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**SECURITY TRENDS IN THE ASIA-PACIFIC REGION:
AN EMERGING COMPLEX ARMS RACE**

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Professor Ball is the author or editor of more than 40 books or monographs on technical intelligence subjects, nuclear strategy, Australian defence and security in the Asia-Pacific region. His recent co-authored publications include *Signals Intelligence in the Post-Cold War Era: Developments in the Asia-Pacific Region*; *Presumptive Engagement: Australia's Asia-Pacific Security Policy in the 1990s* (with Pauline Kerr); *Burma's Military Secrets: Signals Intelligence (SIGINT) from 1941 to Cyber Warfare*; *Breaking the Codes: Australia's KGB Network, 1944-50* (with David Horner); and *Death in Balibo, Lies in Canberra* (with Hamish McDonald). He has also written articles on issues such as the strategic culture in the Asia-Pacific region and defence acquisition programs in the region.

Professor Ball was elected a Fellow of the Academy of Social Sciences of Australia (FASSA) in 1986. He served on the Council of the International Institute for Strategic Studies (IISS) in 1994-2000, and was Co-chair of the Steering Committee of the Council for Security Cooperation in the Asia-Pacific (CSCAP) in 2000-2002.

Abstract

This paper has four principal parts. The first part discusses the political and security impact of the war on terror on this region, including the extent of support provided to the US-led coalitions in the wars in Afghanistan and Iraq, the realignments in geopolitical relationships, the concerns about terrorism and US counter-terrorist policies in Southeast Asia, and the regional interest in new defence capabilities and operational concepts demonstrated by the US in Operations *Enduring Freedom* and *Iraqi Freedom*. The second part describes the recent trends in regional defence expenditures and acquisitions. It briefly outlines the main new capabilities most commonly being acquired in the region, noting where relevant the particular influences of the war on terror. It shows the preponderance of Northeast Asia in the regional military balance, but the design and development of the vast force structures in this sub-region will only be marginally affected by the war on terror. Special attention is drawn to naval acquisitions and the issue of an 'emergent naval arms race' in the region. It also discusses a couple of particular developments, viz: unmanned aerial vehicles (UAVs) and information warfare (IW), which received substantial impetus from the war on terror, but whose implications are relatively unexplored. The third part describes the state of proliferation of WMD and associated delivery systems in this region. Finally, the fourth part argues that the war on terror should not be allowed to distract policy-makers and analysts from other erstwhile and potentially more consequential regional security issues, and that the opportunities created by September 11 for greater regional security cooperation should be exploited to ameliorate the disturbing trends.

Note

This paper was originally prepared for the *Charles Darwin Symposium* on 'The Eye of the Storm: Northern Australia's Location in an Arc of Instability', Darwin, 29-30 September 2003.

Security Trends in the Asia-Pacific Region: An Emerging Complex Arms Race

Desmond Ball

Introduction

'Asia is rushing to arm itself as never before';¹ 'Southeast Asian countries have recently gone on a military spending spree';² China is also now engaged in an 'arms buying spree';³ 'Asia's armories are bulging, ... conventional arms abound, and more are flooding in';⁴ and there is a 'new Asian arms race' underway which 'bodes ill for a region already racked by ancient animosities and border disputes.'⁵ These quotations from press reports in the early 1990s reflect the concerns which were widespread among strategic analysts at that time regarding the sustained build-up of modern conventional weapons systems in Asia that had been underway since the mid-1980s. I argued then that it was misleading to characterise the robust weapons acquisition programs as an 'arms race', but that they could be better explained in terms of defence modernisation and the new requirements for defence self-reliance in the region (and especially the maritime dimension).⁶

But a decade later, and notwithstanding the impact on regional defence budgets of the Asian economic crisis in 1997-98, the question of whether the Asia-Pacific region is on the verge of an emerging arms race must be reconsidered. Regional defence expenditures have rebounded since 1998-99, and a multitude of new weapons systems have already been or are expected to soon be ordered — dozens of new warships, submarines, hundreds of fighter aircraft, and all sorts of infantry weapons. This is particularly the case in Northeast Asia, where the growth in China's defence budget has been especially disturbing — it has increased by double digit figures nearly every year since 1988, amounting to some 200 per cent over the 15-year period, including more than 60 per cent since 1998. The US has also announced a record defence budget, which has significant implications for the strategic balance and security in the Asia-Pacific region. This region is now also subject to the most active proliferation of weapons of mass destruction (WMD), as well as long-range delivery systems, in the world today. Estimates of WMD capabilities must now figure integrally with new conventional weapons capabilities in strategic calculations with respect to this region — and in any discussion of the question of a prospective arms race in the region.

The impact of the terrorist attacks on the US homeland on 11 September 2001 and the subsequent 'war on terror' on regional security and the strategic balance in the Asia-Pacific region has undoubtedly been profound, although many of the longer-term consequences and implications are unclear. It will lead to changes in the strategic influence and relative military capabilities of important regional powers. It has raised a new agenda for strategic, defence and security policies, including the alliance relationships between regional countries and the US, and has induced changes in strategic priorities. It has caused new thinking about the use of force, operational concepts, and capability requirements.

But September 11 and the war on terror must be viewed in perspective. They may presage a new era in international relations, but they will not lead to wholesale reorientations in strategic policies or defence postures, and they will not change the more fundamental dynamics of strategic developments in the Asia-Pacific region. Rather, the recent events have formed an additional dimension to the geostrategic issues and national security concerns of the post-Cold War period, which by and large have retained their currency and potency — the evolving balance of power in the region, the rise of China, and the future character of the US-China relationship; the multiplicity of conflicts, both inter-state and intra-state; the salience of maritime issues; the requirements of defence self-reliance, the proliferation of weapons of mass destruction, and the possibility of an arms race in the region; and the challenges of the so-called 'new security agenda' — such as environmental security issues, unregulated population movements, transnational crime, drug trafficking and money laundering. Generally, the impact of the war on terror will be to reinforce trends which had already become manifest in the region — for example, to provide an additional rationale for increasing defence expenditures (in which the war on terror is really only a minor factor), acquiring new defence capabilities, and exploiting new technologies, especially some elements of the Revolution in Military Affairs (RMA) and Information Warfare (IW).

This paper has four principal parts. The first part discusses the political and security impact of the war on terror on this region, including the extent of support provided to the US-led coalitions in the wars in Afghanistan and Iraq, the realignments in geopolitical relationships, the concerns about terrorism and US counter-terrorist policies in Southeast Asia, and the regional interest in new defence capabilities and operational concepts demonstrated by the US in Operations *Enduring Freedom* and *Iraqi Freedom*. The second part describes the recent trends in regional defence expenditures and acquisitions. It briefly outlines the main new capabilities most

commonly being acquired in the region, noting where relevant the particular influences of the war on terror. It shows the preponderance of Northeast Asia in the regional military balance, but the design and development of the vast force structures in this sub-region will only be marginally affected by the war on terror. Special attention is drawn to naval acquisitions and the issue of an 'emergent naval arms race' in the region. It also discusses a couple of particular developments, viz: unmanned aerial vehicles (UAVs) and information warfare (IW), which received substantial impetus from the war on terror, but whose implications are relatively unexplored. The third part describes the state of proliferation of WMD and associated delivery systems in this region. Finally, the fourth part argues that the war on terror should not be allowed to distract policy-makers and analysts from other erstwhile and potentially more consequential regional security issues, and that the opportunities created by September 11 for greater regional security cooperation should be exploited to ameliorate the disturbing trends (refer Figure 1, p.4).

The political and security impact of September 11

The political and security impact of September 11 on the Asia-Pacific is deep, but it runs in divergent currents and confusing eddies; and there will be unexpected consequences. This will be a long war, with asymmetric responses; current assessments will almost certainly have to be radically revised as the war progresses. There will be victors and vanquished in this war, but the winners in the long-term will not necessarily be those who enjoyed military success on the battlefields of Afghanistan or Iraq (or, in the near future, North Korea).

Every government in East and South Asia (including North Korea and, belatedly, Burma) condemned the terrorist attacks of September 11 and proclaimed their opposition to terrorism. They could hardly have done otherwise. The attacks demanded condemnation and retribution, and the US insisted that every country must take sides. As President Bush declared in his address to a special joint session of Congress on 20 September 2001: 'Every nation, in every region, now has a decision to make. Either you are with us, or you are with the terrorists'.⁷ In his State of the Union speech on 29 January 2002, President Bush explicitly listed one East Asian country, North Korea, together with Iraq and Iran, as constituting 'an axis of evil', which was seeking to acquire weapons of mass destruction and posed 'a grave and growing danger [to] the peace of the world'.⁸ But September 11 also caused serious introspection in many parts of Asia, especially in countries with large Muslim populations – where there were concerns not

only about Muslim extremism but also about possible US responses. President Bush's declaration identifying Southeast Asia as 'the second front in the war on terrorism' was received with considerable consternation in the region.

But the anti-terrorism rhetoric notwithstanding, in practice the support for Operation *Enduring Freedom* and Operation *Iraqi Freedom* was quite limited, and many governments have clearly been using different definitions of 'terrorism' in their rhetoric. For some, support for the war on terror has simply meant reaping the benefits of alignment with the world's sole superpower while becoming more repressive against internal dissent.

Australia and Japan were the only countries in East Asia to provide a military contribution to Operation *Enduring Freedom*, and only the Australian forces participated in combat operations. Australia was the only country in the region to provide forces in Operation *Iraqi Freedom*.

Figure 1

The strategic balance in the Asia-Pacific region: recent trends

1. The political and security impact of September 11 and the war on terror.
 - Support for the US and the 'war on terror'.
 - September 11 and regional defence programs.
2. Return to economic growth and increasing defence expenditures.
 - Impact of Asian economic crisis in 1997-99 on force structures fairly marginal.
 - Patterns of acquisitions: self-reliance and maritime orientation.
 - Predominance of Northeast Asia and the rise of China.
 - The 'emerging naval arms race'.
 - Information warfare (IW).
3. Proliferation of weapons of mass destruction (WMD).
 - Nuclear weapons.
 - Chemical and biological weapons.
 - Missiles.
4. Conclusions.
 - Prospects for cooperation.
 - The persistence of post-Cold War dynamics.
 - A complex but discernible arms race.

In October-November 2001, Australia deployed some 1,550 troops to the Afghanistan region for Operation *Enduring Freedom* – including a naval task force with an amphibious command ship and three frigates, two P-3C

Orion maritime patrol aircraft, two B-707 aerial refuelling tankers, four F/A-18 fighter aircraft, and 150 Special Air Service (SAS) troops.⁹ Australia's robust commitment can be explained in terms of its special alliance relationship with the US – together with the UK and Canada, they constitute a special club. But Australia's commitment was also inflated for domestic political purposes — a 'khaki' election campaign was underway, in which farewells for the forces departing for Afghanistan and the Persian Gulf provided regular photo opportunities.

The Australian deployment to the war in Iraq was somewhat larger, amounting to about 2,000 personnel — including a naval task force command element and three frigates, 14 F/A-18 fighter aircraft, two C-130 *Hercules* transport aircraft, two P-3C *Orions*, and an SAS squadron.¹⁰

Japan's support for the war in Afghanistan was both unprecedented in terms of breaking the constraints on overseas deployments of the Japanese Self Defense Force (JSDF) but also very conditional. On 19 October 2001 the diet approved anti-terrorism legislation which authorised the JSDF to provide military support to the US-led war on terrorism — including escorts, guards, intelligence and logistics, but not direct combat services. The JMSDF moved quickly to organise a task force, consisting of a non-*Aegis* destroyer, minesweepers and supply ships, which deployed to the Indian Ocean in November 2001 — the force time Japan has assisted forces in combat since the end of the Second World War.¹¹ The mission of the destroyer was declared to be intelligence collection, in line with the new legislation allowing the JDSA/JSDF to conduct necessary 'research' activities, rather than direct support for US operations.¹²

The JASDF has also committed almost half of its C-130 transport aircraft in support of Operation *Enduring Freedom*, flying US military equipment and personnel to Singapore, Guam and other places in the region.¹³

In September-October 2001, the JDA/JMSDF had suggested deploying one of the new *Kongo*-class *Aegis* destroyers, equipped with the SPY-ID radar systems (allowing them to simultaneously track hundreds of targets). This proposal was welcomed by the US Navy, but 'was blocked ... by Japanese politicians, who were concerned about upsetting Asian neighbours [i.e., China]'.¹⁴

In May 2002, when the 6-month review of the November commitment was underway, Washington raised the question of Japanese support for a US-led attack on Iraq, and reportedly asked specifically for the deployment of *Aegis* destroyers and P-3C *Orion* long-range maritime patrol aircraft (which would replace US capabilities in the Arabian Sea if the US forces were to

move to the Persian Gulf for the attack).¹⁵ The issue was embroiled in military politics in Tokyo, with the unabashed lobbying by some Japanese naval forces for accession to the US request causing some dissatisfaction.¹⁶

In the case of the war in Iraq, Prime Minister Junichiro Koizumi said on 20 March 2003 that 'Japan supports the US position'.¹⁷ However, the actual Japanese support for Operation *Iraqi Freedom* was very limited. The *Kirishima*, one of the *Aegis* destroyers, was sent to the Indian Ocean in December 2002 to protect Japanese supply ships which were refuelling US and British naval vessels, and to conduct surveillance activities in the area, in accordance with another special anti-terrorist law passed in November 2002.¹⁸

The wars in Afghanistan and Iraq have enhanced the geopolitical importance of particular sub-regions and caused significant realignments in alliance relationships. In Central Asia, the five authoritarian regimes (Kazakhstan, Kirgystan, Tajikistan, Turkmenistan and Uzbekistan), which have provided the US with air bases and allowed it to send aircraft through their airspaces and transport arms through their territory, have been greatly strengthened by US economic assistance — but there has also been 'a staggering increase in repression' in these countries.¹⁹ In South Asia, the sanctions that had been imposed on India and Pakistan after they had tested nuclear weapons in May 1998 were lifted by the Bush Administration as soon as planning began for the war in Afghanistan.

Some countries in the region which have supported the US-led war on terror have nevertheless expressed concern about the expansion of US military capabilities in Central Asia and the long-term strategic intentions of the US in that sub-region. The US has expanded and may be making permanent more than a dozen military bases built in or near Afghanistan since October 2001, including the Manas airfield near Bishkek, Kyrgyzstan, only about 300 km from the Chinese border. Some Russian and Chinese officials have reportedly questioned why the US presence has continued to grow months after the Taliban were routed in Afghanistan. In January 2002, Chinese Foreign Minister Tang Jiaxuan said that: 'One should not endlessly expand the aims of the anti-terrorist operation, which should be conducted under UN aegis'.²⁰

Operations *Enduring Freedom* and *Iraqi Freedom*, and new defence capabilities

Regional defence planners and strategic analysts paid close attention to coalition operations in both Afghanistan and Iraq, and have been vigorously debating their lessons with respect to new operational concepts and

capability developments. They have been most impressed by the US application of the Revolution in Military Affairs (RMA) and network-centric warfare.

The regional interest in the RMA and Information Warfare (IW) has been clearly evident at recent regional air shows and aerospace exhibitions. Visitors are less interested in the latest weapons platforms, and more in the constituent elements of C³ISREW (command, control, communications, intelligence, surveillance, reconnaissance and electronic warfare), such as new sensor systems, advanced communications and information technologies, and unmanned aerial vehicles (UAVs), as well as precision-guided munitions (PGMs). The interest in UAVs included both the high-altitude surveillance systems (such as *Global Hawk*) and tactical systems such as *Predator*, which has been used by the CIA to launch *Hellfire* missiles at targets in Afghanistan, Iraq and Yemen.

The 'arms race' argument in the early/mid-1990s

From the mid-1980s to the mid-1990s, defence expenditure in Asia increased at an unprecedented rate. Together with a decline in defence spending in the US, Europe and the former Soviet Union in the late 1980s and early 1990s, this resulted in a doubling of the Asian share of world military expenditure in the decade from 1986 to 1996. In the case of arms imports to the region, Asia's share of world expenditure on arms transfers has increased nearly three-fold since the early 1980s — from 15.5 per cent in 1982 to 33.24 per cent in 1993,²¹ to 41 per cent in 1998.²²

But the common characterisation of the arms acquisition programs in East Asia in the 1908s/1990s as an 'arms race' was very wrong. Any arms race should have two principal features: first, a very rapid rate of acquisitions, with the participants stretching their resources in order to ensure that they remain at the head of the race; and, second, some reciprocal dynamics in which developments in the defensive and offensive capabilities of one adversary are matched by attempts to counter the advantages thought to be gained by another. Thus, the continued acquisition of new weapons capabilities becomes an interactive process in which the arms requirements of one party depend upon the known, assumed, or anticipated capabilities of the forces of the other party or parties.

There was little of this in the acquisition programs in the region in the late 1980s and the 1990s. In most countries in the Asia-Pacific region, the proportions of GNP committed to defence spending (a key indicator of the existence of a regional arms race and the national commitments to such a race) were much lower in the mid- and late 1990s than they had been in the

early 1980s — typically 30 or 40 per cent lower. China, where the proportion has remained fairly constant, is the only exception to this. Further, there was little evidence of the action-reaction dynamics that are an essential feature of arms races. Rather, the regional acquisition programs could best be explained in terms of the requirements for enhanced self-reliance in the context of a rapidly changing and increasingly uncertain regional security environment.

On the other hand, there were two important cautionary points expressed. The first was that many of the new weapons systems being acquired had an 'offensive' character (such as fighter/strike aircraft, modern surface combatants, submarines and long-range anti-ship missiles), which not only made them more likely to generate counter-acquisitions in the future, but which were also disturbing in terms of their implications for crisis stability.²³

Second, it was noted that the possibility of some regional arms race developing within the next decade or so remained a serious concern. Since the requirements for defence self-reliance cannot be defined without some consideration of the capabilities possessed by neighbours and potential adversaries further afield, there must come a point where further acquisitions begin to stimulate reciprocal or interactive dynamics. By 2010, most countries in the region will face the demands not only of continued force modernisation but also of replacement of the weapons systems acquired in such large volumes in the late 1980s. Defence budgets and acquisition programs may enter another cycle of substantial increase — but this time for a base of higher numbers and more sophisticated capabilities than obtained during the round of the late 1980s and early 1990s.

Defence economic trends, 1987-2002

Some data on defence economic trends in the region from 1987 to 2001 is given in Tables 1 and 2 (pp. 9, 11).²⁴ These show that defence expenditure in East Asia and Australasia has grown steadily in real terms since 1987 (by about 24 per cent in constant US \$ 1995 over the 13 year period); that the growth in defence expenditure in Southeast Asia remained steady until 1995-96; and that the high rate of growth in Northeast Asia levelled off in 1993-94 but was resumed in 1995-96, until hit by the regional economic crisis towards the end of 1997 (Table 1 and Figure 2 (p.10)). The decrease in the proportions of GNP being spent on defence in most countries in the region is shown in Table 2.

The impact of the Asian economic crisis on regional defence expenditures in 1997-98 is barely noticeable near the top of the graph at the right of Figure 2. The resumption of growth is shown in Table 3 (p.12). Total defence

expenditure in Asia, which has now reached US\$150 billion, increased by 15.4 per cent from 1998 to 2001. It increased by 13.2 per cent in Southeast Asia, where the total defence expenditure now amounts to double that of Australasia.

Nearly all of the countries which were severely affected by the economic crisis have resumed increasing defence budgets — Indonesia being the most important exception to this. In Northeast Asia, South Korea, which was hit the hardest by the crisis, increased its defence spending by 6.2 per cent in the fiscal year 2000-2001. South Korea's current defence budget (fiscal year 2001-02) is a record US\$12.72 billion. South Korea plans to spend \$26.5 billion on new weapons systems over the next five years, intending to acquire 40 new fighter aircraft, manned and unmanned reconnaissance aircraft, the SAM-X air defence system, at least three and perhaps six KDX-111 destroyers, and improved command and control systems.²⁵

Table 1
Defence expenditure in East Asia (Selected Countries) and Australasia,
constant 1995 US\$ billion

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Australia	6.7	6.3	6.2	6.4	6.7	6.8	7.1	7.4	7.2	7.2	7.2	7.2	7.3	7.4	7.5	7.9
New Zealand					0.8	0.8	0.7	0.7	0.7	0.71	0.7	0.66	0.65	0.66	0.67	0.67
Australasia	6.7	6.3	6.2	6.4	7.5	7.6	7.8	8.1	7.9	7.91	7.9	7.86	7.95	8.06	8.17	8.57
Brunei	0.5	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.6	0.6	0.33	0.33	0.4	0.3	0.4	0.3
Burma	2.4	2.0	1.5	3.0	3.0	2.6	2.2	1.4	1.3	1.2	1.2	1.2	1.1	1.1	1.2	1.3
Cambodia						0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.12	0.11	0.10
Indonesia	2.0	2.0	2.1	2.2	2.3	2.3	2.2	2.4	2.6	2.9	2.93	2.3	2.4	2.3	2.2	2.2
Laos					0.1	0.12	0.12	0.12	0.09	0.08	0.08	0.05	0.02	0.02	0.02	0.02
Malaysia	1.1	1.2	1.3	1.5	2.1	2.0	2.2	2.3	2.4	2.48	2.25	1.8	2.0	1.9	2.3	2.6
Philippines	1.0	1.4	1.4	1.3	1.3	1.4	1.2	1.0	1.0	1.0	1.0	0.9	0.9	1.2	1.2	1.4
Singapore	2.1	2.2	2.4	2.8	2.9	3.2	3.2	3.3	4.0	3.92	4.27	5.0	5.3	5.1	5.4	5.7
Thailand	2.4	2.5	2.5	2.8	2.9	3.2	3.5	3.6	3.7	3.88	4.38	2.9	2.6	2.7	2.6	2.7
Vietnam		2.0	1.1			1.0	0.8	1.4	1.2	1.6	2.0	1.6	1.7	2.1	2.2	2.6
Southeast Asia	11.5	14.0	13.0	14.2	16.3	16.52	16.12	16.42	17.09	17.86	18.64	16.28	16.52	16.84	17.63	18.92

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
China*	6.4	5.9	6.3	6.7	7.2	7.9	7.8	8.1	7.6	8.1	9.1	10.7	12.3	14.0	16.4	19.3
Japan	40.8	42.7	44.4	46.1	47.7	48.8	49.5	49.9	50.3	51.1	51.2	51.9	51.9	50.4	52.0	53.5
South Korea	10.2	10.9	11.7	12.0	12.9	13.4	14.2	14.2	14.4	15.6	16.3	16.4	15.2	14.9	15.8	16.1
Taiwan	7.6	8.3	8.9	9.3	9.8	10.2	12.5	11.5	10.9	11.4	11.4	11.6	12.2	10.7	9.3	9.3
Northeast Asia	65.0	67.8	71.3	74.1	77.6	80.3	84.0	83.7	83.2	86.2	88.0	90.6	91.6	90.0	93.5	98.2
TOTAL	83.2	88.1	90.5	94.7	100.4	104.42	107.92	108.22	108.29	111.97	114.54	114.74	116.07	114.90	119.30	115.69

* Official Chinese figure. The IISS estimate of Chinese defence expenditure in 1995 was US\$33 billion (and US\$37.5 billion in 1998 in current dollars).

Source: Defence Intelligence Organisation (DIO), *Defence Economic Trends in the Asia-Pacific* (Australian Government Publishing Service, Canberra), successive annual issues.

Figure 2
Defence expenditure in East Asia (Selected Countries)
and Australasia, constant,
1995 US\$ billion

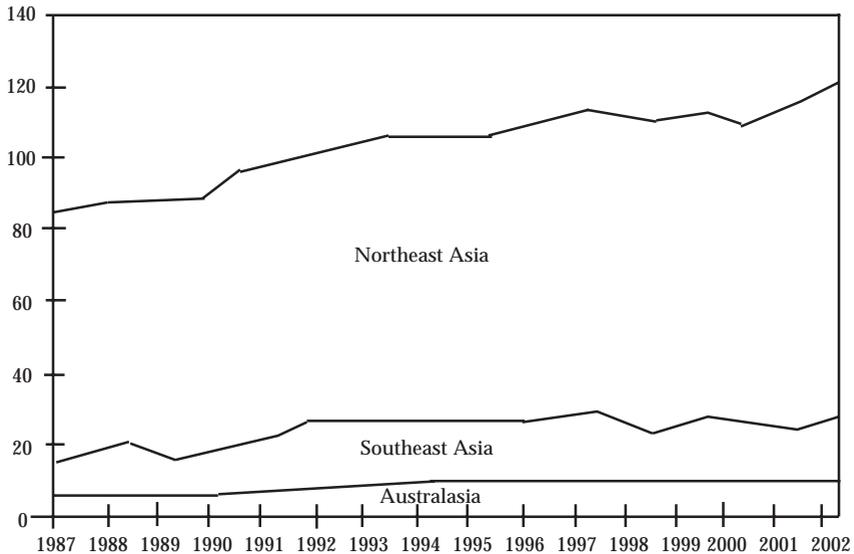


Table 2
Defence expenditure in East Asia (Selected Countries) and Australasia,
as a percentage of GDP

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Australia	2.4	2.2	2.0	2.1	2.2	2.2	2.2	2.2	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.7
New Zealand					1.5	1.4	1.2	1.1	1.2	1.2	1.12	1.1	1.0	1.0	1.0	0.9
Brunei	4.3	6.2	5.6	5.6	6.4	6.4	5.8	7.4	5.5	5.2	6.03	7.9	7.8	5.9	7.4	4.8
Burma	2.6	2.5	1.8	3.6	3.6	2.9	2.4	2.4	2.6	2.4	1.81	1.4	1.1	0.8	0.7	0.7
Cambodia					3.5	4.7	4.0	7.0	5.9	5.2	4.9	4.6	2.9	2.5	2.1	1.9
Indonesia	1.8	1.6	1.6	1.5	1.5	1.4	1.3	1.3	1.3	1.3	1.28	0.9	1.2	1.1	1.0	1.0
Laos			2.5			8.6	7.9	7.4	5.1	4.4	3.7	2.6	1.1	0.8	0.7	0.7
Malaysia	2.6	2.5	2.6	2.6	3.3	3.0	3.0	2.9	2.8	2.7	2.22	1.9	1.9	1.7	2.1	2.2
Philippines	1.8	2.3	2.1	2.0	2.0	2.1	1.7	1.4	1.4	1.3	1.73	1.2	1.0	1.3	1.3	1.5
Singapore	5.2	4.9	4.8	5.1	4.9	5.1	4.6	4.3	4.7	4.3	4.42	5.1	5.1	4.4	4.8	5.0
Thailand	3.3	2.85	2.5	2.5	2.4	2.4	2.5	2.4	2.2	2.2	2.43	1.9	1.5	1.6	1.5	1.5
Vietnam		16.5	8.3				2.3	8.8	7.2	8.9	8.43	6.1	6.4	7.2	7.1	8.0
China	1.9	1.5	1.6	1.6	1.6	1.6	1.4	1.3	1.1	1.0	1.1	1.1	1.2	1.3	1.5	1.6
Japan	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.0	0.9	1.0	1.0
South Korea	4.2	4.0	4.0	3.8	3.7	3.7	3.7	3.4	3.2	3.2	3.0	3.2	2.7	2.4	2.5	2.4
Taiwan	5.0	5.0	5.0	4.9	4.9	4.7	5.4	4.7	4.2	4.1	3.8	3.6	3.6	3.1	2.7	2.6

Source: Defence Intelligence Organisation (DIO), *Defence Economic Trends in the Asia-Pacific* (Australian Government Publishing Service, Canberra), successive annual issues.

In Southeast Asia, the Malaysian Defence Minister, Najib Razak, has been very forthright about Malaysia's planned defence expansion in the wake of its economic recovery. As he said in April 2002: 'Malaysia has renewed its armed forces modernisation program which was somewhat affected by the economic woes of the late 1990s The government has re-embarked on major defence procurement programs'.²⁶ Malaysia is currently in the process of acquiring battlefield rocket launchers (from Brazil), anti-ship missile systems, short-range air defence missiles, anti-armour weaponry, infantry light arms, 64 PT-91 battle tanks (from Poland), and 10 Mi-17 helicopters (from Russia), and is considering the purchase of a squadron of multi-purpose fighter aircraft (probably Su-30 MKs or F/A-18E/F Super Hornets) and submarines.²⁷ Mr Najib said that he expects a similar trend across Asia as other nations build up their defence capabilities 'to protect sovereignty and territorial integrity'.²⁸

Table 3
East Asia, South Asia and Australasia: Defence Budgets
1998 and 2001 (US\$)

	1998	2001
Northeast Asia		
China	37.5 b	47.0 b
Japan	37.66 b	40.4 b
South Korea	9.9 b	11.8 b
North Korea	1.3 b	1.3 b
Mongolia	24 m	30.2 m
Taiwan	8.3 b	8.2 b
	94.62 b	108.73 b
Southeast Asia		
Brunei	357 m	348 m
Cambodia	75 m	128 m
Indonesia	939 m	1,268 m
Laos	33 m	15.8 m
Malaysia	1.2 b	1.9 b
Burma	1.7 b	1.7 b
Philippines	1 b	1.1 b
Singapore	4.4 b	4.3 b
Thailand	2 b	1.7 b
Vietnam	924 m	1.8 b
	12.6 b	14.26 b

Australasia		
Australia	7 b	6.6 b
New Zealand	860 m	678 m
	7.86 b	7.278 b
South Asia		
Bangladesh	612 m	692 m
India	10 b	15.6 b
Pakistan	3.2 b	2.6 b
Sri Lanka	733 m	700 m
	14.55 b	19.59 b
US\$	129.71 b	149.86 b

Note: Official budget figures, except for China (IISS estimates).

Source: International Institute for Strategic Studies (IISS), *The Military Balance: 2000-2001*, Oxford University Press, Oxford, October 2000, pp.167-218; and International Institute for Strategic Studies, *The Military Balance: 2001-2002*, Oxford University Press, Oxford, October 2001, pp.161-213.

Conventional acquisition programs

Throughout the region as a whole, there have been significant common themes apparent in the acquisition programs since the late 1980s. East Asia is, of course, an extremely diverse region, with extraordinary disparities in national economic resources and military capabilities, and significant differences in security concerns and threat perceptions — in light of which, the degree of consistency in the acquisition programs is all the more remarkable. Most of these programs have been proceeding essentially heedless of September 11 and the war on terror, but some have been given increased impetus. The principal common themes involve:

National command, control and communications systems

Since the end of the Cold War and the commitment by most countries in the region to policies of enhanced self-reliance, there have been very substantial investments in national command, control and communications (C³) systems — including the construction of modern HQs and command and control centres, and the procurement of all sorts of communications and data relay systems.

September 11 and the war on terror have prompted moves to enhance both the physical and electronic security of key C³ facilities.

National strategic and tactical technical intelligence systems

The policies of greater self-reliance, together with the continuing prevalence of conflicts and disputes (both inter-State and intra-State) throughout the region, the requirements for maritime surveillance in Exclusive Economic Zones (EEZs), and the need to monitor the details of new weapons systems being acquired by neighbours and potential adversaries, have led to increased investments in technical intelligence collection systems, and especially signals intelligence (SIGINT) capabilities. Budgets for new SIGINT systems and expanded collection operations typically doubled during the period from around 1985 to 1995.²⁹ Many countries in the region now maintain ground stations for intercepting satellite communications (i.e., long-distance telephone calls, facsimile traffic, e-mails, computer-to-computer data exchanges, etc.) — including the US, Russia, China, Japan, Australia, Singapore, and even Burma.³⁰

Some countries have also been acquiring extensive airborne SIGINT capabilities. These are very expensive to maintain, but they provide the only means for effective, continuous, real-time surveillance of the electromagnetic emissions across maritime approaches and around areas of interest further afield. Japan now has about 16 dedicated SIGINT-collection aircraft, half a dozen electronic warfare (EW) training aircraft with some ELINT capabilities, and 13 E-2C *Hawkeye* and four E-767 airborne early warning and control (AEW&C) aircraft with substantial secondary ELINT capabilities.³¹

In Southeast Asia, Singapore acquired modest but sophisticated airborne SIGINT capabilities in the early 1990s. Two of the Air Force's C-130H *Hercules* aircraft have been equipped with extensive suites of Israeli-supplied COMINT, ELINT and EW systems for strategic, operational and tactical SIGINT mission.³² They have been reported undertaking collection in Australia; over the Andaman Sea and along the western coasts of Malaysia, Thailand and Burma, with stop-overs in Rangoon and Dhaka;³³ and 'as far west as Pakistan'.³⁴ Singapore also has four Fokker F-50 *Maritime Enforcer* Mark-2 maritime patrol aircraft, which are equipped with similar Israeli SIGINT systems, and which operate around Southeast Asian waters from the Andaman Sea to the South China Sea.³⁵

In 1995-98, the Royal Australian Air Force acquired two EP-3C *Orion* aircraft which had been specially configured for SIGINT operations,³⁶ which were used extensively around Timor in 1999-2000, and which have more recently been used in the Persian Gulf in support of Operations *Enduring Freedom* and *Iraqi Freedom*. The RAAF reportedly also operates a SIGINT-

configured C-130H; the Australian Army has a *King Air 200* fitted for ELINT operations; and the Navy has a *Learjet* specially equipped for ELINT and electronic warfare activities.³⁷

Operations *Enduring Freedom* and *Iraqi Freedom* have undoubtedly stimulated further regional interest in the acquisition of airborne collection systems. The intensity of intelligence collection flights in the region will increase, but so too will the risks of neighbourly disputes about them (as occurred between Singapore and Australia because of RSAF technical intelligence collection activities in Australia in 1993-94),³⁸ as well as more serious crises, such as the confrontation between the US and China occasioned by China's shooting down of a US EP-3 SIGINT aircraft near Hainan Island on 1 April 2001. (US SIGINT flights along the Chinese coast were resumed in early May 2001, using RC-135 *Rivet Joint* SIGINT aircraft flying from Okinawa, which fly at higher altitude and greater speed than the EP-3s, and also carry a more sophisticated array of SIGINT equipment).³⁹

Multi-role fighter aircraft, with maritime attack capabilities as well as air-superiority capabilities (e.g., F-16s and F-18s)

During the decade from around 1987 to 1997, Asian countries procured about 3,000 new fighter and strike aircraft, and about an equal number of existing aircraft were upgraded with new mission avionics and armaments. By 2000, Asia accounted for about 60 per cent of world holdings of combat aircraft. A somewhat smaller number of more advanced and more expensive fighter aircraft will be procured through the coming decade.

In April 2002, South Korea announced that it has decided to buy 40 new Boeing F-15K fighter jets, at a cost of US\$4 billion.⁴⁰ Australia has embarked on Air 6000, a US\$6 billion project to acquire 'up to 100 new combat aircraft' to replace its F/A-18As and F-111s later this decade.⁴¹ Singapore plans to decide on a new fighter type in 2004, with the intention of initially acquiring 20-24 new fighters to replace its highly-upgraded A-4s, but the final total requirement may be for as many as 80.⁴² Burma has recently acquired ten MiG-29 fighters from Russia.⁴³ In August 2003, Indonesia took delivery of two Su-27 *Flanker* fighter-bombers and two Su-30 fighter aircraft from Russia.⁴⁴

A significant feature of the current fighter programs is the acquisition of new air-to-air missiles, such as the US AIM-20 Advanced Medium Range Air-to-Air Missile (AMRAAM), which has a range of more than 40 km and uses active radar guidance for interception. Australia, South Korea, Taiwan and Japan have already taken delivery of AMRAAMs; missiles reportedly

purchased by Thailand and Singapore 'are held in the US on 48-hour call'; and the US is considering supplying them to Malaysia, Indonesia and the Philippines.⁴⁵

Unmanned Aerial Vehicles (UAVs)

Operations *Enduring Freedom* and *Iraqi Freedom* have stimulated great interest in the acquisition of unmanned aerial vehicles (UAVs) for surveillance, targeting and fire support.

Singapore is the only country in the region which had hitherto invested in a substantial UAV capability. The Singapore Air Force currently has a Squadron with 40 *Searcher* Mark-2 and 24 *Chukar* 111 UAVs.⁴⁶ Singapore Technologies has also been working on the development of larger UAVs, such as the *Firefly*, which could carry a warhead rather than sensor payload.⁴⁷

Thailand has a single *Searcher* UAV. In the last couple of years, it has been used for surveillance flights along the northern Thailand-Burma border in support of counter-narcotics operations. In March 2001, the Thai Army released images, taken by the *Searcher*, of opium crops and metamphetamine laboratories in Burma.⁴⁸

Australia plans to acquire six *Global Hawk* high-altitude UAVs in 2004 for broad-area surveillance purposes, at a cost of US\$200 million. (A *Global Hawk* UAV flew to Australia from California in April 2001, the first non-stop flight across the Pacific Ocean by an autonomous aircraft, and was tested in several roles over the next month).⁴⁹ Australia also intends to acquire about 16 tactical UAVs for focal-area surveillance.⁵⁰ In August-September 2003, four Project *Nervana* UAVs were deployed to the Solomon Islands as part of Operation *Anode*, and were used to provide real-time video imagery for the Regional Assistance Mission.⁵¹

More recently, the Philippine Army has developed its own unmanned surveillance aircraft to support its counter-terrorist program (including especially locating Abu Sayyaf units).⁵² The Malaysian Ministry of Defence has begun flight testing a locally-produced *Eagle* UAV system, complete with a ground control station and a remote receiving station, and with a 60kg payload capacity for carrying various sensors or electronic warfare (EW) equipment.⁵³

Maritime surveillance aircraft (e.g., P-3 Orions)

About 120 new maritime reconnaissance aircraft were acquired by East Asian countries during the 1990s, and a similar number is likely to be acquired

during the coming decade. In April 2001, the US agreed to sell Taiwan 12 P-3C *Orion* long-range maritime patrol aircraft (LRMPA).⁵⁴ The P-3Cs are able to carry eight AGM-86 *Harpoon* anti-ship missiles (with a range of 120 nm or 225 km) as well as surface search radar, SIGINT/ELINT/EW equipment, and anti-submarine warfare (ASW) systems.

Anti-ship missiles (e.g., Harpoon and Exocet)

Since the mid-/late 1980s, East Asian defence forces have acquired more than 3,000 modern anti-ship missiles, such as *Harpoons* and *Exocets*. More than 2,000 are deployed aboard surface combatants, and more than 1,000 are for use by maritime strike aircraft. These numbers could well double through the coming decade as a consequence of the acquisition of new submarines, surface combatants, and maritime strike aircraft (including maritime reconnaissance aircraft with anti-ship missile capabilities).

Modern surface combatants — destroyers, frigates, ocean patrol vessels

Some 200 new major surface combatants were acquired in East Asia through the 1990s, ranging in size and capability from the 13,000-ton light aircraft carrier acquired by Thailand and the four 7,200-ton *Kongo* (US *Arleigh Burke*)-class *Aegis* destroyers acquired by Japan, through about 100 new frigates, to more than 100 corvettes and ocean patrol vessels in the 1,000-1,500 ton range.

Several countries in the region will acquire *Standard* SM-2 (Block IVA) and perhaps even SM-3 capabilities during the next decade. With a range of 400 km, the *Aegis*/SM-2 (Block IVA) system provides air defence and limited ballistic missile defence over areas of fleet operations, amphibious landings, ports and support facilities, etc. Japan's four *Kongo* class DDG destroyers are already equipped with SM-2s. South Korea's new KDX-111 destroyers, the first of which is under construction, are to be equipped with them.⁵⁵ Australia also intends to acquire 'at least three' anti-air warfare destroyers equipped with these missiles.⁵⁶

Submarines

East Asian navies currently possess more than 100 submarines and, although many of the *Romeo*-class boats possessed by China and North Korea are no longer operational, more than three dozen new boats were acquired during the 1990s. Most of these were in Northeast Asia, where Japan acquired seven *Harushio*-class boats and began the eight-boat *Oyashio* project, South Korea acquired eight *Chang Bogro* (Type 209) boats, and China acquired four *Song*-class (Type 039) and six Russian *Kilo*-class submarines.

Australia has recently produced six *Collins*-class boats, which are among the most capable conventional submarines in the world.

It is likely that another two dozen new submarines will be acquired during the coming decade. Taiwan is now seeking to acquire eight new boats. Some 8-10 are likely to be procured in Southeast Asia.

The role of submarines is being revolutionised. In Australia's case, for example, the *Collins*-class submarines will operate very differently from submarines in the past. Their primary roles are no longer anti-submarine warfare (ASW), convoying, or supporting battle groups in large-scale open-ocean engagements. Rather, they will operate primarily in joint or combined operations in littoral regions, and in the new theatre of Information Warfare or Network-enabled Warfare. The submarines will remain an indispensable element of the RAN's fleet operations, but the chains of command, the range of information being distributed to the submarines, the recipients of information disseminated from the submarines, and hence the contribution of the submarines to ADF operations more generally, will be very different.⁵⁷

Electronic warfare (EW) capabilities

Most countries in East Asia are rapidly developing their electronic warfare capabilities, including their maritime EW capabilities. This reflects the widespread efforts in the region to achieve national self-reliance, the general recognition of the value of EW as a 'force multiplier', the defence modernisation programs (which necessarily include significant electronic components), and the ability of many countries in the region to produce advanced electronic systems for the desire to promote the development of indigenous electronic sectors through local design and production).

Operations *Enduring Freedom* and *Iraqi Freedom* have generated further appreciation in the region of the importance of EW capabilities.

Rapid deployment forces/special forces (SFs)

Many countries in the region have either recently established or are in the process of developing some form of rapid deployment force, typically of brigade or light divisional size, designed to be deployed to possible areas of operation (AOs) at short notice and to fight as more or less self-contained units. Some of these forces are specially equipped and trained for amphibious assault operations.

Information warfare (IW) capabilities

Although the investments have been too small to figure in defence budgets, and are generally covert anyway, many countries in the region have been acquiring information warfare (IW) capabilities — from Internet monitoring and manipulation to strategic deception, to capabilities for destroying or incapacitating the critical information infrastructure of notional adversaries (including their defence C³I systems).

China began to implement an IW plan in 1995, and since 1997 has conducted several exercises in which computer viruses have been used to interrupt military communications and public broadcasting systems. In April 1997, a 100-member elite corps was set up by the Central Military Commission to devise ‘ways of planting disabling computer viruses into American and other Western command and control defence systems’.⁵⁸ In 2000, China established a strategic IW unit (which US observers have called ‘Net Force’) designed to ‘wage combat through computer networks to manipulate enemy information systems spanning spare parts deliveries to fire control and guidance systems’.⁵⁹ In August 1999, following a spate of cross-Straits attacks against computer networks and official web sites in Taiwan, the Minister for National Defense in Taipei announced that the MND had established a Military Information Warfare Strategy Policy Committee and noted that ‘we are able to defend ourselves in an information war’.⁶⁰ In December 2000, this committee was expanded and converted into a battalion-size centre under the direct command of the General Staff HQ, with responsibilities for network surveillance, defence, and counter-measures.⁶¹ In May 2000, Japan announced plans to establish a Research Institute and an operational unit for fighting cyber-terrorism.

In East Asia, some of the leading practitioners of cyber warfare have been non-government organisations (NGOs) or other non-State actors. Individual hackers in both mainland China and Taiwan have become especially proficient.⁶²

The war on terror has added further impetus to these IW developments. In addition to forming IW units for conducting defence operations, there is likely to be more intrusive monitoring of domestic electronic communications and transactions.⁶³

The predominance of Northeast Asia and the rise of China

Northeast Asia accounts for the great bulk of the total defence expenditure and acquisitions in the region, including most of the more disturbing new capabilities. Japan, China, Taiwan, and North and South

Korea account for more than 80 per cent of East Asian and Australasian defence expenditure (US\$108.7 b., or 83 per cent in 2001).

There is enormous uncertainty about Chinese defence expenditures. The official budget was US\$17 billion in 2001, but this includes only a part of the funds spent on defence. Outside estimates vary widely, with some as high as US\$140 billion.⁶⁴ The International Institute for Strategic Studies (IISS) estimates that the actual Chinese defence expenditure was US\$47 billion in 2001⁶⁵ and (by extrapolation) US\$55.3 billion in 2002 (refer Table 5 below). On this basis, China has now clearly overtaken Japan (US\$40.4 billion in 2001) with respect to defence expenditures, making it the third largest defence spender in the world. If the recent rates of growth (17.7 per cent in 2001 and 17.6 per cent in 2002) continue, as CIA Director George J. Tenet testified to the Senate in March 2002, Chinese defence spending will double between 2000 and 2005.⁶⁶ But even before 2005, China will undoubtedly overtake Russia as the second largest defence spender in the world.

Table 4
The military balance, Northeast Asia, 2001

	Japan	China	Taiwan	North Korea	South Korea	USA
Defence Budget \$US billion	40.4	47	10.9	2.1	12.8	310.5
Total Armed Forces (Active)	239,800	2,310,000	370,000	1,082,000	683,000	1,367,700
Army (Active duty)	148,700	1,600,000	240,000	950,000	560,000	477,800
Navy						
Aircraft Carriers	-	-	-	-	-	12 (6)
Submarines	16	69	4	26	19	55 (30)
Destroyers	42	21	11	-	6	71 (38)
Frigates	12	41	21	3	9	35 (18)
LRMPA	90	4	-	-	8	260 (73)
Combat Aircraft	297	2,900	482	621	555	3,939 (657) CINCPAC

Source: The International Institute for Strategic Studies (IISS), *The Military Balance: 2001-2002*, Oxford University Press, Oxford, October 2001).

Table 5
Estimates of China's defence expenditure, 1993-2002
(US \$ billion)

	Official	IISS
1991	6.11	18.79
1992	6.76	24.3
1993	7.3	27.4
1994	6.7	28.5
1995	7.5	33.0
1996	8.4	35.4
1997	9.7	36.6
1998	11.0	37.5
1999	12.6	39.5
2000	14.5	42.0
2001	17.0	47.0
2002	20.0	55.3

Source: The International Institute for Strategic Studies (IISS), *The Military Balance*, successive editions.

The emerging naval arms race

The naval acquisitions have become especially disturbing, with undeniable signs of action-reaction dynamics. East Asia is now embroiled in a serious maritime strategic competition. Highly capable 'blue-water' navies are being developed, with modern surface combatants (destroyers and frigates), aircraft carriers (euphemistically called 'air defence ships' or 'sea control ships'), and new submarines, as well as land-based aircraft for both maritime surveillance and strike. Maritime surveillance and ELINT collection operations are being conducted with increasing intensity and intrusiveness. Hundreds of long-range anti-ship missiles (e.g., *Harpoons* and *Exocets*), which require over-the-horizon targeting capabilities, are being acquired. The proliferation of submarine- and ship-based land-attack cruise missiles is also underway.

According to an analysis by Sam Bateman, the current naval acquisition programs have overtones of arms racing which were not present in the acquisitions prior to the economic downturn in 1997-98. As he has recently written:

The 'first round' of naval expansion was argued away on the basis that it was part of an understandable non-threatening

process of modernisation. This does not appear to be the case with this 'second round' of naval expansion which appears to be much more clearly posited on assessments of threats posed by other regional countries.⁶⁷

The expansion of naval forces has been particularly rapid, and the evidence of reciprocal dynamics most apparent, in Northeast Asia. The Japanese Maritime Self-Defence Force is the most powerful Navy in the Asia-Pacific after the US Navy. Its recent acquisitions include four *Kongo*-class *Aegis* destroyers, the *Osumi* amphibious transport ship (with a large flight deck), and eight *Oyashio*-class submarines. The Chinese Navy has more than 60 major surface combatants (destroyers and frigates), 69 submarines (including one *Xia*-class SBN and five *Han*-class/Type 091 SSNs), and aspirations to acquire an aircraft carrier capability. Its recent acquisitions include two 8,000-ton *Sovremenny*-class destroyers purchased from Russia in 2000, with another two on order.⁶⁸ Two more 6,000-ton *Luhai*-class DDGs are currently completing construction.⁶⁹ Taiwan has recently acquired seven *Cheng Kung* (US *Perry*)-class frigates and six *Kang Ding* (French *La Fayette*)-class frigates, and is buying four refurbished *Kidd*-class guided missile destroyers. President Bush announced in April 2001 that the US would sell Taiwan 'up to eight' conventional submarines.⁷⁰ In March 2001, South Korea's President Kim Dae-jung said that 'our navy will have a "strategic task force" for protecting the national interests and international peace [on a] blue water scale'.⁷¹ South Korea is constructing the first of several KDX-111 *Aegis* destroyers; its ninth *Chang Bogo* submarine was delivered in 2001; and it has announced that it will build three advanced German-designed submarines by 2009 at a cost of US\$1.1 billion.⁷² Bateman has concluded that, in Northeast Asia:

Unfortunately [there is now] an element of acquiring new capabilities competitively to keep up with other navies. Certainly a strong element of technical modernisation is present but there is also a large element of competitiveness.⁷³

The situation is rather different in Southeast Asia, where the maritime capabilities have been improving significantly both quantitatively and qualitatively, but from a much lower base. Southeast Asian countries are acquiring new maritime surveillance and maritime strike capabilities, modern surface combatants (frigates and ocean patrol vessels), and, perhaps most disturbing and reaction-provoking, submarines. Singapore has procured four *Challenger*-class (refurbished Swedish *Sjoormen*-class) submarines, the first of which was delivered in 2000 and the fourth (RSS

Chieftain) in mid-2001.⁷⁴ In late 2000, Malaysia received two submarines from the Netherlands for 'training purposes'. It reportedly now plans to purchase four submarines.⁷⁵ Some Asian diplomats have characterised Malaysia's move as a response to Singapore's *Challenger* program.⁷⁶ The Royal Thai Navy has also proposed the lease of one or two second-hand submarines from Germany 'to keep up with the underwater ambitions of neighbours Malaysia and Singapore',⁷⁷ but these plans have not been accepted by the government.⁷⁸ These naval developments in Southeast Asia are not significant enough to affect the balance of power in East Asia, but they could easily prove to be destabilising within the sub-region itself.

Furthermore, there is a real risk of the maritime strategic competition in East Asia 'spilling over into the Indian Ocean'.⁷⁹

The proliferation of WMD and long-range delivery systems

The proliferation of weapons of mass destruction (WMD) and long-range missile systems is now proceeding much more rapidly and extensively in Asia than in any other part of the world (refer Tables 6-8, pp.25-28). It is both a much more complicated and a potentially more volatile process than the bipolar superpower strategic nuclear arms race of the Cold War. The proliferation process which is developing in Asia involves multi-dimensional dynamics. There are several bilateral competitors, some of which are engaged in multiple pairings. The most obvious direct nuclear competition is between India and Pakistan. A nuclear arms race between India and China, which is a real possibility, would be especially disturbing. The expansion of China's nuclear arsenal could also cause other countries in Northeast Asia to exercise their own nuclear options. Moreover, the dynamics now involve not only comparative nuclear capabilities, but interactive connections between nuclear postures and developments in other WMD areas (i.e., chemical and biological weapons) and between WMD and conventional capabilities. The situation is further complicated by the possibilities for access to WMD by non-State actors, such as terrorist organisations.

Five of the world's nine nuclear countries are in Asia — including Russia, which still maintains hundreds of nuclear weapons in the Far East, as well as China, India, Pakistan and North Korea (a member of 'the axis of evil'). The US also maintains hundreds of nuclear weapons in the Pacific, as well as hundreds of others based in the US itself but targeted on China, North Korea and the Russian Far East.

China is the largest nuclear power in Asia, with a stockpile of about 500 nuclear weapons (including more than 250 strategic and some 150 tactical

weapons), and an active development program. China has now overtaken France as the world's third largest nuclear power. Nuclear proliferation has become overt in South Asia, with India possessing some 120-125 weapons and Pakistan a couple of dozen.⁸⁰ North Korea may have produced 1-5 nuclear weapons in the early 1990s.⁸¹

Many countries in the Asia-Pacific region possess chemical and/or biological warfare capabilities. More than half of the countries thought to maintain chemical weapons (CW), for example, are in this region (ie., China, Taiwan, North Korea, South Korea, Vietnam, Laos, the Philippines, Indonesia, Thailand, Burma, India and Pakistan).⁸² At least four countries in the region also maintain biological weapons (BW) capabilities (ie., China, Taiwan, North Korea and Vietnam).

Chemical and biological weapons (CBW) are particularly attractive to terrorist groups. They are frightening weapons, but relatively inexpensive and easy to develop. The Aum Supreme Truth cult, which was responsible for the *sarin* nerve gas attack in the Tokyo subway in March 1995, acquired an array of CBW capabilities. In 1993, Aum had produced anthrax spores for an earlier (aborted) attack in Tokyo.⁸³

There is also considerable proliferation of ballistic missile technology in the region, or at least in the Northeast and South Asia sub-regions. China has produced a full suite of intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), intermediate-range ballistic missiles (IRBMs), medium-range ballistic missiles (MRBMs), and short-range, tactical ballistic missiles.⁸⁴ Two new road-mobile ICBMs are being developed — the *Dong Feng-31* (DF-31), which is likely to enter service around 2003-04, and which 'will be targeted primarily against Russia and Asia';⁸⁵ and a longer range solid-propellant ICBM, which will primarily be targeted against the US (and which replaces the aborted DF-41 program). China has also exported some short-range ballistic missiles elsewhere in the region (e.g., M-11 missiles, with a range of some 300 km, to Pakistan). North Korea has some 30 *Scud* B/C and perhaps 15 *Nodong* missiles. South Korea has some 12 NHK (250 km) ballistic missiles. Taiwan is developing the 950 km-range *Tien Ma* ballistic missile. India has a comprehensive development program which includes the short-range (150-250 km) *Prithvi*, the *Agni* IRBM, and several possible ICBM launchers. Pakistan has flight-tested the short-range *Shaheen I* and the medium-range *Ghauri* (1,300 km) ballistic missiles.

Table 6
Nuclear weapons inventories, 2001

Country	No. of Weapons	Comments
1. USA	8,876	First detonation in 1945. Inventory includes 7,206 strategic nuclear warheads (reducing to 3,500 in 2003) and 1,670 non-strategic weapons. US stockpile peaked at 32,500 in 1967.
2. Russia	5,826	First detonation in 1949. Number to reduce to 3,500 in 2003. Stockpile reached 45,000 in 1986.
3. China	490	First detonation in 1964. Inventory includes about 160 IRBM and ICBM warheads, some 50 short-range ballistic missile warheads, 12 SLBM warheads, 150 air-deliverable warheads, and some 120 tactical weapons.
4. France	470	Inventory includes 384 SLBM warheads and some 80 air-deliverable weapons.
5. Israel	200	Production began in 1968. More than 25 bombs in September 1973 (Yom Kippur War).
6. UK	185	160 SLBM warheads (and approx. 25 spares). Had 350 warheads in 1975-81.
7. India	125	First detonation in May 1974. More than two dozen weapons in 1990. Five detonations in May 1998.
8. Pakistan	30	Produced first bomb in 1984. Had about 8 (unassembled) weapons in 1990. First tests in May 1998.
9. North Korea	1 or 2	1-5 weapons produced in 1993-94.

Table 7
CBW proliferation in the Asia-Pacific region

Chemical weapons	Biological weapons
1. China	1. China
2. India	2. North Korea
3. Indonesia	3. Russia
4. Laos	4. Taiwan
5. Burma	5. Vietnam
6. North Korea	
7. Pakistan	
8. Philippines	
9. Russia	
10. South Korea	
11. Taiwan	
12. Thailand	
13. Vietnam	
14. USA	

Source: Robert Shuey, *Nuclear, Biological, and Chemical Weapons and Missiles: The Current Situation and Trends*, Congressional Research Service, Library of Congress, Washington D.C., 10 August 1001, p.8.

Table 8
Ballistic missile proliferation in Asia

Country/System	Type	Maximum range (km)	Status
China			
CSS-2 (DF-3/3A)	IRBM	2,800	In service
CSS-3 (DF-4)	IRBM		In service
CSS-4 (DF-5/5A)	ICBM		In service
CSS-5 (DF-21)	MRBM		In service
CSS-8 (M-7)	SRBM	160	In service
CSS-N-3 (JL-1)	SLBM		In service
DF-11 (CSS-7/M-11)	SRBM	300	In service
DF-15 (CSS-6/M-9)	SRBM	600	In service
DF-25	MRBM	1,700	Development
DF-31	ICBM	8,000	Tested
DF-41	ICBM	12,000	Development
JL-2	SLBM	8,000	Development

Country/System	Type	Maximum range (km)	Status
India			
Prithvi 1 (SS-150)	SRBM	150	In service
Prithvi 2 (SS-250)	SRBM	250	In service
Prithvi 3 (SS-350)	SRBM	350	Development
Sagrika	SLBM	300	Development
Agni 1	MRBM	1,500	Tested
Agni 2	IRBM	2,500	Production
Agni 3	IRBM	3-5,500	Development
Surya	IRBM	5,500	Development
ASLV	SLV	4,500	In service
GSLV	SLV	14,000	Development
PSLV	SLV	8,000	Development
Japan			
M-3	SLV	4,000	Capability
H-1	SLV	12,000	Capability
H-2	SLV	15,000	Capability
North Korea			
Scud Mod B	SRBM	320	In service
Scud C	SRBM	550	In service
Nodong 1	MRBM	1,000	In service
Nodong 2	MRBM	1,500	Development
Taepodong 1	MRBM	2,000	Tested
Taepodong 2	IRBM	4-6,000	Development
South Korea			
NHK-1	SRBM	250	In service
KSR-1	SRBM	150	Development
NHK-A (Hyon Mu)	SRBM	180	Development
Pakistan			
Hatf 1	BSRBM	100	In service
Hatf 2	SRBM	300	In service
Hatf 3	SRBM	600	Development
M-11 (CSS-7)	SRBM	300	In service
Shaheen 1	MRBM	750	Development
Ghauri (Hatf 5)	MRBM	1,000+	Tested
Taiwan			
Green Bee (Ching Feng)	BSRBM	130	In service
Sky Horse (Tien Ma)	MRBM	950	Development
Vietnam			
SS-1 Scud B (R-17)	SRBM	300	In service

Abbreviations

BSRBM	Battlefield Short-Range Ballistic Missile
SLV	Space launch vehicle
SRBM	Short-Range Ballistic Missile
MRBM	Medium-Range Ballistic Missile
IRBM	Intermediate-Range Ballistic Missile
SLBM	Submarine-Launched Ballistic Missile
ICBM	Intercontinental Ballistic Missile

Source: Centre for Defence and International Security Studies (CDISS), 'Ballistic Missile Capabilities by Country', at <http://www.cdiss.org/btablea.htm>; and Arms Control Association, 'Missile Proliferation in South Asia: India and Pakistan's Ballistic Missile Inventories,' March 2002, at <http://www.armscontrol.org/factsheets/agni.asp>

Cruise missile proliferation

There is a serious danger of cruise missile proliferation in this region. Cruise missiles are technically easier to produce and cheaper to acquire than ballistic missiles. Enabling technologies such as anti-ship cruise missiles (e.g., *Exocets* and *Harpoons*), unmanned aerial vehicles (UAVs), GPS satellite navigation systems and small turbojet engines are now widely available. However, the development and deployment of cruise missiles are also more difficult to monitor.⁸⁶

Several countries in East Asia have either begun to indigenously design and develop long-range, land-attack cruise missiles (e.g., China), or to seriously consider the acquisition of such missiles (e.g., Australia). China's *Hong Niao* family of cruise missiles is armed with both nuclear and conventional warheads, with ranges up to 1,500-2,000 km (in the case of the HN-2, which entered service in 1996) and 4,000 km (in the case of the HN-2000, a supersonic version which is currently in development).⁸⁷ The US Navy, of course, maintains about 4,000 *Tomahawk* land-attack cruise missiles, which it has used against six countries since 1991. In August 2000, the US Air Force confirmed that it had moved 'an unspecified number' of conventional air-launched cruise missiles to Guam, which USAF officials said 'will allow the USA to respond more quickly to crises, particularly in the Asia-Pacific region'.⁸⁸

In South Asia, India is in the process of developing and producing a variety of cruise missiles, with cooperation from Russian defence industries. These include the Kh-35 *Uran* anti-ship cruise missile, the 3M-54E *Klub* anti-ship missile, and the PJ-10 supersonic medium-range cruise missile (which was first successfully tested on 12 June 2001). Both the *Klub* and the

PJ-10 could be redesigned to serve as long-range (3,000 km) land-attack cruise missiles, and can potentially carry nuclear as well as conventional warheads.⁸⁹

The prospects

September 11 and the war on terror have provided opportunities for collective action to refashion the security architecture in the Asia-Pacific region — for further coalition-building at the strategic level, for exploiting the groundswell of abhorrence regarding international terrorism at the public level, and for promoting regional security cooperation more generally.

Since September 11, there has been a refocussing of the attentions of regional leaders on security issues, numerous forums have been organised to discuss these matters, and measures have been implemented at both bilateral and multilateral levels to increase intelligence exchanges and cooperation between law enforcement agencies. As Admiral Dennis C. Blair, commander-in-chief of the US Pacific Command (CINCPAC), said in Jakarta on 27 November 2001: 'The exchange of intelligence among countries in the region is unprecedented'.⁹⁰ In February 2002, Australia and Indonesia agreed to increase intelligence cooperation and exchanges between Australian agencies and Indonesia's National Intelligence Agency, following the rupture of the intelligence relationship in 1999.⁹¹ The Bali bombing on 12 October 2002 prompted much more extensive cooperation, involving both counter-terrorism and law enforcement agencies. In May 2002, Malaysia, the Philippines and Indonesia signed a wide-ranging agreement to increase the sharing of information between their law enforcement agencies to 'boost the fight against terrorism and cross-border crime' (including money-laundering, drug trafficking, hijacking, illegal trafficking of women and children, and piracy).⁹² In March 2003, Australia and the Philippines signed an agreement to expand exchanges of information and intelligence about terrorist activities, to enhance cooperation on defence science and technology, and to increase joint training exercises, with a special emphasis on counter-terrorism.⁹³ Malaysia is setting up a Southeast Asia Centre for Counter-Terrorism, which will be open to all 10 ASEAN countries, and which will provide counter-terrorism training and a locus for the transfer of relevant technology and expertise as well as the exchange of information about developments relating to terrorism.⁹⁴

It is critically important that these opportunities be exploited to the full — not only to address the security issues generated by September 11 itself but also the erstwhile and more fundamental dynamics (such as the geostrategic developments in Northeast Asia, the proliferation of WMD and

the emergence of a regional arms race). These remain profoundly disturbing — but September 11 has distracted attention from them as well as exacerbated (rather than alleviated) them. To ignore them will simply compound the surprise and unpreparedness when crises inevitably strike.

September 11 and the war on terror have not replaced the fundamental security issues of the past decade but have complemented and exacerbated them — and in the process evinced the increasing complexity and interconnectedness of the regional security dynamics, of which the incipient arms race in the region is characteristic. It is much more complex than the bipolar Cold War situation — the distinctive categories, milestones and firebreaks which were carefully constructed during the Cold War to constrain escalatory processes and promote crisis stability. This is even more worrisome than the action-reaction dynamics which have become apparent with respect to naval acquisitions in Northeast Asia. Now, there are also interactions between conventional weapons acquisition programs on the one hand and developments with WMD and long-range delivery systems on the other hand. South Korea and Japan have responded to the development of ballistic missiles by China and North Korea by greatly enhancing their airborne intelligence collection and early warning capabilities and their land- and sea-based theatre missile defence (TMD) capabilities. US nuclear strategy is moving to permit virtually commutual employment of nuclear forces, precision conventional capabilities and information operations (IO), and to permit the use of nuclear weapons in otherwise non-nuclear situations.

In this environment, with many parties and many levels and directions of interactions, the possibilities for calamity are high. The complexity and interconnectedness of the regional security dynamics mean that security issues can only be realistically addressed in the most thoroughly systematic and comprehensive, as well as objective, ways. September 11 and the war on terror have made this even more difficult.

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Please find enclosed (*Australian dollars*): cheque / money order / bank draft

Credit Card no.: _____

Name on Credit Card: _____

Credit Card Type: _____ Expiry date: _____