and may be forced to adopt a more self-reliant defence posture in the future. Influencing the Japanese response are two core factors. The first is the extent to which the US is able to alleviate Japanese security concerns by countering the A2/AD threat, as the Japan-US Alliance is the bedrock of Japanese security policy. The second factor is presence of hindrances to equipping the JSDF with self-reliant military capabilities.

Currently the Japanese Government is responding to the PLA's A2/AD threat though an enhanced diplomatic posture aimed at creating a collective security community of Japanese allies and security partners. This community is planned to contribute to the wider security of Japan by bolstering the capabilities of partner militaries, thus providing a collective deterrent against potential offensive Chinese military operations. However, if China uses its A2/AD capabilities for aggression, the Japanese Government is likely to re-evaluate its present diplomatic posture and consider other options.

Option one is that Japan may capitulate with Chinese demands to prevent a major armed conflict. However this is a highly unlikely eventuality due to five major factors. Firstly, the Japanese security community, that exclusively determines Japanese security policy, is very wary of China's potential to evolve into a less than co-operative and coercive neighbour. Secondly, PRC support has

allowed North Korea to develop offensive military capabilities that threaten Japan. Thirdly, the constant Chinese demands for special concessions in bilateral relations infuriate all Japanese people. Fourthly, recent events, such as the 'Gyoza' incident have left the Japanese public with an extremely poor perception of China. Fifthly, the PRC's assertive behaviour over the Senkaku territorial dispute irritates the Japanese security community in addition to the Japanese business community and Japanese public. Consequently, the possibility of Japan capitulating to Chinese demands remains a highly unlikely outcome, at least for the foreseeable future.

Option two is that Japan and the United States pursue an Allied JOAC posture. This would be in response to a scenario in which the PRC decides to use A2/AD to militarily annex Taiwan, clearly demonstrating the failure of Japan's diplomatic posture. Under such circumstances, an Allied JOAC would be the most likely Japanese response since Taiwan is located at the north western end of the Luzon Straits, through which significant portions of Japanese commercial shipping pass (see Appendix II).²⁶⁰ Indeed if China was successful in annexing Taiwan, it would enable the PLA to more easily project air and maritime force into the Western Pacific, threatening the security of Japanese SLOC's in maritime East Asia. Consequently, Japan has a significant interest in ensuring that Taiwan remains free from PRC control.

Option three is that Japan pursues an extended defence posture through the acquisition of self-reliant military capabilities. This particular option would be in

²⁶⁰ D.Roy, 'Stirring Samurai-Disapproving Dragon...', p. 99; L.Buszynski, 'Japan's Security Policy...', p. 103; D.Roy, 'The Sources and Limits...', pp. 199-200

response to the failure of Allied JOAC operations to prevent the PLA from successfully annexing Taiwan. In the process PLA A2/AD capabilities would likely have inflicted significant materiel and personnel losses on US forces, forcing the US Government to consider a complete withdrawal of all forward-deployed forces from the Western Pacific. Faced with potential abandonment by the United States, Japan would likely pursue an extended defence posture to empower the JSDF to be capable of independently guaranteeing Japanese security.

After examining these three scenarios the author concludes that the first scenario is highly unlikely to materialise at any point in the foreseeable future. The author also concludes that both an Allied JOAC and extended defence posture would be unlikely outcomes, unless the current Japanese diplomatic posture is proven ineffective. In the event that the diplomatic posture breaks down and the PRC continues to assert its position over territorial disputes with Japan or engage in hostilities with Taiwan, the situation would change immeasurably. Should conflict emerge as a consequence of A2/AD, Japan would then side with the United States under the banner of an Allied JOAC. However, should Japan be abandoned by the US its security guarantor, for reasons mentioned above, Japan would be forced to consider an extended defence posture.

BIBLIOGRAPHY

PRIMARY SOURCES

Chinese National People's Congress, 'Anti-Secession Law', 14 March 2005, available: http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content_1384099.htm, accessed: 26.02.2012

Clinton, Hilary.R, 'Exchange of New START Instruments of Ratification', 5 February 2011, available: <http://www.state.gov/secretary/rm/2011/02/156047.htm>, accessed: 20.05.2012

Federal Bureau of Investigation, 'The Insider Threat: An Introduction to Detective and Deterring an Insider Spy', 2012, available: <http://www.fbi.gov/about-us/investigate/counterintelligence/the-insider-threat>, accessed: 07.03.2012

IHI Maritime United Inc., 'Naval Vessels/Patrol Vessels', 2012, available: http://www.ihimaru.co.jp/ihimaru/en/products/naval_patrol/, accessed: 17.05.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2000: II National Defense Policy', 2000, available: <http://www.china.org.cn/e-white/2000/20-3.htm>, accessed: 19.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2002: II National Defense Policy', 2002, available: http://eng.mod.gov.cn/Database/WhitePapers/2004-09-07/content_4005639.htm, accessed: 19.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2004: Chapter III Revolution in Military Affairs with Chinese Characteristics, December 2004, available: <http://www.china.org.cn/e-white/20041227/III.htm>, accessed: 18.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National defense in 2006: II National Defense Policy', 2006, available: http://eng.mod.gov.cn/Database/Whitepapers/2007-01/15/content_4004364.htm, accessed: 18.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2008: I The Security Situation', 2008, available: <http://eng.mod.gov.cn/Database/WhitePapers/2008.htm>, accessed: 24.02.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2008: II National Defense Policy', 2008, available: http://eng.mod.gov.cn/Database/WhitePapers/2009-07/21/content_4006236.htm, accessed: 24.02.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2008: III Reform and Development of the PLA', 2009, available: http://eng.mod.gov.cn/Database/WhitePapers/2009-07/21/content_4006245.htm, accessed: 18.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2008: VI The Air Force, 2009, available: http://eng.mod.gov.cn/Database/WhitePapers/2009-07/21/content_4006232.htm, accessed: 18.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2008: VII The Second Artillery Force, 2009, available: http://eng.mod.gov.cn/Database/WhitePapers/2009-07/20/content_4005744.htm, accessed: 18.06.2012

Information Office of the State Council of the People's Republic of China, 'China's National Defense in 2010: I The Security Situation, 2010, available: http://english.gov.cn/official/2011-03/31/content_1835499_3.htm, accessed: 29.3.12

Information Office of the States Council of the People's Republic of China, 'China's National Defense in 2010: II National Defense Policy', 2010, available: http://english.gov.cn/official/2011-03/31/content_1835499_4.htm, accessed: 29.03.2012

Information Office of the States Council of the People's Republic of China, 'China's National Defense in 2010: III Modernisation of the People's Liberation Army', 31 March 2011, available: http://english.gov.cn/official/2011-03/31/content_1835499_5.htm, accessed: 29.03.2012

Japan Ministry of Defense, *Defense of Japan 2011*, Japan Ministry of Defence, Tokyo, 2011, pp. 59-63 & 74-75 & 78-79 & 82-83 & 89-90 & 179-180 & 213-214 & 233-234, p. 72 & 82 & 183 & 186 & 194 & 221 & 227 & 236 & 238 & 254

Japan Ministry of Defense, *Defence Programs and Budget of Japan: Overview of FY2012 Budget*, Japan Ministry of Defence, Tokyo, 2012, pp. 10-11 & 19-20, p. 2 & 7 & 14 & 48

Japan Ministry of Defense, *Japan's BMD*, Japan Ministry of Defense, Tokyo, 2012, p. 5

Japan Ministry of Defense, 'Japan-Australia Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3

Japan Ministry of Defense, 'Japan-Mongolia Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 4

Japan Ministry of Defense, 'Japan-Singapore Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3

Japan Ministry of Defense, 'Japan-Thailand Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3

Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', *Japan Defense Focus*, No. 20, January 2011, p. 3

Japan Ministry of Defense, 'Japan-Vietnam Defense Ministerial Meeting', *Japan Defense Focus*, No. 24, December 2011, p. 9

Japan Ministry of Defense, 'Successful completion of the Aegis Ballistic Missile Defense intercept flight test in Hawaii', 17 December 2007, available: <http://www.mod.go.jp/e/about/remarks/2007/press20071217.html>, accessed: 12.05.2012

Japan Ministry of Defense, 'Successful completion of the Patriot system flight test in New Mexico - United States', 17 September 2008, available: <http://www.mod.go.jp/e/about/remarks/2008/press20080917.html>; accessed: 12.05.2012

Lockheed Martin Corporation, *Mk-41 Vertical Launching System: Proudly Serving Navies the World Over*, Lockheed Martin, Washington DC, 2009

Ministry of Foreign Affairs of Japan, 'Fifth Japan-India Foreign Ministers Strategic Dialogue', 29 October 2011, available: http://www.mofa.go.jp/region/asia-paci/india/meeting1110_2.html, accessed: 24.06.2012

Ministry of Foreign Affairs of Japan, 'Japan-Vietnam Joint Statement on the Strategic Partnership for Peace and Prosperity in Asia', 2012, available: <http://www.mofa.go.jp/region/asia-paci/vietnam/joint1010.html>, accessed: 24.06.2012

Ministry of Foreign Affairs of Japan, *Treaty of Mutual Cooperation and Security Between Japan and the United States of America: Article V*, 19 January 1960, available: <http://www.mofa.go.jp/region/n-america/us/q&a/ref/1.html>, accessed: 05.05.2012

Ministry of National Defense Republic of Korea, *2010 Defense White Paper*, Ministry of National Defense Republic of Korea, Seoul, 2010, pp. 26-27 & 29-35, p. 19 & 24 & 34 & 76

National Defense Report Editing Committee, *2011 Republic of China National Defense Report*, Ministry of National Defense, Taipei, 2011, pp. 72-73, p. 39 & 62

National Ground Intelligence Centre, *China: Medical Research on Bio-Effects of Electro-Magnetic Pulse and High-Power Microwave Radiation*, United States Army Intelligence and Security Command, Charlottesville, 2005, p. 6

Office of the Director Operational Test and Evaluation, *FY 2011 Annual Report*, United States Department of Defense, Washington DC, 2011, p. 115

Office of the Secretary of Defense, *Annual Report on the Military Power of the People's Republic of China 2003*, United States Department of Defense, Washington DC, 2003, p. 5 & 21

Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2005*, United States Department of Defense, Washington DC, 2005, p. 5 & 21 & 26 & 33

Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2006*, United States Department of Defense, Washington DC, 2006, p. 24

Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2007*, United States Department of Defense, Washington DC, 2007, pp. 15-18

Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2008*, United States Department of Defense, Washington DC, 2008, p. 20

Office of the Secretary of Defense, *Annual Report to Congress: The Military Power of the People's Republic of China 2009*, United States Department of Defense, Washington DC, 2009, p. 20

Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2010*, United States Department of Defense, Washington DC, 2010, p. 25

Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011*, United States Department of Defense, Washington DC, 2011, pp. 1-6 & 22-23 & 28-29 & 31-32 & 44-46, p. 15 & 20 & 60 & 62 & 78

Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, United States Department of Defense, Washington DC, 2012, pp. 2-3 & 21-25 & 27-29, p. 6 & 8 & 10 & 37 & 40

Prime Minister of Japan and His Cabinet, 'The Constitution of Japan', 3 May 1947, available:

http://www.kantei.go.jp/foreign/constitution_and_government_of_japan/constitution_e.html, accessed: 20.05.2012

Raytheon Missile Systems, 'Standard Missile Family', 2011, available:

http://www.raytheon.com/capabilities/products/standard_missile/, accessed: 06.07.2012

United Nations, 'United Nations Convention on the Law of the Sea', 10 December 1982, available:

http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf, accessed: 12.07.2012, p. 43-44

United States Army Capabilities Integration Centre & United States Marine Corps Combat Development Command, *Gaining and Maintaining Access: An Army-Marine Corps Concept*, United States Department of Defense, Washington DC, 2012, p. 3 & 7

United States Attorney's Office, 'Chinese Man Indicted for Attempting to Illegally Export Thermal Imaging Cameras', 10 June 2009, available: <http://www.fbi.gov/cincinnati/press-releases/2009/ci061009.htm>, accessed 07.03.12

United States Attorney's Office, 'Former Boeing Engineer Sentenced to Nearly 16 Years in Prison for Stealing Aerospace Secrets for China', 8 February 2010, available: <http://www.fbi.gov/losangeles/press-releases/2010/la020810.htm>, accessed: 07.03.2012

United States Department of Justice, 'Hawaii Man Sentenced to 32 Years in Prison for Providing Defense Information to People's Republic of China', 25 January 2011, available: <http://www.fbi.gov/honolulu/press-releases/2011/hn012511.htm>, accessed: 07.03.2012

United States Attorney's Office, 'Two Chinese Nationals Convicted of Illegal Exporting Electronics Components Used in Military Radar and Electronic Warfare', 17 May 2010, available: <http://www.fbi.gov/boston/press-releases/2010/bs051710-1.htm>, accessed: 07.03.2012

United States Attorney's Office, 'Washington Man Charged in Connection with Attempts to Ship Sensitive Military Technology to China', 6 December 2010, available: <http://www.fbi.gov/seattle/press-releases/2010/se120610.htm>, accessed: 07.03.2012

United States Department of Defence, *Joint Operational Access Concept*, United States Department of Defence, Washington DC, 2012, pp. 6-7 & 19-22, p. 1 & 4 & 9 & 17

United States Department of Defense, *Nuclear Posture Review Report 2010*, United States Government, Washington DC, 2010, pp. 4-6, p. xi

United States Department of Defense, *Quadrennial Defense Review Report: February 2010*, United States Government, Washington DC, 2010, p. 31 & 60

United States Department of Defense, *Sustaining US Global Leadership: Priorities for 21st Century Defense*, United States Department of Defense, Washington DC, 2012, p. 4

United States Department of Energy Information Administration, 'South China Sea', March 2008, available: <http://www.eia.gov/countries/regions-topics.cfm?fips=SCS>, accessed: 12.07.2012

United States Department of State, 'Office of Chemical and Biological Weapons: Chemical Weapons Convention', 2012, available: <http://www.state.gov/t/avc/c51325.htm>, accessed: 20.05.2012

United States Department of State, 'The Spirit of Prague: America's Commitment to Seek Peace and Security of a World Without Nuclear Weapons', 28 April 2010, available: <http://www.state.gov/r/pa/scp/fs/2010/141070.htm>, accessed: 20.05.2012

United States Government, 'Arm's Export Control Act: 22 USC 2778 – Control of Arms Exports and Imports', *Cornell University Law School*, 2012, available: <http://www.law.cornell.edu/uscode/text/22/2778>, accessed: 29.07.2012

United States Marine Corps Combat Development Command, *Amphibious Operations in the 21st Century*, United States Department of Defense, Washington DC, 2009, p. 8 & 10

United States Marine Corps Combat Development Command, *Artillery Operations*, United States Department of Defense, Albany, 2002, p. 1

United States Marine Corps, *Marine Corps Doctrinal Publication: Marine Corps Operations*, United States Department of Defense, Washington DC, 2001, pp. 1-2 & 10-13, p. 8

United States Navy 7th Fleet Public Affairs Office, 'US 7th Fleet Changes Hands', 10 September 2010, available: <http://www.c7f.navy.mil/news/2010/09-september/016.htm>, accessed: 20.05.2012

United States Navy, 'Evolved Sea Sparrow Missile RIM 162-D', 2 November 2011, available: http://www.navy.mil/navydata/fact_display.asp?cid=2200&tid=950&ct=2, accessed: 06.07.2012

United States Navy, 'General Characteristics: Arleigh Burke Class', 21 November 2011, available: http://www.navy.mil/navydata/fact_display.asp?cid=4200&tid=900&ct=4/, accessed 06.07.2012

United States Navy, 'General Characteristics: Ticonderoga Class', 2 November 2011, available: http://www.navy.mil/navydata/fact_display.asp?cid=4200&tid=800&ct=4, accessed: 06.07.2012

United States Navy, 'Mk-41 VLS', 18 November 2011, available: http://www.navy.mil/navydata/fact_display.asp?cid=2100&tid=550&ct=2, accessed: 06.07.2012

United States Navy & United States Marine Corps & United States Coast Guard, *A Cooperative Strategy for 21st Century Seapower*, International Seapower Symposium, Newport, 2007, p. 5

Willi Ruggaber & Wilhelm Hinding, *UDT Europe 2007: Guidance & Control of a Super Cavitating High Speed Underwater Missile*, Diehl BGT Defence, Überlingen, 2007, p. 4 & 7 & 12

SECONDARY SOURCES

Agrawal, Brahm.S, 'The Opening of Korea and the Kanghwa Treaty of 1876', in M.Caprio & M.Koichiro (eds), *Japan and the Pacific 1540-1920*, Ashgate Variorum, Hampshire, 2006, pp. 305-308

Babbage, Ross, *Australia's Strategic Edge in 2030*, The Kokoda Foundation, Canberra, 2011, pp. 14-16 & 22-23 & 55-56, p. v & 19 & 25 & 33

Bedi, Rahul, 'Mirrored Manoeuvres: India and China', *Jane's Defence Weekly*, 24 May 2012

Boese, Wade, 'EU Retains China Arms Embargo', *Arms Control Today*, Vol. 35, Iss. 1, 2005, pp. 36-37

Borgu, Aldo & Hamilton, Allen & Weston, Brian & Ferguson, Gregor, *A Big Deal: Australia's Future Air Combat Capability*, Australian Strategic Policy Institute, Canberra, 2004, pp. 31-32

Buszynski, Leszek, Interview at The Australian National University, Canberra, Friday 27 April 2012

Buszynski, Leszek, 'Japan's Security Policy in the Koizumi Era', *Security Challenges*, Vol. 2, No. 3, 2006, pp. 99-100, pp. 102-103

Buszynski, Leszek, 'The South China Sea: Oil Maritime Claims and US-China Strategic Rivalry', *The Washington Quarterly*, Vol. 35, Iss. 2, 2012, pp. 145-147, p. 140

Chang, Frank, 'Tainted Gyoza poisoning bilateral ties', *The Japan Times*, 17 March 2008, available:

http://www.japantimes.co.jp/text/eo20080317fc.html#.T_GMXo5NyVg, accessed: 02.06.2012

Chay, Jongsuk, *Unequal Partners in Peace and War: The Republic of Korea and the United States 1948-1953*, Praeger, Westport, 2003, pp. 10-11, p. 212

Chen, Sean & Feffer, John, 'China's Military Spending: Soft Rise or Hard Threat?', *Asian Perspective*, Vol. 33, Iss. 4, 2009, p. 59 & 61

Chijiwa, Yasuaki, 'Japan's Security Outlook Its Implications for the Defense Policy', *NIDS Joint Research Series No. 5: Asia Pacific Countries Security Outlook and its Implications for the Defense Sector No. 1*, The National Institute for Defense Studies, Tokyo, 2010, p. 164

Christensen, Thomas.J, 'Fostering Stability or Creating a Monster: The Rise of China and US Policy toward East Asia', *International Security*, Vol. 31, No. 1, 2006, p. 125

Cliff, Roger, *Anti-Access Measures in Chinese Defense Strategy*, RAND Corporation, Santa Monica, 2011, pp. 2-3 & 7-8, p. 5

Cliff, Roger & Burles, Mark & Chase, Michael.S & Eaton, Derek & Pollpeter, Kevin.L, *Entering the Dragon's Lair: Chinese Anti-Access Strategies and their Implications for the United States*, RAND Corporation, Santa Monica, 2007, pp. 17-20 & 23-26 & 45-46 & 51-52 & 90-93, p. 46 & 59

Cook, Malcolm, 'Deakin University Fullbright Symposium: Japan's Triple Challenge', August 2011, available: <http://www.deakin.edu.au/arts-ed/shss/events/fulbright/cook.pdf>, accessed: 27.04.2012, pp. 6-7

Cordon, John & Wilson, Peter.A & Birkler, John & Boraz, Steven & Lee, Gordon.T, *Leveraging America's Aircraft Carrier Capabilities: Exploring New Combat and Non-Combat Roles and Missions for the US Carrier Fleet*, RAND Corporation, Santa Monica, 2006, p. 11 & 18

Deng, Yong, *China's Struggle for Status: The Realignment of International Relations*, Cambridge University Press, New York, 2008, p. 111 & 114

Ding, Arthur.S, 'China's Growing Military Capability in Search of a Strategy', *The International Spectator: Italian Journal of International Affairs*, Vol. 44, Iss. 2, 2009, p. 102

Easton, Ian, *The Great Game in Space: China's Evolving ASAT Weapons Programs and their Implications for Future US Strategy*, Project 2049 Institute, Virginia, 2009, pp. 2-5 & 8-11

Ehrhard, Thomas.P, *An Air Force Strategy for the Long Haul*, Centre for Strategic and Budgetary Assessments, Washington DC, 2009, pp. 36-39

Ehrhard, Thomas.P & Work, Robert.O, *Range Persistence Stealth and Networking: The Case for a Carrier Based Unmanned Combat Air System*, Centre for Strategic and Budgetary Assessments, Washington DC, 2008, pp. 36-40 & 82-84

Falletti, Sebastian & Hardy, James, 'South Korea backs out of Japan intel pact', *Jane's Defence Weekly* 29 June 2012

Fravel, Taylor, 'China's Search for Military Power', *The Washington Quarterly*, Vol. 31, Iss. 3, 2008, pp. 127-129

Furukawa, Katsuhisa, 'Nuclear Arms Control and Disarmament: Views among Japan's National Security Community', *Security Challenges*, Vol. 6, No. 4, 2010, pp. 34-35, p. 38

Goldstein, Lyle, 'China's Falkland Lessons', *Survival*, Vol. 50, No. 3, 2008, p. 71

Grevatt, Jon, 'Australia and Japan to collaborate on developing military technologies', *Jane's Defence Industry*, 11 July 2012

Grevatt, Jon & Kerr, Julian, 'China Sets the Tone', *Jane's Defence Weekly*, 11 Feb 2011

Grevatt, Jon, 'Japanese industry calls for guidance as export ban is eased', *Jane's Defence Weekly*, 4 January 2012

- Gunzinger, Mark & Dougherty, Chris, *Changing The Game: The Promise of Directed-Energy Weapons*, Centre for Strategic and Budgetary Assessments, Washington DC, 2012, p. 4 & 7 & 15 & 26 & 41 & 43
- Gunzinger, Mark.A, *Sustaining America's Strategic Advantage in Long-Range Strike*, Centre for Strategic and Budgetary Assessments, Washington DC, 2010, p. 12 & 23
- Hagstrom, Linus & Williamson, Jon, 'Remilitarisation Really? Assessing Change in Japanese Foreign Security Policy', *Asian Security*, Vol. 5, Iss. 3, 2009, pp. 249-253, p. 255
- Hardy, James, 'Japan could export US-2 amphibian to India', *Jane's Navy International*, 18 November 2011
- Hardy, James, 'Japan lays keel for 22DDH helicopter destroyer carrier', *Jane's Navy International*, 9 February 2009
- He, Yinan, 'History Chinese Nationalism and the Emerging Sino-Japanese Conflict', *Journal of Contemporary China*, Vol. 16, Iss. 50, 2007, pp. 6-8 & 10-11
- Hellyer, Robert.I, *Defining Engagement: Japan and Global Contexts 1640-1868*, Harvard University Press, Cambridge, 2009, p. 7
- Hemmingsen, Torbjorg, 'Enter the Dragon: Inside China's New Model Navy', *Jane's Navy International*, 20 April 2011
- Hirata, Keiko, 'Who Shapes the National Security Debate? Divergent Interpretations of Japan's Security Role', *Asian Affairs: An American Review*, Vol. 35, Iss. 3, 2008, p. 132
- Howe, Brendan, 'Between Normality and Uniqueness: Unwrapping the Enigma of Japanese Security Policy Decision-Making', *Modern Asian Studies*, Vol. 44, Iss. 6, 2010, p. 1317 & 1326 & 1329
- Hughes, Christopher.W, *China's Military Modernisation and Implications for Northeast Asia*, S.Serizawa (ed.), The National Bureau of Asian Research, Washington DC, 2012, pp. 2-3
- Hughes, Christopher.W, 'Japan's Post-war Security Trajectory and Policy System', *The Adelphi Papers*, Vol. 44, Iss. 368-369, 2004, pp. 21-23
- Hughes, Christopher.W & Krauss, Ellis.S, 'Japan's New Security Agenda', *Survival*, Vol. 49, Iss. 9, 2007, pp. 160-162, p. 168
- IHS Global Limited, 'Japan and Philippines strengthen maritime security ties', *Jane's Intelligence Weekly*, 29 September 2011
- IHS Global Limited, 'Japan-Vietnam agree defence cooperation enhancement', *Jane's Intelligence Weekly*, 26 October 2011
- IHS Global Limited, 'North Korea Extends 150 Day Struggle', *Jane's Intelligence Weekly*, 22 September 2009

- IHS Global Limited, 'North Korea Leaves China with Burden to Bear', *Jane's Intelligence Weekly*, 19 June 2009
- IHS Global Limited, 'North Korea's Message in a Missile', *Jane's Intelligence Weekly*, 7 April 2009
- IHS Global Limited, 'South Korea and Japan seek to boost military co-operation', *Jane's Intelligence Weekly*, 12 January 2011
- Ikenberry, John, 'The Rise of China and the Future of the West: Can the Liberal System Survive', *Foreign Affairs*, Vol. 87, Iss. 1, 2008, p. 23
- Isby, David.C, 'Japan to make all Aegis DDGs SM-3 Capable', *Jane's Missiles and Rockets*, 4 February 2011
- Ito, Masami, 'Conservatives call for revising Constitution', *The Japan Times*, 4 May 2012, available: <http://www.japantimes.co.jp/text/nn20120504a3.html>, accessed: 13.06.2012 (Masami Ito)
- Ji, You, 'Meeting the Challenge of Asia's Changing Security Environment: China's Response to the New Threats', *NIDS Joint Research Series No. 6: Asia Pacific Countries Security Outlook and its Implications for the Defense Sector No. 2*, The National Institute for Defense Studies, Tokyo, 2011, pp. 130-131 & 153-154
- Kajimoto, Tetsushi, 'Constitution faces long road to amendment: Stage is set but consensus is not', *The Japan Times*, 3 May 2005, available: <http://www.japantimes.co.jp/text/nn20050503f4.html>, accessed: 13.06.2012
- Kaneda, Hideaki & Kobayashi, Kazumasa & Tajima, Hiroshi & Tosaki, Hirofumi, *Japan's Missile Defense: Diplomatic and Security Policies in a Changing Environment*, The Institute for International Affairs, Tokyo, 2007, p. 40
- Kaplan, Robert.D, 'The Geography of Chinese Power', *Foreign Affairs*, Vol. 89, Iss. 3, May-June 2010, p. 35
- Kaplan, Robert.D, 'The South China Sea is the Future of Conflict', *Foreign Policy*, September/October, Iss. 118, 2011, pp. 80-82
- Kawakami, Takashi, 'The Obama Administration's Security Strategy and Japan-US Alliance', *Association of Japanese Institutes of Strategic Studies*, No. 105, 2010, pp. 1-3
- Kazi, Reshmi, 'Japan's Nuclear Policy at Crossroads', *Strategic Analysis*, Vol. 34, No. 3, 2010, p. 442
- Krepinevich, Andrew, *The Quadrennial Defense Review: Rethinking the US Military Posture*, Centre for Strategic and Budgetary Assessments, Washington DC, 2005, p. iii & 8 & 31 & 91
- Krepinevich, Andrew.F, *Why Air-Sea Battle?*, Centre for Strategic and Budgetary Assessments, Washington DC, 2010, pp. 13-16 & 18-2, p. 2 & 7 & 24

Kugler, Richard, *The NATO Response Force 2002-2006: Innovation by the Atlantic Alliance*, National Defense University: Centre for Technology and National Security Policy, Washington DC, 2007, p. 7

La-Grone, Sam, 'China's ASBM has undergone extensive testing', *Jane's Navy International*, 29 December 2010

Lary, Diana, *The Chinese People at War: Human Suffering and Social Transformation 1937-1945*, Cambridge University Press, New York, 2010, p. 1

Lee, Jae-Hyung, 'China's Expanding Maritime Ambitions in the Western Pacific and the Indian Ocean', *Contemporary Southeast Asia*, Vol. 24, No. 3, 2002, pp. 552-553

Liu, Ji, 'Making the Right Choices in Twenty-First Century Sino-American Relations', *Journal of Contemporary China*, Vol. 7, Iss. 17, 1998, p. 92

Lu, Hui, 'China launches 11th satellite for independent navigation system', 25 February 2012, available: http://english.gov.cn/2012-02/25/content_2076582.htm, accessed: 26.02.2012

Mahnken, Thomas.G, 'China's Anti-Access Strategy in Historical and Theoretical Perspective', *Journal of Strategic Studies*, Vol. 34, Iss. 3, 2011, p. 317

Malik, Mohan, *China and India: Great Power Rivals*, First Forum Press, London, 2011, p. 75

Mearsheimer, John, 'The Gathering Storm: China's Challenge to US Power in Asia', *The Chinese Journal of International Politics*, Vol. 3, No. 4, 2010, pp. 390-391, p. 382

Monten, Jonathan & Provost, Mark, 'Theater Missile Defence and Japanese Nuclear Weapons', *Asian Security*, Vol. 1, Iss. 3, 2005, p. 287

Mulgan, Aurelia.G, 'Japan's Defence Dilemma', *Security Challenges* Vol. 1, No. 1, 2005, p. 68

Nabeshima, Keizo, 'Caldron of Simmering Views', *The Japan Times*, 2 May 2005, available: <http://www.japantimes.co.jp/text/eo20050502kn.html>, accessed: 13.06.2012

National Institute of Defense Studies, *NIDS China Security Report 2011*, The National Institute for Defense Studies, Tokyo, 2011, pp. 12-14, p. 41 & 46

Newsinger, John, 'Britain's Opium Wars', *Monthly Review*, Vol. 49, Iss. 5, 1997, pp. 37-38, p. 41

Nottage, Luke & Rheuben, Joel, 'Dumplings and Dodgy Foods in Japan: Implications for Australia-Japan Free Trade Agreement', *Sydney Centre for International Law*, Working Paper. 5, 2008, pp. 6-8

O'Rourke, Ronald, *China Naval Modernisation: Implications for US Navy Capabilities*, Congressional Research Service, Washington DC, 2008, pp. 4-5 & 10-11 & 23-24 & 44-45, p. 15 & 52 & 73

O'Rourke, Ronald, *China Naval Modernisation: Implications for US Navy Capabilities*, Congressional Research Service, Washington DC, 2012, pp. 4-5 & 17-20 & 28-29 & 44-46, p. 10 & 22 & 52

O'Rourke, Ronald, *Navy Aegis Ballistic Missile Defense Program: Background and Issues for Congress*, Congressional Research Service, Washington DC, 2010, p. 4

Panda, Rajaram, *Japan Beefs up its Naval Capability*, Institute for Defence Studies and Analyses, New Delhi, 2010, p. 3 & 10

Ratner, Ely, 'The Emergency Security Threats Reshaping China's Rise', *The Washington Quarterly*, Vol. 34, Iss. 1, 2011, p. 37

Rehman, Iskander, *Deflecting the Assassin's Mace: The Pentagon's New Air-Sea Battle Concept and its Strategic Relevance to India*, Institute for Defence Studies and Analyses, New Delhi, 2010, p. 4

Robinson, Amy.L, 'TRADOC continues to refine develop joint concept using GMAC', United States Army, 24 May 2012, available:
http://www.army.mil/article/80509/TRADOC_continues_to_refine_develop_joint_concept_using_GMAC/, accessed: 26.06.2012

Roy, Denny, 'Stirring Samurai-Disapproving Dragon: Japan's Growing Security Activity and Sino-Japan Relations', *Asian Affairs*, Vol. 31, Iss. 2, 2004, pp. 87-90, p. 99

Roy, Denny, 'The Sources and Limits of Sino-Japanese Tension', *Survival*, Vol. 42, Iss. 2, 2005, pp. 199-200

Sajima, Naoko & Tachikawa, Kyochi, *Japanese Sea Power: A Maritime Nation's Struggle for Identity*, Sea Power Centre Australia, Canberra, 2009, pp. 63-68 & 76-78, p. 83

Schank, John & Smith, Giles.K & Birkler, John & Alkire, Brien & Boito, Michael & Lee, Gordon & Raman, Rajkumar & Ablard, John, *Acquisition and Competition Strategy Options for the DDX: The US Navy's 21st Century Destroyer*, RAND Corporation, Arlington, 2006, p. 74

Scott, David, *China and the International System 1940-1949: Power Presence and Perceptions in a Century of Humiliation*, State University of New York Press, Albany, 2008, pp. 40-41 & 117-118, p. 13 & 24

Shimizu, Kaho, 'Gyoza poisoned after leaving factory: China', *The Japan Times*, 7 February 2008, available:
http://www.japantimes.co.jp/text/nn20080207a3.html#.T-ZpVo6_E8M, accessed: 24.06.2012

Shlapak, David.A & Orletsky, David.T & Reid, Toy.I & Scott-Tanner, Murray & Wilson, Barry, *A Question of Balance: Political Context and Military Aspects of the*

China-Taiwan Dispute, RAND Corporation, Santa Monica, 2009, pp. 101-102, p. xix & 7

Shuichi, Wada, 'Article Nine of the Japanese Constitution and Security Policy: Realism versus Idealism in Japan since the Second World War', *Japan Forum*, Vol. 22, Iss. 3-4, 2010, p. 406 & 408

Singh, Bhuhindar 'Japan's Security Policy: From a Peace State to an International State', *The Pacific Review*, Vol. 21, Iss. 3, 2008, pp. 306-308, p. 311

Soeya, Yoshihide, 'Japanese Security Policy in Transition: The Rise of International and Human Security', *Asia-Pacific Review*, Vol. 12, No. 1, 2005, p. 105

Stockholm International Peace Research Institute, *Background paper on SIPRI military expenditure data*, Stockholm International Peace Research Institute, Solna, 2012, p. 4

Stokes, Matt, *China's Evolving Conventional Strategic Strike Capability: The Anti-Ship Ballistic Missile Challenge to US Maritime Operations in the Western Pacific and Beyond*, Project 2049 Institute, Virginia, 2009, pp. 5-6 & 18-19, p. 26

Sunohara, Tsuyoshi, 'The Anatomy of Japan's Shifting Security Orientation', *The Washington Quarterly*, Vol. 33, Iss. 4, 2010, pp. 40-41, p. 43 & 49

Takahashi, Kosuke & Hardy, James, 'Japan and Australia Sign Intel Sharing Agreement', *Jane's Defence Weekly*, 18 May 2012

Takahashi, Kosuke & Hardy, James, 'Japan could provide Philippines with coastguard ships', *Jane's Navy International*, 27 March 2012

Takahashi, Kosuke, 'Japan-Mongolia sign defence pact', *Jane's Defence Weekly*, 12 January 2012

Takahashi, Kosuke, 'Japan's TRDI reveals details of Shinshin', *Jane's International Defence Review*, 11 November 2011

Takahashi, Sugio, *Counter A2/AD in Japan-US Defence Cooperation: Toward Allied Air-Sea Battle*, Project 2049 Institute, Virginia, 2012, pp. 1-2 & 6-9

Takahashi, Toshiya, 'Japanese Neo-Conservatism: Coping with China and North Korea', *Security Challenges*, Vol. 6, No. 3, 2010, pp. 27-29 & 22-24, p. 34

Tao, Zhang, 'Strategic Intent Behind China Threat Theory Concocted by US', 12 June 2012, available: http://eng.mod.gov.cn/Opinion/2012-06/12/content_4376691.htm, accessed: 19.06.2012

Thakur, Ramesh, 'Nuclear Agenda after 3/11', *The Japan Times*, 17 March 2012, available: <http://www.japantimes.co.jp/text/ea20120317rt.html>, accessed: 13.06.2012

The Japan Times, '85% of lawmakers support revising the Constitution', *The Japan Times*, 5 September 2004, available: <http://www.japantimes.co.jp/text/nn20040905a1.html>, accessed: 13.06.2012

The Japan Times, 'Beijing pins gyoza blame on Japan end', *The Japan Times*, 29 February 2008, available: http://www.japantimes.co.jp/text/nn20080229a1.html#.T-ZpCY6_E8M, accessed: 24.06.2012

The Japan Times, 'China holds suspected gyoza spiker', *The Japan Times*, 4 April 2010, available: http://www.japantimes.co.jp/text/nn20100404a9.html#.T-Zps46_E8M, accessed: 24.06.2012

The Japan Times, 'China obtains confession in gyoza case', *The Japan Times*, 29 March 2010, available: http://www.japantimes.co.jp/text/nn20100329a1.html#.T-ZptY6_E8M, accessed: 24.06.2012

The Japan Times, 'China reportedly fingers gyoza factory workers', *The Japan Times*, 1 September 2008, available: http://www.japantimes.co.jp/text/nn20080901a1.html#.T-Zpm46_E8M, accessed: 24.06.2012

The Japan Times, 'Gyoza poisoning mystery widens' *The Japan Times*, 2 February 2008, available: http://www.japantimes.co.jp/text/nn20080202a2.html#.T-ZpHY6_E8M, accessed: 24.06.2012

The Japan Times, 'Japan Rules the Senkakus', *The Japan Times*, 9 September 2011, available: http://www.japantimes.co.jp/text/ed20110909a1.html#.T-Z0qo6_E8M, accessed: 24.06.2012

The Japan Times, 'Japan set to ask China to pay for boats', *The Japan Times*, 27 September 2010, available: http://www.japantimes.co.jp/text/nn20100927x2.html#.T-Z08I6_E8M, accessed: 24.06.2012

The Japan Times, 'Japan to buy 36 missiles by 2010', *The Japan Times*, 11 January 2006, available: <http://www.japantimes.co.jp/text/nn20060111a8.html>, accessed: 29.08.2012

The Japan Times, 'Kan rejects Beijing's demand for apology', *The Japan Times*, 27 September 2010, available: http://www.japantimes.co.jp/text/nn20100927a1.html#.T-Z07I6_E8M, accessed: 24.06.2012

The Japan Times, 'Nuclear arsenal deemed infeasible in '81', *The Japan Times*, 3 October 2004, available: <http://www.japantimes.co.jp/text/nn20041003a2.html>, accessed: 13.06.2012

The Japan Times, 'Oi prompts domestic, US anti-nuclear rallies', *The Japan Times*, 24 June 2012, available:

http://www.japantimes.co.jp/text/nn20120624a4.html#.T-Zn-o6_E8M,
accessed: 24.06.2012

The Japan Times, 'Pesticide found in six gyoza packs in Hyogo', *The Japan Times*, 4 February 2008, available:

http://www.japantimes.co.jp/text/nn20080204a3.html#.T-ZpRI6_E8M,
accessed: 24.06.2012

The Japan Times, 'Tensions with China show no signs of easing', 28 September 2010, available: http://www.japantimes.co.jp/text/nn20100928a1.html#.T-Z1CI6_E8M, accessed: 24.06.2012

Valencia, Mark.J, 'The East China Sea Dispute: Context Claims Issues and Possible Solutions', *Asian Perspective*, Vol. 31, Iss. 1, 2007, p. 131

Van-Tol, Jan & Gunzinger, Mark & Krepinevich, Andrew & Thomas, Jim, 'Air-Sea Battle', 18 May 2010, available: www.csbaonline.org/wp-content/.../2010.05.18-AirSea-Battle-Slides.pdf, accessed: 25.06.2012, p. 8

Van-Tol, Jan & Gunzinger, Mark & Krepinevich, Andrew & Thomas, Jim, *Air-Sea Battle: A Point of Departure Operational Concept*, Centre for Strategic and Budgetary Assessments, Washington DC, 2010, pp. 9-11 & 29-30, p. 3 & 17 & 19 & 39 & 46 & 49 & 67 & 72 & 95

Van-Vranken-Hickey, Dennis, 'The Taiwan Strait Crisis of 1996: Implications for US Security Policy', *Journal of Contemporary China*, Vol. 7, Iss. 19, 1998, pp. 407-408

Wilkening, Dean & Watman, Kenneth, *Nuclear Deterrence in a Regional Context*, RAND Corporation, Santa Monica, 1995, pp. 41-42

Womack, Brantly, *China Among Unequals: Asymmetric Foreign Relationships in Asia*, World Scientific, London, 2010, p. 333

Work, Robert.O, *The US Navy: Charting a Course for Tomorrow's Fleet*, Centre for Strategic and Budgetary Assessments, Washington DC, 2008, pp. 17-21, p. 11 & 24

Wu, Xinbo, 'The End of the Silver Lining: A Chinese View of the US-Japanese Alliance', *The Washington Quarterly*, Vol. 29, Iss. 1, 2005, p. 125

Xu, Guangqiu, 'Anti-Western Nationalism in China 1989-99', *World Affairs*, Vol. 163, Iss. 4, 2001, p. 152

Yamaguchi, Noboru, 'America's Return to Asia Requires Japan's Strategic Response', *Association of Japanese Institutes of Strategic Studies*, No. 147, 2012, p. 3

Yang, Jian, 'China's Security Challenges: Priorities and Policy Implications' in *NIDS Joint Research Series No. 5: Asia Pacific Countries Security Outlook and its Implications for the Defense Sector No. 1*, The National Institute for Defence Studies, Tokyo, 2010, pp. 153-154

Yardley, Ronald.J & Kallimani, James.G & Schank, John.F & Grammich, Clifford.A, *Increasing Aircraft Carrier Forward Presence: Changing the Length of Maintenance Lifecycle*, RAND Corporation, Santa Monica, 2008, pp. 1-2

Yomiuri Shimbun, 'Poll: 43% of voters support amendments to the constitution', *The Yomiuri Shimbun*, 15 September 2011, available:
<http://www.yomiuri.co.jp/dy/national/T110914006038.htm>, accessed:
13.06.2012

Yoshida, Reiji, '10 sick after eating tainted gyoza from China', *The Japan Times*, 31 January 2008, available:
http://www.japantimes.co.jp/text/nn20080131a2.html#.T-ZpGI6_E8M,
accessed: 24.06.2012

Zhang, Baohui, 'American Nuclear Primacy or Mutually Assured Destruction: The Future of US China Strategic Balance of Power', in Y.Hao & G.Wei & L.Dittmer (eds), *Challenges to Chinese Foreign Policy: Diplomacy Globalisation and the Next World Power*, University Press of Kentucky, Lexington, 2009, p. 73

APPENDIX I: PRC ISLAND-CHAINS



SOURCE: Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, United States Department of Defense, Washington DC, 2012, p. 40

APPENDIX II: SOUTH CHINA SEA CLAIMS



SOURCE: Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2012*, United States Department of Defense, Washington DC, 2012, p. 37