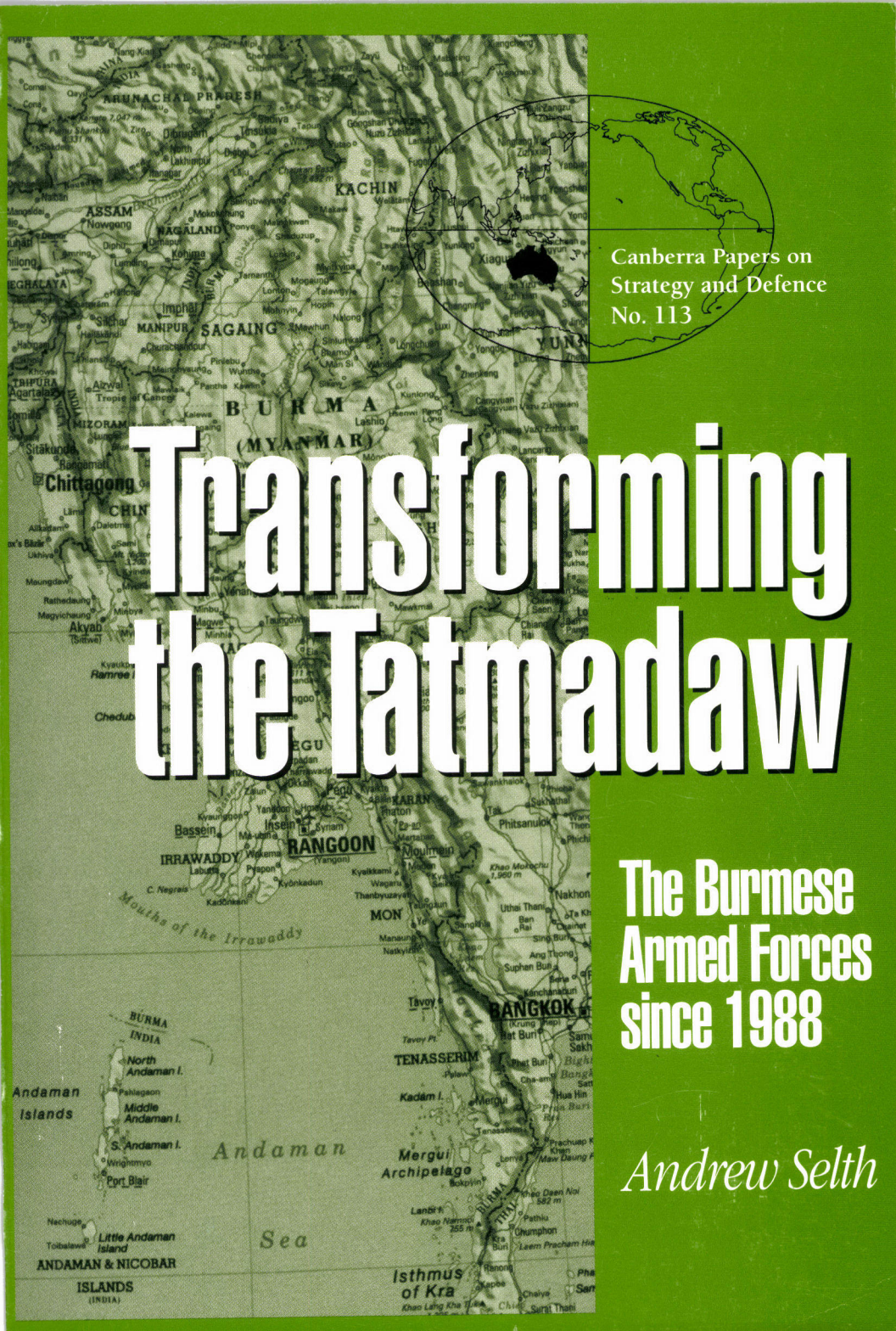




Canberra Papers on
Strategy and Defence
No. 113

Transforming the Tatmadaw

The Burmese
Armed Forces
since 1988

Andrew Selth

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STRATEGY AND DEFENCE NO. 113**

**TRANSFORMING THE TATMADAW:
THE BURMESE ARMED FORCES
SINCE 1988**

Andrew Selth

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ABSTRACT

Before 1988, the Burmese armed forces, or Tatmadaw, suffered from many problems. Its major weapons and weapons platforms were obsolete, its logistics and communications systems were weak and operations were constantly hampered by a lack of essential supplies. While it could quell domestic political unrest and conduct limited counter-insurgency campaigns, it lacked the resources to perform most conventional defence roles. After taking over government in 1988, the State Law and Order Restoration Council launched an ambitious programme to expand and modernise the armed forces. Since then, the Tatmadaw has almost doubled in size and acquired a wide range of new arms and equipment, mostly from China. This rapid expansion has placed the armed forces under considerable strain, however, and it will be some time before Burma's expanded order of battle is matched by a commensurate increase in its military capabilities. In addition, the Tatmadaw's continuing political role and lack of popular support raises serious questions about its professionalism and future cohesion.

Andrew Selth holds degrees in History and International Relations from the Australian National University (ANU), and a Graduate Diploma in Strategic Studies from the Australian Joint Services Staff College. Between 1973 and 1986 he was a member of the Australian Department of Foreign Affairs, and served as a diplomatic officer in Rangoon, Seoul and Wellington. In 1986 he transferred to the Department of Defence and until 1994 was a senior strategic analyst with the Defence Intelligence Organisation. In 1995 he was granted a Defence Visiting Fellowship at the ANU's Strategic and Defence Studies Centre. In a private academic capacity, Andrew Selth has published widely on strategic issues and Asian affairs.

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Unless otherwise stated, publications of the Centre are presented without endorsement as contributions to the public record and debate. Authors are responsible for their own analysis and conclusions.

How superior
The tactics of war,
How potent
The weapons!
Without gathering in
The hearts of the people,
Without relying on
The strength of the people,
The sword edge
Will shatter,
The spear
Will bend.

Let-We Thondara
(c. 1723-1799)

Quoted by Aung San Suu Kyi,
1991 Nobel Peace Prize winner, in
Freedom from Fear and other writings
(Penguin, London, 1995).

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I am indebted to all those, both in Australia and overseas, who have contributed in any way to this study. They are far too numerous to name here, and for various reasons many would prefer not to be cited in person. There are some, however, who I can mention and to whom special consideration is due. David Steinberg, Bertil Lintner, Martin Smith and Mary Callahan all shared their knowledge of Burma with characteristic generosity. I should also like to thank Major General John Hartley for his support for this project; *Sayagyi* Garry Woodard, for his continuing advice on all matters pertaining to Burma; and Kim Jackson, for his encouragement and sound common sense. As always, my greatest debt is to Pattie Collins, without whom this study could not have been written.

Edited extracts from this monograph have already appeared as articles in journals, or been published as Working Papers. I acknowledge with thanks permission from the following to use them again here; *Contemporary Southeast Asia*, the *Asia-Pacific Defence Reporter*, *Jane's Intelligence Review*, and the ANU's Strategic and Defence Studies Centre.

For the record, this paper is based entirely on open sources and has no official status or endorsement. The views expressed in it are mine alone.

Andrew Selth
Canberra
December 1995

AUTHOR'S NOTE

After the creation of the State Law and Order Restoration Council (SLORC) in September 1988, Burma's name was officially changed from its post-1974 form, the 'Socialist Republic of the Union of Burma', back to the 'Union of Burma', which had been adopted when Burma gained its independence from the United Kingdom in 1948. In July 1989 the military regime changed the country's name once again, this time to 'Pyidaungsu Myanmar Naingngan-daw', or the 'Union of Myanmar'. At the same time, many place names were changed to conform to their original Burmese pronunciation. These new names were subsequently accepted by the United Nations and most other major international organisations. Some governments and opposition groups, however, have clung to the old forms as a protest against the SLORC's human rights abuses and its refusal to hand over power to a democratically elected civilian government.

In this study the better known names, for example Burma instead of Myanmar, Rangoon instead of Yangon, and Irrawaddy instead of Ayeyarwady, have been retained for ease of recognition. Where there are different names, or different spellings of Anglicised names, in common use before 1988, the alternatives are given in brackets, for example Akyab (Sittwe) and Nyaung Chidauk (Nyaung chi-dauk).

Some confusion has also arisen over the description of various ethnic groups in Burma. In this monograph the name 'Burmese' is used to describe the entire population of the country, while 'Burman' is used when referring to the dominant ethnic group. The language of the Burman majority, and since 1948 the official language of the country, is also called 'Burmese'. Other ethnic groups, such as the Chin, Naga, Kachin, Shan, Kayah (Karen), Karen and Mon, are called by their own names when specifically referred to as minority peoples. Given that there are estimated to be more than 170 different 'tribes' in Burma, and over 240 spoken languages and dialects, such terms are necessarily used in their broadest context.

Such are the passions which have been aroused by events in Burma since 1988, that a number of other terms have also become controversial. Many opposition groups, for example, refuse to use the

formal name Tatmadaw to describe the armed forces, on the grounds that these forces have betrayed the principles for which they once stood and the people whom they are sworn to protect. Rather, opposition groups tend to use the more descriptive term *sit-tat* (or 'army'), without the honorific suffix *daw*. I have retained the title Tatmadaw, however, as this was the name originally given to the armed forces by its founder, and Burma's revered independence leader, General Aung San. It is also the formal title by which the Burmese armed forces are still known.

Similarly, the term 'rebel' is rejected by most armed opposition groups in Burma as perjorative and misleading, implying as it does that their struggles against the military regime in Rangoon are in some way unlawful. In this monograph I have followed Martin Smith's lead in referring to these groups as insurgents. This more neutral term still accurately conveys the clear intention of these groups to overthrow the central government or seize power using armed force.

As already noted in the Acknowledgements, during the preparation of this monograph I spoke to many people about developments in Burma. Many of those with whom interviews were conducted did not wish to be cited by name. Others did not make such a stipulation but for professional or other reasons would clearly prefer not to be quoted directly. Accordingly, where information has been obtained through such interviews, a footnote simply identifies the place and date of the conversation. Where the text reflects a personal observation by the author (most often in Burma), this is acknowledged in a similar fashion. Material drawn from the DMS/Forecast International electronic database on Burma is noted as 'DMS/FI File 589, June 1995'.

ACRONYMS AND ABBREVIATIONS

AAM	air-to-air missile
AAP	Australian Associated Press
ABC	Australian Broadcasting Corporation
	atomic, bacteriological and chemical
ABSDF	All Burma Students' Democratic Front
ACDA	Arms Control and Disarmament Agency
AFP	Agence France Presse
AIR	All India Radio
APC	armoured personnel carrier
ASEAN	Association of South East Asian Nations
BA	Burma Army
BAF	Burma Air Force
BBC	British Broadcasting Corporation
BDA	Burma Defence Army
BIA	Burma Independence Army
BN	Burma Navy
BNA	Burma National Army
BSO	Bureau of Special Operations
BSPP	Burma Socialist Programme Party
BW	biological weapons/warfare
C ³ I	command, control, communications and intelligence
CD	Conference on Disarmament
CGE	central government expenditures
COL	Colonel
CPB	Communist Party of Burma
CSI	Christian Solidarity International
CW	chemical weapons
CWC	Chemical Weapons Convention
DAB	Democratic Alliance of Burma
DDSI	Directorate of Defence Services Intelligence
DNI	Director of Naval Intelligence
DSA	Defence Services Academy
EC	European Community
ESM	electronic warfare support measures
EW	electronic warfare
FAS	Federation of American Scientists
FEER	Far Eastern Economic Review

FFAR	forward firing aircraft rocket
GEN	General
GNP	gross national product
HEAT	high-explosive anti-tank (projectile)
HQ	Headquarters
IFF	identification friend or foe
IFV	infantry fighting vehicle
IMET	International Military Education and Training (programme)
INCP	International Narcotics Control Program
IISS	International Institute for Strategic Studies
KIA	Kachin Independence Army
KIO	Kachin Independence Organisation
KMT	Kuomintang
KNLA	Karen National Liberation Army
KNU	Karen National Union
LATV	light all-terrain vehicle
LCM	landing craft, mechanised
LCU	landing craft, utility
LDC	Least Developed Country
LID	Light Infantry Division
LTGEN	Lieutenant General
MAJGEN	Major General
MAP	Military Assistance Program
MDAP	Mutual Defense Assistance Plan
MRL	multiple rocket launcher
NAM	Non-Aligned Movement
NCGUB	National Coalition Government of the Union of Burma
NCO	non-commissioned officer
NLD	National League for Democracy
ONUC	United Nations Operation in the Congo
OTS	Officer Training School
PBF	Patriotic Burmese Forces
PLA	People's Liberation Army
PPF	People's Police Force
PPFC	People's Pearl and Fisheries Corporation
PRC	People's Republic of China
RAF	Royal Air Force
RPG	rocket propelled grenade (launcher)

SAF	Singapore Armed Forces
SAM	surface-to-air missile
SBS	Special Broadcasting Service
SENGEN	Senior General
SIGINT	signals intelligence
SIPRI	Stockholm International Peace Research Institute
SLORC	State Law and Order Restoration Council
SNIE	Special National Intelligence Estimate
SSM	surface-to-surface missile
STOL	short take-off and landing
TOC	Tactical Operations Command
UBS	Union of Burma Ship
UK	United Kingdom
UN	United Nations
UNCHR	United Nations Commission on Human Rights
UNDP	United Nations Development Programme
UNSC	United Nations Security Council
US	United States (of America)
USN	US Navy
USSR	Union of Soviet Socialist Republics
UWSA	United Wa State Army
VADM	Vice Admiral
VIP	very important person
VOA	Voice of America
WP	white phosphorous

CHAPTER 1

INTRODUCTION

Since Burma was granted its independence from the United Kingdom (UK) on 4 January 1948, its armed forces (or the Bama Tatmadaw) have claimed a large place in the country's modern history. The central government in Rangoon has been continuously at war with numerous insurgent groups and private armies. It has also faced an invasion by elements of the defeated Nationalist Chinese government, and in the late 1950s almost came to blows with the communist regime which replaced it. As a result, the Burmese armed forces have been on active service for nearly 50 years. Not only has the Tatmadaw fulfilled this purely military function but it has also exercised a major influence on the political, economic and social development of the country. This influence has been most evident since General Ne Win's *coup d'état* in March 1962, when the armed forces overthrew the democratically elected government of Prime Minister U Nu and imposed their will on almost every aspect of Burmese life.¹ The creation of the State Law and Order Restoration Council (SLORC) in September 1988, and its open reassertion of military power over the civilian population, has ensured that the Tatmadaw will continue to be a central element in Burma's development for the foreseeable future.

Since the dramatic events of 1988, when widespread pro-democracy demonstrations were crushed by the armed forces, there has been a resurgence of interest in Burma among scholars, journalists and strategic analysts. Several new and important studies have appeared.² Researchers have uncovered or revived hitherto forgotten aspects of Burma's history.³ Yet, despite this greater level of public

¹ This is not to forget the military caretaker government which held power, purportedly at the 'invitation' of the Burmese Parliament, from November 1958 until February 1960.

² See, for example, Martin Smith, *Burma: Insurgency and the Politics of Ethnicity* (Zed Books, London, 1991); Mya Maung, *Totalitarianism in Burma: Prospects for Economic Development* (Paragon House, New York, 1992); and Bertil Lintner, *Burma in Revolt: Opium and Insurgency since 1948* (Westview, Boulder, 1994).

³ See, for example, Josef Silverstein (ed.), *The Political Legacy of Aung San*, Southeast Asia Program Series No.11 (Cornell University, Ithaca, rev. edn 1993). This

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interest, and the Tatmadaw's central role in modern Burmese history, it is still difficult to find any scholarly works devoted to the armed forces. A number of books cover the formation of nationalist military units which appeared during the Second World War and in the period leading up to independence.⁴ There have also been some notable contributions to Burmese studies in broader works, covering such subjects as the involvement of armed forces in the politics of Southeast Asia, and the economic development of new states.⁵ A comprehensive history of the Tatmadaw is currently being written by a Cornell University researcher. This study (which has benefited from access to the Tatmadaw's own archives) will stop at 1962, however, and is unlikely to be published for a few more years.⁶ Nowhere is there a comprehensive and definitive study written in English about the development of Burma's armed forces since 1948.

This dearth of published material even extends to Burmese sources. From 1955 some efforts were made to compile an official history of the Tatmadaw, but the only concrete results were some newspaper articles and Ba Than's short book entitled *The Roots of the Revolution*.⁷ Since 1988 this problem has been recognised by the ruling SLORC. A *Concise History of Myanmar and the Tatmadaw's Role* (in English) was commissioned by the military regime in 1989, and a more

volume contains material discovered since 1988, and not included in the 1972 edition. See also Kin Oung, *Who Killed Aung San?* (White Lotus, Bangkok, 1993).

4 See, for example, J.C. Lebra, *Japanese-Trained Armies in Southeast Asia: Independence and Volunteer Forces in World War II* (Heinemann, Hong Kong, 1977); and Maung Maung, *Burmese Nationalist Movements 1940-1948* (Kiscadale, Edinburgh, 1989).

5 Included in this category are L.W. Pye, 'The Army in Burmese Politics' in J.J. Johnson (ed.), *The Role of the Military in Underdeveloped Countries* (Princeton University Press, Princeton, 1962), pp.231-51; R.H. Taylor, 'Burma' in Zakaria Haji Ahmad and Harold Crouch (eds), *Military-Civilian Relations in South-East Asia* (Oxford University Press, Singapore, 1985), pp.13-49; and J.A. Wiant and D.I. Steinberg, 'Burma: The Military and National Development' in J.S. Djiwandono and Yong Mun Cheong (eds), *Soldiers and Stability in Southeast Asia* (Institute of Southeast Asian Studies, Singapore, 1988), pp.293-321.

6 See M.P. Callahan, *The Origins of Military Rule in Postwar Burma*, PhD thesis, Cornell University, Ithaca, 1996. Also of interest is Chao Tzang Yawnghwe, Ne Win's *Tatmadaw Dictatorship*, MA thesis, University of British Columbia, Vancouver, 1990; and Jon Wiant, *Lanzin: Ideology and Organisation in Revolutionary Burma*, PhD thesis, Cornell University, Ithaca, 1982.

7 Ba Than, *The Roots of the Revolution: A brief history of the Defence Services of the Union of Burma and the Ideals for which they stand* (Guardian, Rangoon, 1962). This book followed publication by Ba Than of a lengthy article on the same subject in Rangoon's *Guardian* newspaper. It was no coincidence that both publications appeared shortly after Ne Win's coup.

detailed, multi-volume, official history of the Tatmadaw is currently in production.⁸ A related publication appeared in March 1995 to coincide with the celebration of the Tatmadaw's golden jubilee.⁹ Given the totalitarian nature of Burma's government since the 1962 military coup, however, and the SLORC's obvious anxiety to recover popular support for the armed forces after the 1988 massacres, such sources cannot be relied upon for any objective description or analysis. All too often in these works, the division between history and propaganda is blurred beyond recognition. To a greater or lesser degree, the same can be said of the memoirs written by Burmese servicemen which have appeared during the same period.¹⁰

With few exceptions, none of these works (either in English or Burmese) offers any serious treatment of purely military matters such as the size and composition of the three services, their arms and equipment inventories or their combat capabilities.¹¹ Nor are such details provided anywhere by the government in Rangoon. Citing 'national security', the military regime has consistently refused to reveal any detailed or accurate information about Burma's annual

⁸ A Tatmadaw Researcher, *A Concise History of Myanmar and the Tatmadaw's Role, 1948-1988* (Ministry of Education, Rangoon, 1989). Although a second volume of this book was planned, it appears to have been overtaken by the publication of the official *History of the Tatmadaw*. Three volumes of the latter have already appeared: Vol.1, 1824-1945 (News and Periodicals Corporation, Rangoon, 1994); Vol.2, 1945: *The Anti-Fascist Movement* (News and Periodicals Corporation, Rangoon, 1994); and Vol.3, 1945-1948 (News and Periodicals Corporation, Rangoon, 1995). Other volumes are currently in preparation. All will be written in Burmese, but some consideration may be given to the eventual publication of an English-language version.

⁹ *Golden Jubilee of the Tatmadaw* (News and Periodicals Corporation, Rangoon, 1995) (in Burmese). The celebration of the Tatmadaw's golden jubilee on Armed Forces Day 1995 suggests that the SLORC sees the birth of the armed forces as occurring on 27 March 1945, when the Burma National Army turned against its Japanese patrons. Others, however, begin counting from Burma's independence in 1948. Some even trace the beginnings of the *Tatmadaw* to the formation of the Japanese-sponsored Burma Independence Army in December 1941.

¹⁰ See, for example, Dr Maung Maung, *To a Soldier Son* (Sarpay Beikman, Rangoon, 1974).

¹¹ One exception to this rule is the study of Burma produced periodically by the American University for the United States Department of the Army, as part of its Foreign Area Studies series. The most recent edition, however, is now more than ten years out of date. See F.M. Bunge (ed.), *Burma: a country study* (American University, Washington, 1983). See also Tin Maung Maung Than, 'Burma's National Security and Defence Posture', *Contemporary Southeast Asia*, Vol.11, No.1, June 1989, pp.40-60; and Michael Fredholm, *Burma: Ethnicity and Insurgency* (Praeger, Westport, 1993).

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defence expenditure or arms purchases. The Tatmadaw's order of battle and its combat capabilities have also been considered too sensitive for public disclosure. There has never been a Burmese White Paper on Defence, for example, nor does the SLORC provide annual returns to the United Nations Register of Conventional Arms. There are sometimes reports of arms sales and other military developments in regional newspapers, defence journals and current affairs magazines, but these vary considerably in reliability. A Burmese order of battle can be found in *The Military Balance*, published each year by the International Institute for Strategic Studies (IISS) in London.¹² This is the most useful and accessible public guide but, as the IISS itself acknowledges, the details provided are often contradicted by other sources and cannot be considered definitive.

A closer examination of all these issues, however, would serve a number of purposes. It could contribute towards a deeper and more comprehensive understanding of the Tatmadaw and its profound influence on modern Burmese history. A study of the SLORC's plans for the expansion and modernisation of the armed forces would add a useful perspective to accounts of political events in Burma since 1988, and the consideration of likely future developments in that troubled country. It could dispel some of the confusion surrounding certain aspects of Burma's arms procurement programme, and throw greater light on claims about the involvement of other countries in Burma's defence activities. Such a study could also inform discussions of arms acquisition programmes elsewhere in Southeast Asia, and complement analyses of broad strategic trends in the wider Asia-Pacific region, of which Burma is gradually becoming a more active and influential member.

This monograph represents an initial attempt to fill some of these gaps in the literature. Chapter two provides a broad overview of developments in the armed forces and Burma's arms industries since 1948. Concentrating primarily on developments after the creation of the SLORC, the monograph then describes in more detail the organisation, force structure, arms acquisitions and combat capabilities of the Tatmadaw's three individual services, and notes some of the problems they might face in the near future. Chapter six

12 The most recent edition is *The Military Balance 1995/96* (Oxford University Press for the International Institute for Strategic Studies, London, 1995).

considers persistent reports that Burma's military arsenal may include chemical and even biological weapons. Next, the monograph canvasses the possible reasons why the SLORC has put such an effort into expanding and modernising the Tatmadaw since the armed forces took back direct control of the country. Finally, chapter eight considers some of these issues from a different perspective and looks ahead to the Tatmadaw's future cohesion and political role. In the appendixes, attempts have been made to compile an up-to-date order of battle for the Burmese armed forces, list the SLORC's arms acquisitions and identify its possible foreign sources of training since 1988. Other appendixes list the current membership of the State Law and Order Restoration Council, describe the organisation of the War Office and examine the vexed question of Burma's annual defence expenditure.

In an effort to provide a comprehensive and accurate coverage of the subject, this monograph has drawn on a wide range of open sources, most of which are listed in the bibliography. It has also benefited from a lengthy field trip to Southeast Asia in April and May 1995, including a period spent in Burma itself. Further research was conducted during a visit to Thailand in June, and to the United States in October. Unfortunately, given the many difficulties noted above, it has still not been possible to provide an authoritative account of the Tatmadaw's development since 1988 or to be confident about some of the information provided in the appendixes. It is to be hoped that it will not be too long before the circumstances in Burma permit such a study to be written.

CHAPTER 2

BURMA AND THE TATMADAW

As soon as the Burmese armed forces formally resumed direct political control of the country in September 1988, they took steps to increase their military strength.¹ The SLORC immediately arranged for the importation of a range of small arms, support weapons and ammunition to replenish the Tatmadaw's depleted stocks and help guard against further challenges to military rule. Even before these arms had arrived, however, the regime had initiated an ambitious programme to expand the armed forces and significantly upgrade their operational capabilities. Steps were also taken to increase the scope and output of Burma's indigenous arms industries. As a result of all these measures, the Tatmadaw is now larger and better equipped than at any time in its 50-year history. It has not only strengthened its ability to quell domestic political dissent and carry out counter-insurgency operations, but it now has the potential to perform a much wider range of conventional defence roles. After being dismissed for decades as a minor factor in Southeast Asia's evolving security environment, Burma's armed forces are starting to attract increased attention from its regional neighbours and even countries further afield.

The Tatmadaw before 1988

Before the creation of the SLORC, the Tatmadaw had in some respects changed little from the armed forces which were formally created in 1948. The army was by far the largest and strongest service. Apart from its self-appointed political role, it was essentially a lightly equipped infantry force organised and deployed for the conduct of

¹ Some foreign observers have described the formation of the SLORC in September 1988 as a 'coup', or at least an assumption of power by the armed forces. This is incorrect. Despite the creation of numerous 'civilian' political structures after the 1962 military coup, former General Ne Win and the armed forces have always been the real arbiters of power in Burma since then. All that happened in 1988 was that the retired military officers in public office stepped aside, and permitted serving members of the armed forces hierarchy to assume direct control (albeit under Ne Win's continuing guidance).

counter-insurgency operations. While its combat reputation may have been greater than it deserved, its 40 years of continuous campaigning against ethnic, ideological and 'economic' insurgents in Burma's lowland deltas and rugged mountains had made it into an experienced and battle-hardened force.² It was respected - even at times feared - by the armed forces of its immediate neighbours.³ The army's heavier equipment, however, was obsolete, its logistics and communications systems were very weak and operations were constantly hampered by shortages of transport, fuel and ammunition. The navy and air force were both small services, largely relegated to roles in support of the army. The navy was only capable of coastal and river patrols, and the air force was structured almost exclusively for transport and ground attack. Both suffered from obsolescent weapons platforms, poor communications equipment, a lack of spare parts and a shortage of skilled manpower.

From its inception, the Tatmadaw's dual mission was to protect the country from external threats and help maintain internal security. After independence, however, Burma faced few real external enemies. Its self-imposed isolation and strictly neutral foreign policy saved it from entanglement in most international political struggles of the period.⁴ During the 1950s and 1960s, there were periods of heightened tension with China over such issues as their disputed border, Chinese support for Burmese communists, and the activities of Kuomintang (KMT) forces which had settled in Burma after Mao Tse-tung's victory. While there was a time when Burma feared a full-scale war with China, open conflict was avoided.⁵ There was a serious

² While the term 'economic insurgents' is sometimes applied by the military regime to blackmarketeers and smugglers, it usually refers to narcotics traffickers like Khun Sa and their private armies.

³ For example, despite the better quality and greater abundance of their own equipment, Royal Thai Army officers acknowledge that the Burmese are 'good fighters', particularly when they 'go hunting'. In tactical radio traffic the Thais refer to Burmese soldiers as 'the ghosts'. Interviews, Bangkok, April 1995 and Chiang Rai, June 1995. See also 'A new wolf in South-East Asia', *Economist*, 21 March 1992, p.23.

⁴ See, for example, Isabelle Crocker, *Burma's Foreign Policy and the Korean War: A Case Study* (Rand Corporation, Santa Monica, 1958), pp.52 ff.

⁵ A useful summary of this period can be found in Ralph Pettman, *China in Burma's Foreign Policy*, Contemporary China Papers No.7 (Australian National University Press, Canberra, 1973). See also Report on Visit to Burma, June-August 1957 by Colonel F.P. Serong, File: Burma, 1957-59, Australian Archives A4311/1, Box 579/10; and Lintner, *Burma in Revolt*, pp.92 ff.

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breach between Burma and the United States (US) over the provision of clandestine American support to the KMT remnants, but the US was only incidentally involved in Burma's attempts to defeat the Chinese Nationalists on the battlefield. Relations between Burma and Thailand were always difficult, and often deteriorated further as a result of Burmese military operations against insurgents along their common border. This occasionally led to exchanges of fire between the Burmese and Thai armed forces but, once again, there were no major armed clashes.⁶ Similar problems sometimes arose with India, and later Bangladesh, usually as a result of insurgents and smugglers operating across Burma's long western border. However, these tensions too were usually defused before the outbreak of real hostilities.⁷

Before 1988, Burma's security concerns were focused on the country's numerous domestic insurgent groups and independent armies. Almost every major ethnic group in Burma has taken up arms against the central government at some time, and a few have been engaged in a virtual civil war with Rangoon since 1948. Kachin, Shan, Karen, Kayah (Karenni) and Mon separatists, in particular, formed disciplined and well-armed guerrilla forces. Central Burma was cleared of insurgent groups by the mid-1970s but, until the 1990s, they effectively controlled large parts of the country's northern and eastern border regions.⁸ There were also sporadic outbreaks of unrest in the Irrawaddy River delta and the Arakan region in the far west. In addition, from 1948 the Tatmadaw faced a formidable opponent in the Maoist Communist Party of Burma (CPB or 'White Flags'), which established a large 'liberated zone' along the Chinese border. The CPB only collapsed (mainly from internal problems) in 1989.⁹ So-called

⁶ For recent examples, see 'Thai jets ordered to hit back at Burmese', *Sydney Morning Herald*, 17 March 1992; and 'Thai-Burma border tension escalates', *Thailand Times*, 7 May 1995.

⁷ See, for example, Bertil Lintner, 'Burma's new front', *Far Eastern Economic Review*, 9 January 1992, p.21; and Richard Ehrlich, 'Burma, Bangladesh on brink of war', *Australian*, 11 February 1992.

⁸ For an excellent survey of these insurgencies, see Smith, *Burma: Insurgency and the Politics of Ethnicity*.

⁹ Although some small remnants may have remained in hiding, a second (ostensibly 'Trotskyist') communist group known as the Burma Communist Party (BCP or 'Red Flags'), was effectively defeated in 1970. The most authoritative account of Burma's communist insurgencies is Bertil Lintner, *The Rise and Fall of the Communist Party of Burma (CPB)* (Cornell University, Ithaca, 1990). See also C.B. Smith, *The Burmese Communist Party in the 1980s* (Institute of Southeast Asian Studies, Singapore, 1984).

'drug barons' or 'drug warlords' also created powerful private armies to protect their stakes in the lucrative narcotics trade.¹⁰ A number of these insurgent forces, particularly the CPB and the KMT remnants, were supported to differing degrees by foreign countries, but the Burmese government tried to treat them all as essentially internal security problems.¹¹ After the 1962 coup, the military regime in Rangoon also faced periodic outbursts of popular resentment against its totalitarian rule and economic mismanagement, issues which eventually fuelled the massive pro-democracy demonstrations of 1988.

Before the SLORC takeover that year, overall command of the armed forces rested with the country's highest ranking military officer (always drawn from the army), who acted concurrently as Defence Minister and Tatmadaw Chief of Staff. He thus exercised supreme operational control over all three services, albeit under the direction of the President, State Council and Council of Ministers. The Defence Minister was assisted by three Vice-Chiefs of Staff, one each for the army, navy and air force. These officers also acted as Deputy Ministers of Defence and commanders of their respective services. They were all based at the 'War Office' in central Rangoon, which operated as both a government ministry and an integrated joint military headquarters.¹²

The joint staff in Rangoon had three major divisions: the General (or 'G') Staff to oversee operations, the Adjutant General's (or 'A') Department for non-supply administration, and the Quartermaster General's (or 'Q') Department for logistics.¹³ The 'G' staff consisted primarily of two Bureaux of Special Operations (BSO), which were established in the Ministry in the late 1970s and early 1980s. The

10 The best account of the rise of the narcotics trade in Burma and its security implications is Lintner, *Burma in Revolt*. Also of value is A.W. McCoy, *The Politics of Heroin: CIA Complicity in the Global Drug Trade* (Lawrence Hill Books, New York, 1991).

11 An obvious exception to this rule was Burma's appeal to the United Nations in 1953 to stop US and Taiwanese support to KMT forces in the country. This appeal, however, followed three years of military operations aimed at expelling the KMT from Burma by force. See R.H. Taylor, *Foreign and Domestic Consequences of the KMT Intervention in Burma*, Department of Asian Studies, Data Paper No.93 (Cornell University, Ithaca, 1973). The Ne Win regime also attempted to persuade China to withdraw its clandestine support from the CPB, but with little success.

12 Bunge (ed.), *Burma: a country study*, p.252.

13 There may have once been a fourth major component headed by the Master General of Ordnance but, if indeed the case, this position appears to have been dissolved during the 1960s and the subordinate staffs reassigned. See *The Military Powers Encyclopedia: Southeast Asia* (Société I³C, Paris, 1991), p.34.

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precise functions of these Bureaux are not clear, but they appear to have been high-level staff units formed to manage different theatres of operations. They were thus responsible for the overall direction and coordination of the activities of the Regional Commands, mobile infantry divisions and supporting units from the air force and navy.¹⁴ BSO One covered Upper Burma, while BSO Two was responsible for Lower Burma. There were also separate staffs in the War Office for the Comptroller of Military Accounts and the Inspector General, and for the directorates of Procurement, Defence Services Intelligence, and People's Militia and Social Relations. Additional directorates corresponded largely to the army's functional corps, such as Artillery and Armour, Supply and Transport, Electrical and Mechanical Engineering, Signals, Ordnance, Medical Services and Training.¹⁵

Operational command in the field was exercised through a framework of nine Regional Commands. Under the Ministry's guidance, the Regional Commanders (once again, always senior army officers) were responsible for the conduct of all military operations in their command areas. Depending on the size of the Command and its operational requirements, Regional Commanders had at their disposal up to 10 garrison infantry battalions, managed through a number of Tactical Operations Commands (TOCs).¹⁶ Five Regional Commands had two TOCs, and four had three TOCs. There were also eight Light Infantry Divisions (LID) but, like naval and air force resources, these mobile formations remained under the formal command of the Defence Minister. Operational control of all these assets was passed to Regional Commanders by Rangoon as circumstances dictated. Under the guidance of the Ministry, Regional Commanders also held senior positions in the ruling Burma Socialist Programme Party (BSPP), the organisational structure of which closely reflected that of the armed forces.¹⁷ They were thus able to exercise considerable political power in their command areas through the BSPP machinery.

The Tatmadaw has always taken a very large share of Burma's national budget but, without access to confidential information held

14 Tin Maung Maung Than, 'Burma's National Security and Defence Posture', p.45. See also Fredholm, *Burma: Ethnicity and Insurgency*, pp.81-2.

15 Fredholm, *Burma: Ethnicity and Insurgency*, p.80. See also Appendix 2.

16 *The Military Balance 1988-1989* (International Institute for Strategic Studies, London, 1988), p.159.

17 Bunge (ed.), *Burma: a country study*, p.252.

only in Rangoon, any estimation of the actual level by outside agencies is a very risky exercise.¹⁸ The term 'defence spending', for example, is nowhere clearly defined and funds for other defence-related activities are scattered throughout the Burmese budget under different headings. It is likely that some defence accounts have never been made public. Nor is it always clear what methods of calculation or which exchange rates have been used in arriving at certain official figures. It is unlikely that full account is taken of the ubiquitous black market, nor is it clear how the budget reflects such transactions as 'gifts' from other countries, barter deals and sales at special 'friendship prices'. In addition, as in many other countries, Burma's annual budget estimates for defence (including supplementary budget allocations made during the course of the financial year) do not necessarily reflect the final level of expenditure. The Tatmadaw's control of a wide range of industrial, financial and commercial enterprises (many quite unrelated to defence matters) further confuses the picture.¹⁹

Taking the figures calculated by the US Arms Control and Disarmament Agency (ACDA) as a guide, Burma's defence expenditure in 1988 has been put at about 3 per cent of gross national product (GNP) or just under 24 per cent of central government expenditures (CGE).²⁰ Many Burma scholars, however, believe that the real level of spending that year was at least double the official US estimate.²¹ More to the point, in a country where the armed forces effectively dominate all levels of government, civil administration and even commerce, no figure could give a realistic indication of the actual resources available to the Tatmadaw, should it feel the need to call upon them.

18 For a discussion of this issue, see R.H. Taylor, 'Burma: Defence Expenditure and Threat Perceptions' in Chin Kin Wah (ed.), *Defence Spending in Southeast Asia* (Institute of Southeast Asian Studies, Singapore, 1987), pp.252-80. See also Graeme Cheeseman and Richard Leaver, *Trends in Arms Spending and Conventional Arms Trade in the Asia-Pacific Region*, Australian Defence Studies Centre, Working Paper No.32 (Australian Defence Force Academy, Canberra, 1995).

19 See Mya Maung, *The Burma Road to Poverty* (Praeger, New York, 1991), pp.92-5; and Thaug, 'Army's Accumulation of Economic Power in Burma, 1940-1990', *Burma Review* 20, October 1990, pp.17-22.

20 *World Military Expenditures and Arms Transfers 1991-1992* (US Arms Control and Disarmament Agency, Washington, 1994), p.56.

21 Josef Silverstein, for example, estimated in 1989 that 50 per cent of the official Burmese budget was devoted to purely military expenditures. See 'US Senator calls for new sanctions against Burma', *Nation*, 20 April 1989.

Figure 1: Burma's Defence Expenditure, 1978-87, by Year (current US\$ million)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
US\$m	157	184	211	253	256	266	277	304	320	334
% of GNP	3.5	3.6	3.5	3.6	3.2	3.1	3.0	3.1	3.0	3.1
% of CGE	23.1	24.4	21.9	22.3	19.3	19.9	19.1	19.6	18.6	22.3

Note: GNP - gross national product, CGE - central government expenditures.

Source: *World Military Expenditures and Arms Transfers, 1989* (US Arms Control and Disarmament Agency (ACDA), Washington, 1990), p.40. While more reliable than most, the ACDA's figures should still only be used to indicate trends and orders of magnitude.

Figure 2: Burma's Arms Imports, 1973-87, by Year (current US\$ million)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
US\$m	5	5	5	0	0	5	30	20	20	60	30	30	50	20	20

Source: *World Military Expenditures and Arms Transfers 1968-77*, p.122; and *World Military Expenditures and Arms Transfers 1989*, p.82.

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Figure 3: Arms Transfers to Burma, 1973-87, by Supplier (current US\$ million)

West Germany	100
United States	20
United Kingdom	10
France	5
Italy	5
Others	100
TOTAL	240

Source: *World Military Expenditures and Arms Transfers 1968-77*, p.156; *World Military Expenditures and Arms Transfers 1972-82* (US Arms Control and Disarmament Agency, Washington, 1984), p.96; and *World Military Expenditures and Arms Transfers 1988* (US Arms Control and Disarmament Agency, Washington, 1989), p.112.

Before 1988, Burma's arms imports were very modest. It initially received some assistance from the United Kingdom, the United States and India but, as soon as the Nu government had established a degree of political control over the country, it attempted to adopt a strictly neutral foreign policy. It declined further US military aid in 1951, for example, partly because of the Mutual Defence Assistance Plan (MDAP)'s changed eligibility requirements, and terminated its 1947 defence agreement with the United Kingdom in 1954.²² In the years that followed, Burma remained reluctant to accept military assistance for fear of offending China, and of being drawn

²² Opinions differ over the degree to which Burma's refusal of US military aid in 1951 was prompted by a desire to keep out of the Cold War, or the difficulty of accepting American aid while criticising covert US support for the KMT remnants in northern Burma. Clearly, both factors played a role. See J.F. Cady, *A History of Modern Burma* (Cornell University Press, Ithaca, 1978), pp.619 ff. The 1947 Let Ya-Freeman defence agreement with the United Kingdom was terminated partly for political reasons (it did not sit well with Burma's professed non-aligned stance) but also because of frictions between British military personnel in Burma and their local counterparts. Ne Win later claimed that the British were trying to exercise undue influence over their former colony. Personal communication, Mary Callahan to the author, 10 November 1995.

into the strategic competition between the superpowers. While prepared to accept very favourable concessionary terms, it insisted on paying for all its imports of arms and military equipment (mainly from the United Kingdom and United States) until 1968, when deteriorating relations with China (including increased Chinese aid to the CPB insurgents) prompted the Ne Win regime to accept renewed offers of US aid.²³ Burma also sought to diversify the sources of its foreign weapons and military equipment, turning to 'non-aligned' countries like Israel, Yugoslavia and Sweden, while balancing its purchases from the United States and United Kingdom with Soviet, French, Italian, Swiss, Australian and Canadian arms.

From 1950 until 1969 Burma's major arms imports averaged less than US\$4 million a year.²⁴ These were mainly transfers of counter-insurgency equipment and ammunition. Between 1970 and 1988 the average expenditure on foreign arms rose to about US\$18 million a year, but economic problems (and the consequent shortage of foreign exchange) continued to restrict the Tatmadaw's purchases from abroad.²⁵ Higher levels of rice exports in the early 1970s brought some economic relief, but the demands on the current account during the same period were increased by several large-scale military operations against communist and other insurgent groups. Little foreign exchange was left over for capital equipment purchases. Increases in the size of the army, particularly during the late 1970s and early 1980s, also helped to ensure that the bulk of Burma's annual defence vote was spent on manpower and operations rather than on imported weapons and new equipment.²⁶

23 In 1958 Burma signed a bilateral agreement with the United States ultimately worth US\$85.5 million. It was phased out in 1970. During this period US arms were sold on concessionary terms which, in effect, allowed Burma to pay in its own soft currency. Being a sales agreement, however, it satisfied Burma's neutrality requirements. Stockholm International Peace Research Institute (SIPRI), *The Arms Trade with the Third World* (Paul Elek, London, 1971), p.452.

24 SIPRI, *The Arms Trade with the Third World*, p.450. This figure, however, probably does not include the importation of raw materials for Burma's own arms factories, most of which came from West Germany.

25 *World Military Expenditures and Arms Transfers 1968-1977* (US Arms Control and Disarmament Agency, Washington, 1979), p.122; and *World Military Expenditures and Arms Transfers 1989*, p.82. The ACDA figures seem to include sales of raw materials for arms production by West Germany.

26 During this period the size of the Tatmadaw rose from 153,000 to 186,000. See R.H. Taylor, 'The Military in Myanmar (Burma): What Scope for a New Role?' in

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At the time of the pro-democracy demonstrations in August and September 1988, the Tatmadaw's personnel strength stood at about 186,000 all ranks. This included 170,000 in the army, 7000 in the navy (including 800 Marines) and 9,000 in the air force.²⁷ Another 73,000 served in the paramilitary People's Police Force (PPF) and People's Militia, although the latter were of limited value in any combat role.²⁸ The set of policies put in train after the SLORC's takeover, however, dramatically increased the size of the Tatmadaw and transformed it into an entirely different force.

The Tatmadaw after 1988

On numerous occasions before 1988 the Tatmadaw had been used to quell civil disturbances in Burma's cities and towns. As on these occasions the armed forces alone had firearms, and were prepared to use them with little regard for civilian casualties, such protests were invariably short-lived.²⁹ The enormous scale of the pro-democracy demonstrations in August and September 1988, however, left the regime badly shaken. It also placed a severe strain on its military resources. Troops on operations in insurgent-held areas of the country had to be called in to help wrest back control of the main population centres from the pro-democracy movement. Even after the demonstrations had been crushed, and most leading protesters killed, imprisoned or driven into exile, the SLORC feared the threat of violent and more serious uprisings by urban-based dissidents.³⁰ At the same time, a number of ethnic insurgent groups announced that they planned to exploit the regime's disarray by stepping up guerrilla operations around the country's periphery. Some groups began to infiltrate back into areas of central Burma which had long been

Viberto Selochan (ed.), *The Military, the State, and Development in Asia and the Pacific* (Westview, Boulder, 1991), p.142.

27 *The Military Balance 1988-1989*, pp.159-60.

28 *ibid.* See also Bunge (ed.), *Burma: a country study*, pp.259-69; and Fredholm, *Burma: Ethnicity and Insurgency*, pp.89-90 and pp.93-4.

29 See, for example, Andrew Selth, *Death of a Hero: The U Thant Disturbances in Burma, December 1974*, Centre for the Study of Australian-Asian Relations, Australia- Asia Paper No.49 (Griffith University, Brisbane, 1989).

30 The best account of the 1988 demonstrations is Bertil Lintner, *Outrage: Burma's Struggle for Democracy* (White Lotus, Bangkok, 1990).

considered secure from the insurgent problem.³¹ There was even a fear that some of these anti-government groups would join forces in an attempt to overthrow the military regime.

Faced with these new threats, the SLORC acted quickly to ensure that the Tatmadaw had an adequate supply of munitions. The first country to come to the regime's rescue was Singapore. According to the *Far Eastern Economic Review*, in early October 1988 hundreds of boxes marked 'Allied Ordnance, Singapore', were unloaded from two vessels of Burma's Five Star Shipping Line in Rangoon's port.³² These shipments reportedly included mortars, ammunition and raw materials for Burma's arms factories. The consignment also contained 84 mm rockets for the Tatmadaw's M2 Carl Gustav recoilless guns, which were made by Chartered Industries of Singapore under licence from Forenade Fabriksverken in Sweden. The shipment thus violated an agreement under which the original export licence had been granted, requiring that any re-exports only be made with the permission of the Swedish government. No such clearance was granted.³³ In August 1989 Singapore was again accused of providing arms to the SLORC when weapons and ammunition originating in Belgium and Israel were trans-shipped to Burma, apparently with the assistance of SKS Marketing, a newly formed Singapore-based joint venture with the Burmese military regime.³⁴ There have been reports that these latter shipments included second-hand 40 mm RPG-2 grenade launchers and 57 mm anti-tank guns of Eastern bloc origin. One well-informed Burma-watcher has suggested that this equipment may have been from Palestinian stocks captured in southern Lebanon by Israel in 1982, and re-sold to Burma.³⁵

31 Lintner, *Outrage*, pp.151 ff. See also 'Troops tend cities, rebels infiltrate central Burma', Agence France Presse (AFP), 24 October 1988.

32 Lintner, *Outrage*, p.140. See also 'Singapore-made arms for Rangoon', AFP, 26 October 1988; and Bertil Lintner, 'Consolidating power', *Far Eastern Economic Review*, 5 October 1989, p.23. Allied Ordnance is a joint venture between Nobel Industries and Shengli Holdings, an investment arm of the Singapore government.

33 Lintner, *Outrage*, p.140. See also Martin Smith, 'The Burmese way to rack and ruin' in Article 19, *Index on Censorship* 10 (1991), p.45; and Bertil Lintner, 'An export backfires', *Far Eastern Economic Review*, 8 September 1983, pp.26-7.

34 Smith, 'The Burmese way to rack and ruin', pp.43-5. See also Lintner, 'Consolidating power', p.23.

35 Bertil Lintner, 'Myanmar's Chinese connection', *International Defence Review*, Vol.27, No.11, November 1994, p.26. See also Ron Corben, 'Arms deals tighten Burma junta's grip', *Herald*, 9 December 1990; and Bertil Lintner, 'Using the aid weapon', *Far Eastern Economic Review*, 17 November 1988, p.34. It is not clear

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In an obvious attempt to outflank India (which publicly supported Burma's pro-democracy movement), Pakistan was also quick to take advantage of the SLORC's need to re-stock its armoury. In January 1989 a senior official from Pakistan's arms industry reportedly visited Burma to offer the SLORC weapons and ammunition.³⁶ Two months later, a delegation of senior Tatmadaw officers led by Air Force Commander-in-Chief Major General Tin Tun made an unpublicised visit to Islamabad. An agreement was apparently reached for Pakistan to sell the SLORC 150 machine guns, 50,000 rounds of ammunition and 5,000 120 mm mortar bombs.³⁷ Not long after the first deliveries were made, unexploded mortar bombs bearing the marks of the government-owned Pakistan Ordnance Factory were recovered by Karen insurgents from the battlefields along Burma's eastern border.³⁸ The Burmese delegation also visited Pakistan's aviation industry complex, leading to accusations by Karen insurgents the following May that Pakistan was training Burmese pilots, as part of a deal to sell Pakistan-built combat aircraft to the SLORC.³⁹ Further arms shipments from Pakistan were reportedly halted by Benazir Bhutto, but they were later resumed under her successor as Prime Minister, Nawaz Sharif.

The arms shipments which were made to Burma in the months immediately following the 1988 massacres did not significantly alter the structure or military capabilities of the Tatmadaw. They simply replenished the army's dwindling reserves and gave the SLORC greater confidence that it could retain its iron

whether the 57 mm weapons sold to the Burmese at this time were recoilless guns or true anti-tank guns such as M43 (ZIS-2) artillery pieces. The Israelis captured both.

36 Interview, Rangoon, April 1995.

37 Daljit Singh, 'The Eastern Neighbour: Myanmar', *Indian Defence Review*, October 1992, p.33. The Institute for Asian Democracy has claimed that Pakistan sold Burma 150,000 rounds of ammunition, but this seems a little high. Alan Boyd has stated that the deal also included 76 mm and 130 mm mortar bombs, but Burma is not known to possess weapons of either calibre. See *Towards Democracy in Burma* (Institute for Asian Democracy, Washington, 1992), p.58; and Alan Boyd, 'Burma arms itself against rebels in secret', *Australian*, 18 May 1990. It is perhaps relevant that, like Burma, Pakistan makes the G3 automatic rifle under licence from Heckler and Koch.

38 Bertil Lintner, 'The Islamabad Link', *India Today*, 10 September 1989, pp.60-1.

39 Boyd, 'Burma arms itself against rebels in secret'. Pakistan's aviation industry is very small, and could not provide the SLORC with any locally produced combat aircraft. Burma has, however, followed Pakistan's lead in the kinds of Chinese aircraft that it has purchased since 1988, namely the Chengdu F-7 and NAMC A-5.

grip on power, even in the event of renewed outbreaks of popular unrest in Burma's population centres. The assistance provided by countries like Singapore and Pakistan also increased the armed forces' ability to resist the pressures being applied by the CPB, ethnic insurgent groups and exiled Burmese dissidents based around the country's rugged periphery.⁴⁰

Yet these early arms shipments were only stop-gap measures. The military regime in Rangoon was already thinking well beyond short-term infusions of small arms and ammunition. There is strong evidence to suggest that by late 1988 or early 1989 a decision had been made by former President Ne Win and his protégés in the SLORC to embark on a major expansion and modernisation of the Tatmadaw.⁴¹ According to official Burmese documents obtained by *Jane's Defence Weekly*, by mid-1992 the armed forces' combined strength had risen to 270,000, an increase of more than 60 per cent in barely four years.⁴² According to the Thai Ministry of Defence, by mid-1995 it was over 300,000, and one official US estimate has reportedly gone as far as 400,000.⁴³ The latter figure seems far too high, but the SLORC has openly admitted that its final goal is 'a 500,000-strong, well-equipped military machine'.⁴⁴

40 Despite repeated accusations by the SLORC that the CPB helped engineer the 1988 demonstrations, and later manipulated leading pro-democracy figures like Aung San Suu Kyi, the CPB was just as surprised by the events of 1988 as the regime itself. The CPB only staged one major military offensive after September 1988, and by April 1989 it had collapsed. See *Burma Communist Party's Conspiracy to take over State Power* (SLORC, Rangoon, 1989); and Lintner, *The Rise and Fall of the Communist Party of Burma (CPB)*, pp.44-6.

41 Ne Win resigned his position as Chairman of the Burma Socialist Programme Party (Burma's sole legal political party) in July 1988. Even after the creation of the SLORC, however, he remained Burma's effective ruler. In recent years he has withdrawn from the daily administration of the country, but still retains the power of veto over the SLORC's policies.

42 Bertil Lintner and Robert Karniol, 'Unrest swells the Burmese ranks', *Jane's Defence Weekly*, 13 June 1992, p.1020.

43 *The Defence of Thailand 1994* (Ministry of Defence, Bangkok, 1994), p.15; and *Burma Debate*, Vol.2, No.3, June/July 1995, p.16.

44 The target figure of 500,000 was confirmed to the author by a senior SLORC spokesman in Rangoon in April 1995. The rationale given (without any elaboration) was that 500,000 was the number of servicemen and women the United States had in Vietnam at the height of its military commitment there during the late 1960s. See also Bertil Lintner, 'Regional rivals leading Burma astray', *Jane's Defence Weekly*, 15 June 1991, pp.1053-4.

To manage the rapid expansion and modernisation of the armed forces, and to cope with the increased demands of government, the SLORC has made a number of significant adjustments to Burma's military command structure. After 1988, the country's most senior military officer held the offices of SLORC Chairman, Prime Minister and Defence Minister, as well as being Commander-in-Chief of the Armed Forces. Thus Senior General Than Shwe, and before him Senior General Saw Maung, exercises both political and operational control of the armed forces at the most senior level.⁴⁵ In practice, however, the SLORC acts as a collegiate body and major decisions are usually reached by consensus. Also, given the Chairman's many political duties, it is likely that his more routine defence responsibilities have been transferred to his subordinates. Since May 1989 each service has had its own Commander-in-Chief and Chief of Staff. The Army Commander-in-Chief, now a full General, also acts as Deputy Commander-in-Chief of the Armed Forces. The Commanders-in-Chief of the air force and navy hold Lieutenant General rank, while all three service Chiefs of Staff are now at Major General level. At the War Office in Rangoon the bureaucratic structure has remained essentially the same as before, except that the two Commanders of Special Operations, the heads of Q and A Departments, and the Director of Defence Services Intelligence (DDSI), have all been elevated to Lieutenant General rank.⁴⁶ Thus, the reorganisation of the armed forces hierarchy since 1988 'has resulted in an upgrading by two ranks for most of the senior positions'.⁴⁷

45 Faced with a nervous breakdown, Senior General Saw Maung relinquished his Defence Ministerial responsibilities to his deputy, General Than Shwe, shortly before the latter replaced him as Chairman of the SLORC in April 1992. The rank of Senior General (five stars in the US ranking) was created for the Commander-in-Chief in May 1990. See Tin Maung Maung Than, 'Neither Inheritance nor Legacy: Leading the Myanmar State since Independence', *Contemporary Southeast Asia*, Vol.15, No.1, June 1993, p.60, note 128.

46 See Bertil Lintner, 'Burma - Struggle for Power', *Jane's Intelligence Review*, Vol.5, No.10, October 1993, p.470; *The Military Powers Encyclopedia*, p.34; and *Military Bureaucracy of the SLORC* (All Burma Students' Democratic Front, Documentation and Research Centre, Mae Hong Son, 4 September 1995).

47 Tin Maung Maung Than, 'Neither Inheritance nor Legacy', p.60, note 128. See also Moshe Lissak, *Military Roles in Modernization: Civil-Military Relations in Thailand and Burma* (Sage, Beverly Hills, 1976), p.179, note 61.

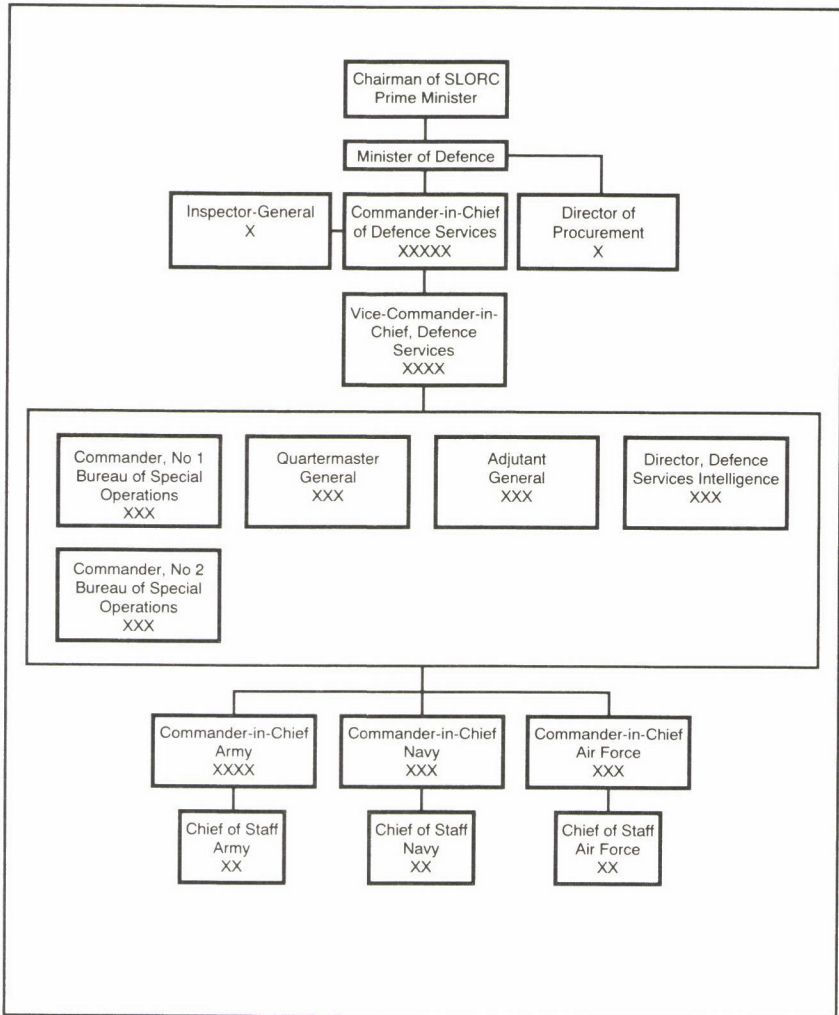


Figure 4: Burma's Defence Hierarchy

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Outside Rangoon, all Regional Commander positions have been raised to the level of Major General. Also, with the formal demise of the BSPP in 1988, these officers were appointed Chairmen of local Law and Order Restoration Councils. They have thus been formally vested with both military and administrative responsibility for their command areas. In addition, in early 1990 a new regional command was formed in Burma's north-west, facing India. The ten are now Rangoon Command (covering Rangoon Division), Southern Command (Pegu and Magwe Divisions), Southeastern Command (Mon and Karen States, and Tenasserim Division), Southwestern Command (Irrawaddy Division), Central Command (Mandalay Division), Western Command (Arakan and Chin States), Eastern Command (southern Shan State), Northeastern Command (northern Shan State), Northwestern Command (Sagaing Division) and Northern Command (Kachin State). Eight Regional Commands have three TOCs, while two have four TOCs.⁴⁸

To equip its larger forces, the SLORC has virtually abandoned Burma's traditional neutrality in international affairs and actively encouraged special relationships with a number of regional countries. In particular, it has struck a number of major arms deals with China, which soon assumed a place as Burma's closest and most generous ally. In October 1989, for example, a delegation of 24 senior Burmese defence officials, led by the then army Commander-in-Chief Lieutenant General Than Shwe, travelled to China.⁴⁹ During its 12-day visit, the group inspected F-6 and F-7 fighter aircraft at Shijiazhuang, a rocket factory operated by Norinco (the state-run defence industry), and Shanghai's naval shipyards.⁵⁰ A massive arms deal valued at about US\$1.4 billion was subsequently arranged.⁵¹ Signed in mid-1990, it covered the delivery to Burma of fighter aircraft and patrol

48 Lintner, 'Burma - Struggle for Power', p.470. See also *The Military Balance 1995/96*, p.161. Tin Maung Maung Than seems to be mistaken in referring to the creation of a new Regional Command in the south. See 'Neither Inheritance nor Legacy', p.60, note 126.

49 At the time, Lieutenant General Than Shwe was also Vice Chairman of the SLORC.

50 Bertil Lintner, 'Lock and load', *Far Eastern Economic Review*, 13 September 1990, p.28. See also Bertil Lintner, 'Tugging the tiger's tail', *Far Eastern Economic Review*, 18 November 1989, pp.19-20.

51 Published estimates of the value of this particular deal have ranged from US\$400 million to US\$1.4 billion. Subsequent deliveries to Burma suggest that the latter figure is closer to the mark. See Lintner, 'Myanmar's Chinese connection', p.23.

boats, tanks and armoured personnel carriers, field and anti-aircraft artillery, small arms and ammunition.⁵² As these arms flowed into Burma (mostly by road through Yunnan), other orders followed. The SLORC's most recent arms deal with China was concluded in November 1994, after the visit there of a delegation led by Burma's army Chief of Staff Lieutenant General Tin Oo. This package reportedly included an estimated US\$400 million worth of helicopters, artillery pieces, armoured vehicles, naval gunboats, military parachutes and small arms.⁵³

Figure 5: Burma's Arms Imports, 1988-93, by Year (current US\$ million)

	1988	1989	1990	1991	1992	1993
US\$m	20	20	110	390	140	120

Source: *World Military Expenditures and Arms Transfers 1993-1994* (US Arms Control and Disarmament Agency, Washington, 1995), p.104.

During the same period, the SLORC also placed orders for arms and military equipment with a number of other countries. It purchased ground attack aircraft and naval patrol boats from Yugoslavia, assault and transport helicopters from Poland, combat helicopters from Russia, mortars and ammunition from Portugal, small arms ammunition from North Korea and more arms and ammunition from Singapore. There have also been reports that other arms deals were concluded, or at the least considered, with agencies in Russia, Czechoslovakia, South Africa, South Korea, Israel, Belgium

⁵² Yindee Lertcharoenchok, 'Beijing, Rangoon ink \$1.2 billion arms deal', *Nation*, 27 November 1990.

⁵³ Bertil Lintner, '\$400m deal signed by China and Myanmar', *Jane's Defence Weekly*, 3 December 1994, p.1. See also P. Stobdan, 'Options for India', *Indian Express*, 4 January 1995.

and Chile.⁵⁴ The SLORC has been anxious for the United States to lift its arms embargo against Burma, presumably to obtain ammunition and spare parts for the Tatmadaw's American arms and equipment. So far, these attempts appear to have been unsuccessful, but the regime has apparently obtained some US materiel from other suppliers, such as Singapore.⁵⁵ The Karen National Union (KNU) told Western news reporters in late 1988 that Soviet weapons and military advisors had been sent to Burma to assist the SLORC in its struggle against ethnic insurgent groups.⁵⁶ In 1990, the Democratic Alliance of Burma (DAB), which then consisted of several ethnic insurgent groups and Burmese dissident organisations, accused Malaysia of training Burmese pilots for operations against the SLORC's domestic opponents.⁵⁷

Claims of arms deals and other kinds of foreign assistance, however, are very difficult to verify. Most have been consistently denied by both the SLORC and spokesmen for the countries concerned. Few can be confirmed from independent sources. While most reports are plausible, some (like the KNU's claims of early Soviet involvement) are much less so.⁵⁸ The arms deals with China, Russia and Pakistan were negotiated directly between the SLORC and relevant government agencies. Most of the other sales seem to have been arranged through private arms brokers in countries like Singapore, Israel, Belgium, Sweden and the United Kingdom, with the munitions usually trans-shipped to Burma through entrepôt ports like

54 See, for example, Boyd, 'Burma arms itself against rebels in secret'; Lintner, 'Myanmar's Chinese connection', p.26; 'Junta takes delivery of Polish choppers', *Asian Defence Journal*, September 1992, p.108; 'But will the flag follow trade?', *Economist*, 8 October 1994, pp.31-2; and Chintamani Mahapatra, 'Developmentss in Military Power: 1987-1992' in *Asian Strategic Review 1991-92* (Institute for Defence and Strategic Analysis, Delhi, 1992), p.86.

55 Burma's Bell 205 Iroquois helicopters, for example, have suffered from a lack of spare parts since the United States suspended its support for Burma's drug control programme in September 1988. No commercial exports to Burma have been licenced under the US Arms Export Control Act since 1989. At one stage the SLORC unsuccessfully tried to renew ties by trading on US concerns about the export of narcotics from the Golden Triangle, much of which falls within Burma's borders. See 'Air Forces Survey: Myanmar', *Asian Aviation*, Vol.14, No.6, June 1994, p.36; and 'Burma offers drug king in return for US arms', *Age*, 16 July 1994.

56 'Soviets Deny Sending Arms, Advisors to Burma', AFP, 7 November 1988.

57 Boyd, 'Burma arms itself against rebels in secret'. See also accusations by the Institute for Asian Democracy that Malaysia had 'trained 10 Burma Army captains on C130 use' (*Towards Democracy in Burma*, p.58). While Burma considered the purchase of Lockheed C-130 aircraft in the early 1980s, none were ever acquired.

58 Lintner, 'Using the aid weapon', p.34.

Singapore.⁵⁹ The North Korean ammunition deal was probably struck with the help of Thai intermediaries. It is possible that some of the countries providing these weapons and ammunition supplies did not even know that their final destination was to be Burma. Certainly Portugal's government seemed to be genuinely embarrassed by the disclosure in 1992 that a Portuguese company had sold arms to the SLORC in violation of a European Community (EC) embargo.⁶⁰

Figure 6: Arms Transfers to Burma, 1987-91, by Supplier (current US\$ million)

China	400
Western Europe	50
Former Warsaw Pact	40
Germany	20
East Asia	20
United States	5
Others	5
TOTAL	545

Source: *World Military Expenditures and Arms Transfers 1991-1992*, p.132.

The Rangoon regime has also been able to obtain or convert some items of non-military equipment for military use. Poland and Japan, for example, have provided Burma with a large number of four-wheel-drive and heavy-duty vehicles which seem to have found their way into the Tatmadaw's motor pools.⁶¹ Japan also appears to have turned a blind eye to the conversion of Hino and Mazda assembly plants in Burma to military use, despite a prior pledge from the

⁵⁹ Rodney Tasker and Bertil Lintner, 'Difficult guests', *Far Eastern Economic Review*, 4 March 1993, p.11.

⁶⁰ Lintner, 'Myanmar's Chinese connection', p.26.

⁶¹ Personal observation, Rangoon, Taunggyi and Kalaw, April 1995.

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Burmese government that no economic assistance from Japan would be used by the armed forces.⁶²

Before 1988, the Tatmadaw appears to have relied for its communications on a mixture of US and Japanese equipment, much of it supplied during the 1960s.⁶³ Since then, China has provided Burma with radar and communications equipment worth at least US\$5 million, and in late 1995 the SLORC reportedly ordered a range of new radio equipment from Russia. Singapore too has probably provided the regime with more modern equipment for command, control, communications and intelligence (C³I) purposes, ranging from personal computers and software to radios and radars. It appears, for example, that a major effort has been put into upgrading the information technology systems operated by the War Office in Rangoon, and improvements made to communications between the capital and the 10 Regional Commands.⁶⁴

In this regard it is relevant that, in 1989-90, China installed an ASIASAT-linked network to improve Burma's telecommunications links with other countries.⁶⁵ In addition, in 1992 Burma's Posts and Telecommunications Department contracted Sumitomo Corporation of Japan to install a 14,000 line exchange/telephone system, and Ericsson (Australia) won a contract to install two microwave radio stations and one mobile exchange for a cellular phone system. The latter began operation in December 1993.⁶⁶ In 1994 Siemens AG of Germany was contracted to install a cellular mobile telephone network in Mandalay and to supply 1000 telephones. Siemens also won a contract to install an international auto exchange and radio telephones in Rangoon, and was made responsible for the extension of international satellite communications lines at Thanlyin Ground Station, near Rangoon. Later in 1994, the Myanma Telecommunications Enterprise signed a contract with Interdigital Communications Corporation of the United States for the installation of 700 radio telephone links with a wireless

⁶² Smith, 'The Burmese way to rack and ruin', p.44.

⁶³ *The Arms Trade with the Third World*, p.319.

⁶⁴ Interview, Singapore, May 1995.

⁶⁵ *Country Economic Brief: Burma (Myanmar)* (Department of Foreign Affairs and Trade, Canberra, 1992), p.16.

⁶⁶ *Country Economic Brief: Myanmar* (Department of Foreign Affairs and Trade, Canberra, 1994), pp.22-3. Burma currently has around 140,000 telephones, or about one per 310 head of population.

digital loop carrier.⁶⁷ Most recently, a joint Thai-Taiwanese-Burmese consortium has undertaken to build a fibre optic manufacturing plant in Burma for television, cellular networks and fixed-line telecommunications systems.⁶⁸

All these projects are being promoted by the SLORC as part of a wide-ranging scheme to improve the country's domestic communications infrastructure and encourage foreign investment. Given the priority accorded to the armed forces in Burma, however, it would be extraordinary if the Tatmadaw was not taking similar steps to upgrade its military communications links, or at least to take full advantage of these improvements to Burma's civil system. Also, there is reason to believe that the SLORC may have acquired some equipment, possibly from China or Singapore, to protect Burma's military communications from interception by hostile agencies. Both Thailand and India, for example, are reported to monitor Burmese military and diplomatic radio traffic on a regular basis.⁶⁹ This would be known to the SLORC and the Chinese, both of whom would have a strong interest in keeping their mutual communications secret. Despite the SLORC's closeness to Beijing at present, there would also be traffic which the Burmese would wish to keep from the Chinese.

For the reasons already noted, the effect of the SLORC's military expansion programme on Burma's national accounts is very difficult to estimate with any accuracy. According to the ACDA, by 1991 Burma's estimated annual defence expenditure had risen to US\$1722 million. Compared with 1988, this constituted an increase to 4.5 per cent of GNP or 29.1 per cent of central government expenditures.⁷⁰ Even allowing for the pitfalls inherent in making such estimates, however, these figures are probably well below the actual level of Burma's defence expenditure. The SLORC itself has admitted to spending 30 per cent of Burma's 1991-92 annual budget on 'defence'. At the same time, it announced that such spending would rise to 35

⁶⁷ *Country Economic Brief: Myanmar* (Department of Foreign Affairs and Trade, Canberra, 1995), pp.26-7.

⁶⁸ 'Myanmar/Cable', *Asian Communications*, November 1995, p.3.

⁶⁹ Desmond Ball, *Signals Intelligence in the Post-Cold War Era: Developments in the Asia-Pacific Region* (Institute of Southeast Asian Studies, Singapore, 1993), p.59 and p.73. See also Desmond Ball, 'Signals Intelligence in India', *Intelligence and National Security*, Vol.10, No.3, July 1995, pp.387-407.

⁷⁰ *World Military Expenditures and Arms Transfers 1993-1994*, p.56.

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per cent during the 1992-93 financial year.⁷¹ Some well-informed observers have put the real level of the SLORC's purely military spending that year as high as 60 per cent of the national budget.⁷² Although complete figures are not yet available, a large proportion of the funds allocated to defence after 1988 seems to have been spent on new arms and equipment from abroad.⁷³ In 1992-93, for example, the United Nations Development Programme (UNDP) estimated that arms accounted for more than one-fifth of Burma's total imports.⁷⁴

Figure 7: Burma's Defence Expenditure, 1988-93, by Year (current US\$ million)

	1988	1989	1990	1991	1992	1993
US\$m	946	1202	1648	1722	1616	1510
% of GNP	2.9	3.5	4.4	4.5	3.8	NA
% of CGE	23.7	24.7	27.6	29.1	NA	NA

Source: *World Military Expenditures and Arms Transfers 1993-1994*, p.56.

Statistics published by bodies like the ACDA are useful to indicate broad trends, but the actual cost to Burma of all its new arms and equipment is almost impossible to determine. Some published figures are clearly too low, while other estimates seem to be wildly exaggerated. After the withdrawal of most development assistance

⁷¹ This accords with estimates published by the Economist Intelligence Unit in its *Country Profile: Thailand, Myanmar 1992-93* (Economist, London, 1993), p.43; and the United Nations Development Programme, *Human Development Report 1994* (Oxford University Press, Oxford, 1994), p.42. See also 'Myanmar junta to increase defence spending', Reuters, 23 April 1992; and Ron Corben, 'Lawyers condemn Burmese regime', *Australian*, 24 April 1992.

⁷² Smith, 'The Burmese way to rack and ruin', p.45. See also David Leser, 'Guns, Money and Murder', *Bulletin*, 28 April 1992, p.20.

⁷³ As Robert Taylor has pointed out, by rejecting external military aid before 1988 the regime placed itself at the mercy of internal economic conditions. After 1988 the SLORC was much less reluctant to accept foreign assistance or to draw on Burma's own hard currency earnings. See Taylor, 'The Military in Myanmar (Burma)', pp.139-52.

⁷⁴ *Human Development Report 1994*, p.42. See also Cheeseman and Leaver, *Trends in Arms Spending ...*, p.13.

and international finance in late 1988, the SLORC faced a serious shortage of foreign exchange. By overturning the economic policies of decades, however, the regime was soon able to draw on pre-contract bonuses paid by foreign companies allowed access to Burma's rich, and largely untapped, natural resources.⁷⁵ The SLORC also took full advantage of a range of grants, soft loans, special 'friendship' deals, barter arrangements and profits from the sale of overseas property.⁷⁶ The costs of the two early arms consignments from Singapore, for example, appear to have been covered by the sale of logging and fishing concessions, and there have been reports that Burma paid for at least half of its first Chinese arms deal with rice and timber.⁷⁷ There have also been accusations that the SLORC has drawn heavily on funds generated from the illicit production and sale of narcotics. In early 1991, for example, Burma made a US\$400 million cash down payment for Chinese arms through a Singapore bank. Yet no change was registered in Burma's known foreign exchange reserves, either before or after the sale.⁷⁸

For all these reasons, the details of the SLORC's defence expenditure since 1988 are extremely difficult to pin down. The picture is further clouded by the regime's efforts over the past seven years to increase the range and output of Burma's own arms industries.

Burma's Arms Industries

Burma's attempts to develop its own arms industries began in the early 1950s, when a factory was built to produce small arms ammunition and copies of the Italian 9 mm TZ45 submachine gun (known in Burma as the BA52 or 'Ne Win Sten'). First produced in late

⁷⁵ Bertil Lintner, 'Oiling the iron fist', *Far Eastern Economic Review*, 6 December 1990, p.29.

⁷⁶ Bertil Lintner, 'Hidden reserves', *Far Eastern Economic Review*, 6 June 1991, pp.12-13.

⁷⁷ 'Burma' in *Far Eastern Economic Review: Asia 1990 Yearbook* (Hong Kong, 1991), p.97. See also Jeremy Wagstaff, 'Burma buys arms from China', *Nation*, 11 February 1991; and 'Myanmar in large arms barter deal with China', *Asian Aviation*, Vol.11, No.2, February 1991, pp.88-9.

⁷⁸ Bertil Lintner, *The Politics of the Drug Trade in Burma*, Indian Ocean Centre for Peace Studies, Occasional Paper No.33 (University of Western Australia, Perth, 1993), pp.41-8. See also 'The Golden Triangle's new king', *Economist*, 4 February 1995, pp.25-6; and 'Heroin warlords cultivate Burmese leadership', *Australian*, 6 February 1995.

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1944, production of the gun in Italy stopped at the end of the Second World War. When the design was offered for sale on the world market soon afterwards, the Nu government purchased the machinery to manufacture a slightly modified version of the weapon at the Burma Army Ordnance Workshop near Inya Lake in Rangoon. At the same time, one of the Italian designers of the TZ45 went to Burma to oversee the construction of the factory and installation of the machinery. Production began as soon as the plant was completed, and by 1953 the BA52 was the standard submachine gun of the Burmese armed forces.⁷⁹

The Burmese arms industry was given a major boost in 1957, when the state-owned German company Fritz Werner GmbH agreed to build a factory in Rangoon with Heckler and Koch to produce *Gewehr 3* (G3) automatic rifles.⁸⁰ Finance was provided on favourable terms by the West German government. Reflecting a decision by the Ne Win regime to move Burma's defence industries to more secure sites, a second factory was later built near Prome (Pye) in Lower Burma to manufacture 7.62 mm and 9 mm small arms ammunition. More arms manufacturing facilities were built in the 1970s, most by Fritz Werner and some with the help of engineers from the German Technical Cooperation Agency.⁸¹ In 1984 Fritz Werner Industries Co. became the first foreign company to enter into a joint venture arrangement with Burma's state-owned Heavy Industries Corporation. The announced aim was to 'undertake development, production and assembly of machinery, equipment and accessories for industrial plants in Burma'.⁸² As British author Martin Smith has noted, 'machinery' is 'a recurring euphemism in Burma for military equipment'.⁸³

Known as *Ka Pa Sa* factories (after the initials of the Burmese name for the Defence Products Industries), these factories were under the direct control of the Ministry of Defence. The largest weapons

⁷⁹ The TZ45 was crudely made and could be manufactured easily and cheaply, qualities which no doubt appealed to the Burmese government at the time. See T.B. Nelson, *The World's Submachine Guns* (Arms and Armour Press, London, 1977), Vol.1, pp.383-4 and pp.636-7.

⁸⁰ Fritz Werner was completely owned by the West German government until 1989, when it was privatised. Smith, 'The Burmese way to rack and ruin', pp.43-5.

⁸¹ Mya Maung, *Totalitarianism in Burma*, p.235.

⁸² Chit Tun, 'Burmese joint venture', *Financial Times*, 26 November 1984.

⁸³ Smith, 'The Burmese way to rack and ruin', p.43.

factory in Burma is reportedly at Sindell (Sinde), just south of Prome. There are also ammunition factories at Htonebo (Tonbo), Padaung and Nyaung Chidauk (Nyaung chi-dauk), all of which come within the broad confines of a large and well-guarded defence industrial complex situated on the western bank of the Irrawaddy River near Prome. In addition to *Ka Pa Sa* No.1 near Inya Lake, there are now three other major *Ka Pa Sa* weapons and ammunition factories in the Rangoon-Mingaladon area. There are also military supplies factories at Inndaing (Intaing) in the Pegu District, northeast of the capital, and another near Mandalay.⁸⁴

These factories could produce automatic rifles and light machine guns, light mortars, grenades, anti-personnel mines and ammunition, but many of their products depended on imported raw materials. Also, the Tatmadaw still relied on foreign firms for much of its heavy arms ammunition, support equipment and machine spare parts. The air force and navy were particularly dependent on overseas logistics. Yet the SLORC faced a serious disruption to its military supplies after 1988 as influential members of the international community, including a number of Burma's traditional arms suppliers, imposed sanctions against the Rangoon regime in protest against its violations of human rights.⁸⁵ In September 1988, for example, the United States reportedly stopped a scheduled delivery of ammunition for the Tatmadaw's old M1 and M2 carbines, and its M79 grenade launchers.⁸⁶ Even West German assistance seems to have been suspended for a short period, after some pointed questions were asked in the Bundestag about Fritz Werner's long involvement with Burma's

⁸⁴ This paragraph is largely taken from Mya Maung, *The Burma Road to Poverty* (Praeger, New York, 1991), pp.200-1. In addition to arms, ammunition and military vehicles, *Ka Pa Sa* factories also produce a wide range of military uniforms, boots, web equipment, sporting goods and eating utensils. Personal observation, Rangoon, April 1995.

⁸⁵ An 'unofficial' embargo imposed by the European Community in July 1991 was followed by a resolution in the European Parliament in April 1992 that all its member states who were also members of the UN Security Council (UNSC) should propose a mandatory embargo against the military regime in Burma. Without China's support, however, any such resolution in the UNSC was bound to fail, and none was ever proposed.

⁸⁶ Bertil Lintner, 'Passing in the dark', *Far Eastern Economic Review*, 3 November 1988, p.17.

arms industries, and the government of Helmut Kohl acceded to public pressure to suspend bilateral aid.⁸⁷

The current extent of foreign involvement in the Burmese arms industry is not clear. It appears that Fritz Werner quietly resumed its exports of 'industrial machinery' and other materials to Burma in 1989, after the German government shed its direct interests in the company.⁸⁸ In 1990 a US\$8 million joint venture was settled called Myanmar Fritz Werner Industries Limited, which has reportedly seen a further strengthening of the military regime's arms links with Germany. There have also been repeated, if still unconfirmed, reports that a Singaporean company (or group of companies) has stepped in to help develop Burma's arms industries, drawing on that country's well-developed expertise in this field. Singaporean technicians, for example, have apparently replaced the German technicians formerly based at Padaung, across the Irrawaddy River from Prome and close to the defence industrial complex. The Singapore government, however, has categorically denied that Singaporean companies have exported any arms to Burma or are in any way engaged in arms production there.⁸⁹

The Chinese too may be active in this field. According to the *Far Eastern Economic Review*, Chinese engineers inspected a site near Magwe in 1991, with a view to building a factory complex which could produce M21 semi-automatic carbines, M22 assault rifles and M23 light machine guns, as well as 7.62 mm ammunition for these weapons. All three are export versions of weapons currently in service with the People's Liberation Army (PLA).⁹⁰ Production was due to begin in early 1994, but it is not known if this has yet occurred.⁹¹ The

⁸⁷ Smith, 'The Burmese way to rack and ruin', p.43.

⁸⁸ The German government's departure from Fritz Werner in late 1989 seems to have freed the company to act with less concern for official constraints on the arms trade. Smith, 'The Burmese way to rack and ruin', p.44.

⁸⁹ Lintner, 'Myanmar's Chinese connection', p.26. Also, interview, Singapore, May 1995.

⁹⁰ The M21 is the export version of the Chinese 7.62 mm Type 56 carbine (itself a copy of the Soviet SKS45 semi-automatic carbine). The M22 is the export version of the 7.62 mm Type 56 assault rifle (the Chinese copy of the Soviet AK47) and the M23 is the export version of the Chinese 7.62 mm Type 56 machine gun (essentially the same as the Soviet RPD light machine gun).

⁹¹ See Bertil Lintner, 'Rangoon's Rubicon', *Far Eastern Economic Review*, 11 February 1993, p.28; P. Stobdan, 'The dragon's arm across the bamboo curtain', *Pioneer*, 11 November 1993; and DMS/FI Market Intelligence Report, File 589, June 1995.

Far Eastern Economic Review story was followed by another report in January 1995, to the effect that:

Burma wants to enter into a joint venture with China to set up arsenals in Burma to produce weapons for defence and for export. The Burmese government is planning to build two arsenals, one in Rangoon.⁹²

According to a Chinese-language newspaper published in Thailand, SLORC officials repeatedly raised the question of such military assistance when they visited Beijing in 1994, and again during Chinese Premier Li Peng's visit to Rangoon in late December that year. China was said to have 'agreed in principle to consider the request'.⁹³

None of these reports have yet been confirmed, but rumours of Chinese small arms plants in Burma have been given greater credence by a number of other developments. Since 1988 a high priority for the SLORC has been the development and production of a replacement for the G3 automatic rifle. Not only is it considered too heavy and clumsy for the average Burmese foot-soldier (as well as being prone to jam), but the suspension of West German assistance in 1989 reminded the SLORC of its vulnerability to pressure from the Western democracies. Since then, Burmese engineers have been working on an indigenously produced 5.56 mm assault rifle, drawing on Chinese and Israeli expertise. Several prototypes of this weapon, which includes elements of the Type 56 assault rifle and the Galil AR, have already appeared, but full-scale production does not seem to have begun.⁹⁴ In 1991 an Israeli team visited Rangoon to discuss the sale to Burma of Uzi 9 mm submachine guns, and there have since

⁹² BBC, *Summary of World Broadcasts*, FE/2200/B/5, 13 January 1995.

⁹³ *ibid.*

⁹⁴ The G3 is 1025 mm long and weighs 4.4 kg. The Type 56 assault rifle is considerably shorter at 880 mm, but still weighs 4.3 kg. The Galil AR assault rifle (which was itself based on the AK47) is 979 mm long and weighs 4.35 kg. The weapon preferred by many Burma Army soldiers and insurgents appears to be the Colt M16A1, which is 991 mm long and weighs only 2.88 kg. See Graham Smith (ed.), *Military Small Arms* (Salamander, London, 1994), pp.165-71; and Jonathan Falla, *True Love and Bartholomew: Rebels on the Burmese Border* (Cambridge University Press, Cambridge, 1991), p.115.

been unconfirmed reports that the SLORC may also be trying to develop a version of this weapon, to be known as the BA94.⁹⁵

At the same time, the Burmese are experimenting with other weapons. One radical new design, currently known as the E.M.E.R. K1, is for a family of weapons following the shortened 'bullpup' configuration. Prototypes of assault rifle and light machine gun versions have already been produced. They have a stamped, all-metal body, 30-round magazine behind the pistol grip and take 5.56 mm M16 ammunition.⁹⁶

In addition to developing new infantry weapons, the SLORC has improved Burma's capability to produce its own ammunition. It has long had the capacity to manufacture small-calibre (.303 British, 7.62 mm NATO and 9 mm Parabellum) ammunition, and it would be logical to extend this to include 5.56 mm ammunition for its new weapons. Also, locally produced 51 mm (BA78) and 81 mm mortar bombs now permit the Tatmadaw to use these more modern weapons instead of its old British (and Burmese-made) 2-inch ML and 3-inch ML mortars. Burma also makes its own 120 mm and 60 mm mortar bombs, 41 mm (BA92) and 51 mm (BA80) rifle grenades, and (probably) grenades for its 40 mm launchers.⁹⁷ The old (UK- and US-made) Type 36 and (Burmese) BA77 anti-personnel hand grenades used by the army throughout the 1960s and 1970s have now been replaced by locally made BA88 (offensive), BA91 (defensive) and BA109 (general purpose) hand grenades.⁹⁸ Burma also manufactures its own mobile 81mm artillery rocket launcher, known as the BA84.⁹⁹

Steps have also been taken by the SLORC to manufacture reconnaissance vehicles and light armoured cars in Burma. Since 1988, the IISS has identified at least 30 locally produced Mazda scout cars and 20 Hino armoured personnel carriers (APCs) which have been

⁹⁵ Interviews, Canberra, June 1995. This report has yet to be confirmed, and may simply reflect confusion with the SLORC's plan to develop a weapon based on the AK47 and Galil assault rifles.

⁹⁶ Personal observation, Rangoon, April 1995.

⁹⁷ Burma probably also makes its own copy of the Chinese 60 mm Type 63 mortar. See *The Military Powers Encyclopedia*, p.46.

⁹⁸ The Type 36 is a Second World War vintage British hand grenade, but the Burmese appear to use the same name for similar, but more modern, US fragmentation grenades.

⁹⁹ This paragraph is based on interviews and personal observations in Rangoon during April 1995.

added to the army's pool of motor vehicles.¹⁰⁰ There are at least four kinds of light armoured vehicles made in Burma, however, with the Burma Army designations BAAC-83, BAAC-84, BAAC-85 and BAAC-86. There may even be a BAAC-87 model. Most seem to be based on Mazda and Hino technology and parts, but it is possible that for the later models army engineers have used Nissan or Toyota components. The SLORC also boasts an indigenous 'Special Combat Vehicle'. This is essentially a long-wheel-base jeep armed with 7.62 mm MG3 and .50 calibre Browning machine guns, a 60 mm or 81 mm mortar mounted in the back, and carrying a 84 mm Carl Gustaf recoilless gun with high-explosive anti-tank (HEAT) projectiles.¹⁰¹

During the 1950s, with advice and equipment mainly from Yugoslavia, Burma developed a capacity to produce its own small naval vessels. By the 1960s, it was building ships up to the light corvette class (400 tons standard). After the 1962 coup, however, the navy was accorded a lower priority in the defence budget and work at Rangoon's shipyards slowed down as imported equipment (like marine engines and electronic systems) was harder to obtain. There was also a shortage of skilled manpower. While a number of small patrol craft were built in the years that followed, most effort was put into the repair and maintenance of the Burma Navy's existing fleet.¹⁰² This situation changed after 1988, however, when the SLORC authorised a number of ship-building projects. Two coastal patrol craft and four river patrol craft have already been built by the Naval Engineering Depot and the Myanma Shipyard in Rangoon, and work is almost completed on two newly designed fast attack gunboats, to be powered by German Mercedes diesel engines.¹⁰³

Burma has never been able to produce aircraft or major aircraft components. Although it has displayed considerable ingenuity in its workshops, the Burma Air Force has always been heavily dependent on foreign suppliers and foreign expertise to keep its machines operational.

This expansion of the armed forces, their new command structure, the massive arms procurement programme, the

¹⁰⁰ *The Military Balance 1995/96*, p.161.

¹⁰¹ Personal observation, Rangoon, April 1995.

¹⁰² Cheeseman and Leaver, *Trends in Arms Spending ...*, p.27.

¹⁰³ *Jane's Fighting Ships, 1994-95* (Jane's Information Group, Coulsdon, 1994), pp.76-81.

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improvements in local arms industries and other steps taken by the SLORC since 1988, have all helped bring about a major transformation in the Bama Tatmadaw. It is now much larger, better organised, better equipped and better supported by local industry. All these changes, however, can be very deceptive. On closer examination of the three individual services, it quickly becomes apparent that the Burmese armed forces are not as powerful or as effective as they may first appear. Despite significant improvements over the last seven years, they face a number of serious problems which will take time to overcome.

CHAPTER 3

THE BURMA ARMY

Whenever the Burmese armed forces are mentioned, it is usually the Burma Army (BA or Tatmadaw Kyi) which springs to mind. This is hardly surprising. The army has always been by far the largest service and has always received the lion's share of the Burmese defence budget. It has played the most prominent part in Rangoon's military struggle against the 40 or more insurgent groups which have challenged central rule since 1948. After General Ne Win's coup in 1962, the army effectively dominated all political processes in the country and even branched out into commerce, industry and banking. Its leading political role was reinforced in 1988 by the creation of the SLORC which, despite a number of personnel changes since then, still consists almost entirely of senior army officers.

The Burma Army before 1988

The Burma Army traces its origins to a number of nationalist military forces which were formed during the Second World War. These included the Burma Independence Army (BIA) which participated in the Japanese invasion of the country in December 1941, the Burma Defence Army (created in late 1942 by the Japanese in an effort to control the BIA), and the Burma National Army (BNA) which was formed in 1943 when the Japanese granted Burma 'independence' under the puppet government of Dr Ba Maw.¹ Thanks to a dramatic switch in its allegiances late in the war, this last force survived as the Patriotic Burmese Forces (PBF) to become the nucleus of the new Burma Army when the British colonial administration finally left in 1948. As Hugh Tinker has noted, however, 'any hope of steady development of the new army was overturned by the onset of civil war'.² Almost immediately after the birth of the Union, three former

¹ A useful summary of these developments is given in Lebra, pp.39-74. See also Andrew Selth, 'Race and Resistance in Burma, 1942-1945', *Modern Asian Studies*, Vol.20, No.3, July 1986, pp.483-507.

² Hugh Tinker, *The Union of Burma: A Study of The First Years of Independence* (Oxford University Press, London, 1957), p.323.

battalions of the PBF mutinied, as did a number of the BA's new ethnic battalions. These mutinies, together with the outbreak of insurgencies with two communist parties and a number of other groups, soon threatened the survival of the fledgling Nu government in Rangoon. To protect the new Union and restore unity to the country, a rapid expansion of the army was authorised.

At independence, the Burma Army consisted of 15 regular battalions, assisted by 15 battalions of military police.³ After the 1948 mutinies, the army was reduced to a mere six front line battalions, or less than 3000 men.⁴ By 1952 it had grown to nine battalions. The following year, however, it jumped in size to 41 battalions, mainly through the incorporation into the army of the *sitwundans*, or temporary territorial units.⁵ These troops were supported by armoured and artillery regiments, engineering units, a medical corps, and supply and signals elements. Some arms and equipment were provided by the United Kingdom, the United States and India. With a little more foreign assistance, this steady increase in strength continued until 1960, by which time the army had grown to some 85,000 men, reportedly organised into about 50 infantry battalions.⁶ After General Ne Win's coup in 1962 and the creation of the BSPP there was a major diversion of army resources to political and administrative roles, but efforts were soon made to replace these losses. In October that year, for example, 27 new battalions were formed from the Union Military Police, which was then formally disbanded. Under the Ne Win regime, the army's growth quickened. By 1974 it had about 120 battalions, or 145,000 men. By the beginning of 1988 it had grown even further. According to the IISS, it then consisted of 165 regular infantry battalions, two armoured battalions, four artillery battalions, and one light anti-aircraft artillery

³ As noted above, published figures for Burma's order of battle are quite unreliable, but they can still be useful in conveying orders of magnitude, if not actual force levels. This paragraph draws mainly on *The Military Balance* for the years in question. See also Fredholm, *Burma: Ethnicity and Insurgency*, pp.82-4.

⁴ Tinker, *The Union of Burma*, p.326; Dr Maung Maung puts the February 1949 figure at 'a few thousand men'. *Burma's Constitution* (Martinus Nijhoff, The Hague, 1959), p.143.

⁵ Tinker, *The Union of Burma*, p.326.

⁶ If these (and some later) figures are correct, then the average Burmese infantry battalion around this time must have been well below its later establishment strength of 750 officers and men. Some were probably little more than companies.

battalion.⁷ All these units were made up of volunteers serving commitments of between two and six years.

There was no shortage of recruits. After independence, the army tended to be seen as 'the most available channel of social mobility'.⁸ It was also an avenue through which young Burmese could acquire technical and professional skills, which could be profitably exploited on their return to civilian society. The army also offered considerable privileges and material benefits, compared to many other occupations. Another reason for the attraction of a career in the army, at least until the 1962 coup, seems to have been the prestige of the military profession. As Moshe Lissak has pointed out:

Although there is no direct evidence on this issue, it appears that the attitude of the Burmese people toward the military profession changed, from 1948 to 1962, from a negative to a much more positive one. The role played by the army on the battlefield apparently strengthened the soldier's status in Burmese society after independence.⁹

This feeling was naturally strongest among the ethnic Burmans and others who owed their primary loyalty to the central government in Rangoon. The 1962 coup and subsequent human rights abuses by the armed forces saw a marked reduction in the army's status and popularity. Largely for historical reasons, however, it still managed to retain sufficient prestige to help attract more applications to enlist than it needed to fill its ranks.

While the Burma Army was formally organised on the regimental system, the basic manoeuvre and fighting unit was always the battalion. This was usually organised into a headquarters unit, four rifle companies (usually of three platoons each), a support company (with medical, transport, logistics and signals functions), and a heavy weapons company. The latter included mortar, machine gun and recoilless gun platoons. Artillery and armoured units were not used in an independent role, but were deployed as necessary in support of the infantry. The establishment strength of the battalion was usually set at

⁷ *The Military Balance 1988-1989*, p.159. Fredholm lists a total of 238 regular infantry battalions (*Burma: Ethnicity and Insurgency*, p.83). See also Tin Maung Maung Than, 'Burma's National Security and Defence Posture', p.48.

⁸ Lissak, *Military Roles in Modernization*, p.157.

⁹ *ibid.*

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750 officers and men, but in fact rarely exceeded 500 and was sometimes much lower.¹⁰ Before the SLORC's expansion programme, the Burma Regiment numbered more than 100 battalions and the Light Infantry Regiment some 40 battalions. Other regiments, with traditional names like the Burma Rifles, Kachin Rifles, Shan Rifles, Chin Rifles and Kayah Rifles, were much smaller, accounting for only about 20 more battalions.¹¹ Of these infantry battalions, 85 (*Hka La Ya* battalions) did not fall under any formal divisional structure but were independently assigned to garrison duties in Burma's nine Regional Commands. The remaining 80 (*Hka Ma Ya* battalions) were mobile formations which made up the eight specialised Light Infantry Divisions.¹²

The first LID, the 77th, was formed in mid-1966. It was responsible for the defeat of the CPB forces based in the forested hills of the central Pegu Yoma in the mid-1970s. In 1967 and 1968 two more LIDs were formed, the 88th and 99th. In the latter half of the 1970s, three more LIDs were raised (the 66th, 55th and 44th, in that order), followed by another two in the period leading up to the SLORC's takeover of political power (the 33rd and 22nd LIDs).¹³ In 1988 each LID consisted of 10 battalions specially trained in counter-insurgency warfare, under three Tactical Operational Commands. These TOCs were in some respects similar to Brigades, being made up of three or more combat battalions, with small command and support elements. One LID battalion had been given parachute training, but airborne operations were rare. While some LIDs were used to occupy territory and deny it to anti-government forces, they generally constituted the regime's élite shock troops against insurgents and narcotics-based armies. They were also called upon to quell serious civil disturbances in the major population centres. The 77th LID performed such a role in Rangoon during the 1974 'U Thant' disturbances, as did the 22nd and 33rd LIDs during the pro-democracy demonstrations of August and September 1988.

¹⁰ Bunge (ed.), *Burma: a country study*, pp.253-4.

¹¹ *ibid.* See also Fredholm, *Burma: Ethnicity and Insurgency*, p.82. *The Military Powers Encyclopedia* (p.38) states that the ethnic regiments accounted for less than 5 per cent of the Burma Army's active battalions. Despite their names, these regiments had all been ethnically integrated by early 1983.

¹² *The Military Balance 1988-1989*, p.159.

¹³ Fredholm, *Burma: Ethnicity and Insurgency*, p.83. See also A Correspondent, 'Reining in the Majors', *Far Eastern Economic Review*, 17 September 1987, p.14; and Lintner and Karniol, 'Unrest swells the Burmese ranks', p.1020.

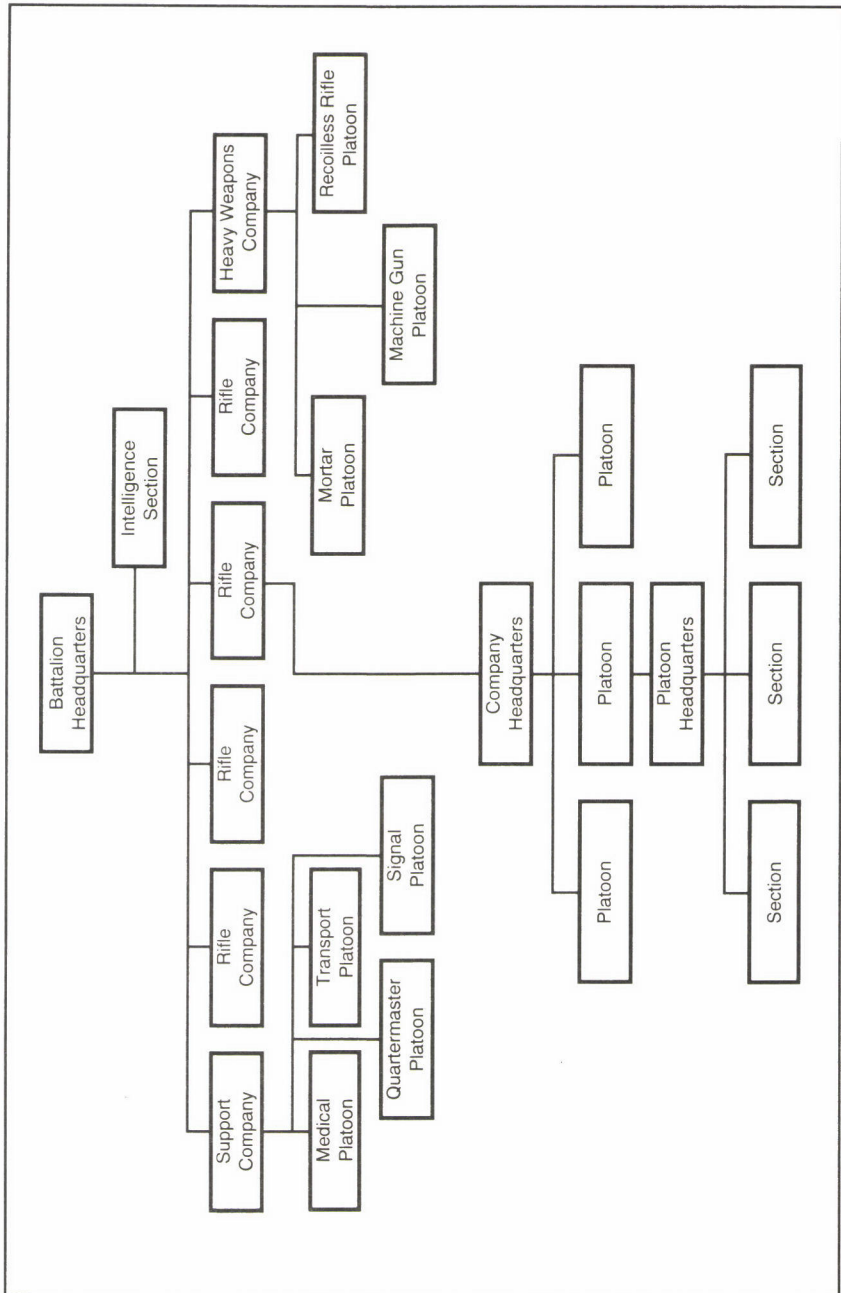


Figure 8: Burma Army Infantry Battalion Structure

In addition to manpower problems, after 1948 the new Burma Army also faced severe shortages of arms and equipment. As already noted, the Nu government was reluctant to accept foreign military aid, which it feared might compromise Burma's newly won independence and draw the country into the Cold War. The serious insurgent threat, however, soon forced it to turn to other countries for assistance. Under their 1947 bilateral defence agreement, the United Kingdom provided Burma with technical advice, loans and shipments of surplus military equipment. India also helped with small arms and ammunition. The United States was initially slow to assist the BA but eventually provided a considerable amount of ammunition, war materiel and training, first under the Mutual Defense Assistance Plan (MDAP) and later under the Military Assistance Program (MAP).¹⁴ During the 1950s weapons and training were also provided by Yugoslavia and Israel, both of which were seen to share Burma's non-aligned credentials. After 1958 further arms and equipment were purchased from the United States under a special sales arrangement, but this programme was suspended for political reasons between 1971 and 1981.¹⁵

By 1988 the Burma Army possessed a wide variety of equipment from many different sources. Much of it was very old and of limited utility. Burma's reluctance to accept military aid, its continuing economic problems and the perpetual shortage of foreign exchange had prevented any major modernisation programmes. These factors had also encouraged the army to retain and maintain almost all the equipment that it ever acquired. As one observer noted in 1983, the fact that so much of it was kept in functioning order 'was a testament to the skill and inventiveness of the army's maintenance personnel, who have long had the task of making do with what little was

¹⁴ Between 1950 and 1984 the United States provided US\$72.1 million in grants under the MAP. Between 1950 and 1994, it also gave about US\$5.8 million under the International Military Education and Training (IMET) programme. Burma also received aircraft and other military equipment under the International Narcotics Control Program (INCP). See *Foreign Military Sales, Foreign Military Construction Sales and Military Assistance Facts, as of September 30, 1994* (US Department of Defense, Washington, 1995), p.70 and p.95.

¹⁵ US-Burma military relations were essentially hostage to Burma's relations with China. For example, Burma's refusal to renew its military aid programme with the United States in 1971 was directly related to Rangoon's resumption of normal ties with Beijing after a breach in mid-1967. See Chi-shad Liang, *Burma's Foreign Relations: Neutralism in Theory and Practice* (Praeger, New York, 1990), p.168.

available'.¹⁶ It was also a reflection of the nature of the security threats the Rangoon government faced and the relatively limited military ambitions which the regime had set for itself before the SLORC took over.¹⁷

The standard Burmese infantry weapon was the 7.62 mm BA63 automatic rifle, a locally produced version of the German G3. A shorter, lighter assault version known as the BA72 (or G2), was also used.¹⁸ The army also had US-made 5.56 mm M16A1 automatic rifles (about 500 fitted with 40 mm M203 grenade launchers), German-made 7.62 mm FN-FAL automatic rifles and a quantity of British 9 mm Sterling submachine guns.¹⁹ Many soldiers still carried old .30 calibre M1 and M2 carbines provided by the United States in the 1950s under the MAP. A few units may have kept .303 Lee Enfield rifles, BA52 submachine guns or possibly even obsolete British 9 mm Sten guns in store, but by 1988 most of these much older weapons had been passed on to Police and People's Militia units.²⁰ Officers usually carried a 9 mm Browning High Power/FN 35 semi-automatic pistol. The typical section support weapon was the locally manufactured 7.62 mm BA64 light machine gun, also known as the G4.²¹ Company fire support

16 Bunge (ed.), *Burma: a country study*, p.254.

17 The following paragraphs draw on several sources, in particular *The Military Balance 1988-1989*, pp.156-7; *The Military Balance 1995/96*, pp.161-2; *Jane's Infantry Weapons 1987-88* (Jane's Information Group, Coulsdon, 1987), p.945; *Jane's Infantry Weapons 1994-95* (Jane's Information Group, Coulsdon, 1994), p.686; *Jane's Armour and Artillery 1987-88* (Jane's Information Group, Coulsdon, 1987), p.866; *Jane's Armour and Artillery 1994-95* (Jane's Information Group, Coulsdon, 1994), p.677; and Fredholm, *Burma: Ethnicity and Insurgency*, p.84.

18 The BA63 is essentially the Heckler and Koch G3A3. There is also an improved version of the G3, known in Burma as the BA100, which is more accurate and reliable than the standard infantry weapon. The BA72 is based on the 7.62 mm G3 but has a shorter barrel, retractable stock and larger magazine.

19 Some sources have described the US rifles as the Armalite AR-10. This is the same as the Colt M-16, of which the M16A1 was a later refinement. The FN-FALs were surplus West German weapons, provided to Burma in the early 1960s. (The Heckler and Koch G3 replaced the FN FAL as the standard German infantry weapon in 1959). The Germans dubbed the FN FAL the G1, a practice which the Burmese also followed.

20 The BA52 has sometimes been confused with the old British Sten gun, or even the more modern British Sterling 9 mm submachine gun. The British Stens supplied to Burma during and immediately after the Second World War appear to have been mainly Mk 2 and Mk 5 variants.

21 This was essentially the G3 automatic rifle fitted with a heavy barrel and bipod. The G4 replaced the British .303 calibre Bren general-purpose machine gun, although there is strong evidence to suggest that the Burmese continued to use the

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generally consisted of German-designed 7.62 mm MG3 medium machine guns and Belgian 7.62 mm FN MAG general-purpose machine guns. Browning .50 calibre (12.7 mm) M2HB machine guns were also widely used.²²

Other infantry weapons used by the army around this time included some 3000 US-made 40 mm M79 grenade launchers (delivered to Burma in 1985) and, since 1982, at least 1200 Swedish 84 mm M2 Carl Gustaf recoilless guns obtained from Singapore.²³ There have been a few reports that the army has also used Oerlikon 20 mm cannons against insurgent defensive positions.²⁴ While the Burma Navy mounts these weapons on its gunboats and landing craft, their use by the army in this fashion has not been confirmed. It is more likely that the weapons in question were Hispano-Suiza 20 mm cannons (closely related to the Oerlikon), which have been mounted on some of the Burma Army's armoured vehicles.²⁵ Other support weapons included 60 mm light mortars (probably made in Burma), 81 mm medium mortars (probably old US M29s or Israeli weapons), obsolete ex-Soviet bloc 82 mm M43 mortars, and a range of 120 mm heavy mortars.²⁶ The latter seems to have been a mix of Yugoslavian (UBM 52), Israeli (Soltam), French (Brandt) and Finnish (Tampella) weapons. Some old British 2-inch ML and 3-inch ML mortars (or locally made copies) were still in the Burmese armoury.²⁷ It also

-
- Bren for some time, after modifying it to take 7.62 mm NATO standard ammunition. Personal observation, Rangoon, April 1995.
- 22 The MG3 is sometimes listed under its older German name as the MG42. While most observers agree that these machine guns are now made in Burma, some sources have claimed that the BA's weapons are survivors from a consignment of Second World War vintage German machine guns provided by Yugoslavia in the 1950s. See for example T.N. Dupuy and Wendell Blanchard, *The Almanac of World Military Power* (Bowker, New York, 1972), p.310. The Browning .50 calibre machine guns were most probably Belgian-made FN Herstal weapons.
- 23 DMS/FI, File 589, June 1995. See also Lintner, 'An export backfires', pp.26-7. These recoilless guns were presumably the 'Swedish field artillery' to which Jon Anderson referred in *Guerillas* (Harper Collins, London, 1994), p.74.
- 24 Tom Peterson, 'Karen Kill Zone', *Soldier of Fortune*, Vol.15, No.3, March, 1990, p.31. See also Tom Peterson, 'Bad Day at Thingannyinaung', *Soldier of Fortune*, Vol.15, No.2, February 1990, p.31; and Mike Williams, 'Gutsy Karens Continue to Bloody Burmese Butchers', *Soldier of Fortune*, Vol.15, No.2, February 1990, p.35.
- 25 Personal observation, Rangoon, April 1995.
- 26 *Jane's Infantry Weapons 1995-96* (Jane's Information Group, Coulsdon, 1995), p.678.
- 27 One foreign observer has claimed that the Burma Army was still using British 2-inch mortars against insurgents as late as 1990, although the ammunition was 30-40 years old and often failed to explode. Peterson, 'Karen Kill Zone', p.31.

included a number of obsolete US-made 3.5-inch M20 rocket launchers (or 'bazookas').

The army's field and anti-aircraft artillery also suffered from the problems of age, shortages of spare parts and ammunition, and a lack of suitable transport. The BA inventory in 1988 included about 50 old British 25-pounder (88 mm) field guns and some 5.5-inch (140 mm) medium guns. For howitzers, the BA relied on about 100 Yugoslavian 76 mm M48 B1 mountain guns provided by Marshal Tito in the 1950s, and a similar number of US-made 105 mm M101 howitzers delivered under the MAP. The army also maintained about 60 anti-tank guns of different types and vintages (mainly old British 57 mm 6-pounders and 76.2 mm 17-pounders). There has been one report that in 1987 the army took delivery of a number of ex-Soviet 122 mm BM-21 multiple rocket launchers (MRLs) from Vietnam, but this has yet to be confirmed.²⁸ Burma's air defence artillery consisted of 10 Bofors 40 mm L60 Mk 1 anti-aircraft guns and a number of 3.7-inch (94 mm) Mk 3A towed anti-aircraft guns provided by the United Kingdom in the late 1940s or early 1950s from Second World War surplus stocks.²⁹ A number of old Yugoslavian 20 mm M38 anti-aircraft guns were also still in service. All these weapons were kept in good condition, considering the circumstances, but the lack of all-weather roads made their deployment difficult and ammunition shortages prevented sustained fire for any period.

Before 1988 the Burma Army's heavy equipment was also obsolete. There were about 25 Second World War vintage British Comet medium tanks, 40 Humber one-ton armoured personnel carriers and 45 Daimler Ferret scout cars. Of the latter, Burma possessed two variants, one fitted with a machine gun turret and one without.³⁰ All these vehicles were supplied by the United Kingdom between the mid-1950s and mid-1960s. The BA also maintained a fleet of about 80 old UK- or US-made Universal T-16 tracked Bren gun

²⁸ *The Military Powers Encyclopedia*, p.37. Neither the number of MRLs, nor the number of launchers per system, were specified in this report.

²⁹ *Jane's Armour and Artillery 1981-82* (Jane's, London, 1981), p.579. As no weapon in the Burma Army's armoury ever seems to be discarded, it seems a reasonably safe assumption that they were still in use, or at least in store, in 1988.

³⁰ Personal observation, Rangoon, April 1995. See also James Smith, 'Myanmar's Armed Forces - Retaining Power', *Jane's Intelligence Review*, Vol.3, No.9, September 1991, pp.188-9.

carriers, some with mounted 20 mm Hispano-Suiza Mk 5 cannon.³¹ The operational value of all these armoured vehicles was very limited. Even if the Comet tanks were still serviceable, for example, the Tatmadaw lacked sufficient heavy road transporters and had difficulty taking them to areas of operation far from their bases at Hmawbi and Meiktila.³² Their utility was also greatly limited by their age and the nature of the terrain over which they would have to operate. Armoured vehicles were occasionally deployed around major population centres during civil disturbances, however, to give the infantry greater firepower and to intimidate protesters.³³

The army's road transport was provided by a mixture of old and new motor vehicles, including renovated Bedford trucks from the United Kingdom, Willy's jeeps and Dodge weapons carriers from the United States, German Unimog lorries, locally assembled Hino 6.5-ton diesel trucks, Toyota DA-80 and FA-60 trucks, and Mitsubishi and Toyota four-wheel-drive general-purpose vehicles from Japan. The army's motor pool also included a range of smaller vehicles, mainly Japanese Mazdas (many of which were assembled in Burma).³⁴ The demands made on these vehicles were immense, and they were further tested by the shortage of sealed all-weather roads. In many border areas there were no roads at all. Rail and riverine transport were also used to carry military supplies whenever possible but their capacity was very limited. In the hills, pack mules were often used to carry heavy equipment, weapons and rations, and troops on operations usually moved on foot. It was also common Burma Army practice to press-gang convicts and local civilians to act as porters, carrying ammunition and other supplies from rear areas to the front line.³⁵ As one observer has noted, it was 'an exceedingly antiquated

31 It had been thought by many that, by the late 1980s, these Bren gun carriers had either been put into storage or completely phased out of service. They appeared on the streets of Rangoon, however, when the military regime deployed the army to crush the pro-democracy movement in 1988. Lintner, *Outrage*, pp.131 ff.

32 Burma possessed a small number of Avitar tank transporters. Hmawbi is about 32 kilometres north of Rangoon. Meiktila (another garrison town) is about 150 kilometres south of Mandalay.

33 Lintner, *Outrage*, p.131. See also Selth, *Death of a Hero*, p.18.

34 Personal observation, Rangoon and Taunggyi, April 1995.

35 The harsh treatment received by these porters has been graphically described on numerous occasions. See, for example, the interviews conducted by Kerry Brewster and broadcast by Australia's Special Broadcasting Service (SBS) television network in its programme 'Dateline' on 25 March 1995. See also *The Kayin State in the Union of Myanmar: Allegations of Ill-treatment and Unlawful Killings*

way of fighting a well-trained and armed enemy in a terrain ideally suited for guerrilla warfare'.³⁶

When the SLORC took power, the BA had been fighting insurgent groups and independent armies for 40 years. The much vaunted 'Four Cuts' (*Pya Ley Pya*) strategy introduced in the mid-1960s had initially succeeded in cutting off many insurgent groups from their sources of food, funds, intelligence and recruits.³⁷ It had the additional effect, however, of driving them further into the rugged frontier areas of Burma where they were much harder to dislodge. The forced resettlement of villagers and scorched earth policies associated with the Four Cuts programme continued in these areas, but were much less effective.³⁸ After the mid-1970s, the army was strong enough to dominate the fertile lowland areas of the country and put down occasional protests in the urban centres. Yet it did not possess the manpower, firepower, mobility or infrastructural support necessary to occupy all the disputed territory or achieve decisive results against any of the major insurgent groups. As one observer has noted, most military analysts calculate that to achieve victory against well-established guerrillas, the government forces need to outnumber them by at least ten to one. Yet before 1988 the BA was faced with a combined insurgent opposition of at least 25,000 to 35,000 armed regulars.³⁹ The ratio was barely five to one.

As a consequence, the Rangoon government reverted to a policy of isolation and attrition, hoping to cut off the insurgents' supplies and wear away their strength until the army could either defeat them on the battlefield or force them to negotiate. Hamstrung by all its deficiencies, however, and by other problems like the annual

of Suspected Political Opponents and Porters Seized Since 18 September 1988 (Amnesty International, London, 1989); and Martin Smith, *Ethnic Groups in Burma: Development, Democracy and Human Rights* (Anti-Slavery International, London, 1994).

36 Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.100.

37 *ibid.*, pp.258 ff.

38 Indeed, by creating widespread antagonism against the army and attracting international criticism they were quite counterproductive. See, for example, Rodney Tasker and Bertil Lintner, 'Second Coming', *Far Eastern Economic Review*, 15 July 1993, p.24.

39 Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.90. Useful summaries of Burmese ethnic insurgent groups are given in Lintner, *The Rise and Fall of the Communist Party of Burma (CPB)*, pp.105-8; and Smith, *Ethnic Groups in Burma*,

monsoon, the army soon found that its own strength and staying power was being tested. It was difficult for the BA to mount more than one or two major operations each year, or to sustain them for any extended period. Also, lacking the numbers and logistical resources, the army was forced to tackle insurgent groups individually, hoping not to be faced with more than one major campaign in different parts of the country at the same time. The regime did not have the airlift capacity needed to move troops long distances quickly and, without either an adequate road network or suitable cross-country vehicles, found it difficult to bring its heavier equipment to bear on the insurgents' well-defended bases. Insurgent groups were thus given periodic respites from the fighting and opportunities to recover their strength. In the vicious skirmishes and assaults which came to characterise counter-insurgent operations in Burma, the army was frequently outgunned and out-manoeuvred by its opponents, who often enjoyed better sources of supply, shorter lines of communication and greater support from the local population.⁴⁰

As 1988 drew to a close, the prospect for the military regime was one of continued bitter fighting with a similar lack of concrete results. It was a situation which the SLORC was determined to change.

The Burma Army after 1988

Within a year of the SLORC's takeover, the Burma Army had grown from about 170,000 to over 200,000 all ranks.⁴¹ 'Intelligence sources' were quoted in early 1992 to the effect that China had 'promised to help equip an entire new Burmese division, and sell equipment for more than 70 new infantry battalions to be raised over the next five years'.⁴² Drawing on a 'comprehensive order of battle'

p.34. See also Bill Barnes, 'Burma's democrats fight on in the face of fear', *Australian*, 12 January 1993.

40 Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.100. Some insurgent groups were able to purchase modern weapons and equipment (like mobile radios) on the black market, drawing on funds generated by 'taxes' imposed on cross-border smuggling operations. Other groups had access to much greater funds generated from the sale of narcotics. A few, like the CPB, were supported to a greater or lesser extent by foreign governments. See also Anderson, *Guerrillas*, p.73.

41 The figure of 170,000 is from *The Military Balance 1988-1989*, p.159. This included 165 infantry battalions.

42 Bertil Lintner, 'Centrifugal forces', *Far Eastern Economic Review*, 27 February 1992, p.16.

obtained from Burmese sources, *Jane's Defence Weekly* reported later that year that the Burma Army had grown to 109 garrison battalions and 76 mobile battalions, with support elements.⁴³ According to the IISS, by mid-1995 the Burma Army's personnel strength stood at 265,000 officers and men, with the main combat element consisting of 245 infantry battalions.⁴⁴ There were also four armoured battalions, seven artillery battalions and 17 independent artillery companies. The number of anti-aircraft artillery battalions had risen to two.⁴⁵ Of the infantry battalions, 145 were in garrison with the Regional Commands, under 32 TOCs. The remainder were shared between the Light Infantry Divisions. As noted above, it is always difficult to arrive at an accurate Burmese order of battle but, by any estimate, it was a remarkable expansion in a very short time.

The SLORC has also introduced a number of changes to the army's command structure and the deployment of its forces. A number of additional formations have been created, including two new Light Infantry Divisions. The 11th LID was formed in December 1988, and the 101st LID in 1991.⁴⁶ Each have three TOCs. There are now at least 23 independent engineer companies and 9 signal companies.⁴⁷ The number of military intelligence companies has also increased, from as few as 12 before 1988, to 17 in 1989 and then to 23 by mid-1992. These new intelligence units have been assigned not only to potential centres of civil unrest like the major towns and cities, but also to posts along the Chinese, Indian and Bangladeshi borders.⁴⁸ Other army units have also been assigned to these border areas. As *Jane's Defence Weekly* reported in 1992:

Before 1988 ... Burma's borders with Bangladesh and India were covered by five battalions of regular infantry. Today the same zones are covered by more than 32 battalions. Shan State in Burma's north-east has also seen a build-up of government

43 Lintner and Karniol, 'Unrest swells the Burmese ranks', p.1020.

44 *The Military Balance 1995/96*, p.161.

45 Lintner and Karniol, 'Unrest swells the Burmese ranks', p.1020. In mid-1995, however, the IISS listed only three armoured battalions and one anti-aircraft artillery battalion. See *The Military Balance 1995/96*, p.161.

46 In 1993 Tin Maung Maung Than suggested that there were 11 LIDs, but this additional formation cannot be identified. See 'Neither Inheritance nor Legacy', p.60, note 126.

47 *The Military Powers Encyclopedia*, p.37.

48 Lintner and Karniol, 'Unrest swells the Burmese ranks', p.1020.

strength, with about 20 of the newly formed battalions stationed there.⁴⁹

In addition, the 20 or so infantry battalions which formerly carried ethnic designations, such as the Chin Rifles and Kachin Rifles, have been given purely numeric titles. This is presumably to emphasise the country's need for unity, despite its diverse ethnic composition.

The rapid increase in the Burma Army's numbers after 1988 was initially achieved through a vigorous recruitment campaign, carried out mainly in impoverished rural villages where young men had little chance of regular employment. Many recruits were attracted by the promise of a cash payment on enlistment, and later access to the relatively generous pay, privileges and perquisites which are usually enjoyed by members of the armed forces in Burma. Also, recruiting standards appear to have been lowered. Before 1988, about half of all applicants to join the army were rejected as medically unfit, or in other ways deemed unsuitable.⁵⁰ To all intents and purposes this practice has now been abandoned. For example, the official minimum age for joining the army is 18 but some recruits accepted by the SLORC (usually for two-year periods) have been as young as 15 years old.⁵¹ There have also been reports of the BA enlisting orphans and other homeless children, counting on their gratitude to ensure continuing loyalty to the military regime. There have been claims that some children have been tricked into enlisting, or even kidnapped.⁵² At the same time, a major propaganda campaign was launched in the government-controlled news media to try and attract additional recruits, by appealing to their sense of duty and national pride.⁵³

These measures appear to have achieved some initial successes, but the number of recruits later fell away and other

49 *ibid.*

50 T.D. Roberts *et al.*, *Area Handbook for Burma* (American University, Washington, 1968), p.333.

51 Lintner, 'Consolidating power', p.23. See also 'Troops freed by Karen army fear government reprisals', *Nation*, 11 January 1993; and 'Burmese Rebels Await a Foe's Lucky Number', *New York Times*, 22 March 1992. Most insurgent groups in Burma have children in their ranks, often as soldiers in the 'front line'.

52 Fredholm, *Burma: Ethnicity and Insurgency*, p.83. See also *Human Rights Yearbook 1994: Burma* (National Coalition Government of the Union of Burma Human Rights Documentation Unit, Bangkok, 1995), p.73.

53 See, for example, Maung Myo Thu, 'The Tatmadaw wants you', *Working People's Daily*, 24 March 1993.

measures had to be introduced. Since 1993, for example, there have been persistent reports that every district and village in Burma has been required to provide at least one recruit for the army.⁵⁴ If it is still unable to fill all the vacancies created by the army's rapid expansion the regime could invoke Burma's 1959 People's Militia Act. This permits the conscription of all male citizens between the ages of 18 and 46, and females between the ages of 18 and 36, for between six months' and two years' military service.⁵⁵ The national constitution drawn up by the BSPP in 1974 also enshrines the principle that every Burmese citizen has a duty to protect the country and safeguard its integrity. The constitution states that citizens shall undergo military training and undertake military service for Burma's defence.⁵⁶ Yet the SLORC appears reluctant to take such a drastic step. Given the strength of feeling against the army since the 1988 massacres, the regime probably fears having large numbers of resentful men and women in the ranks who could disrupt important military operations. They could even turn their training and weapons against the regime itself.

It is relevant in this regard that, since 1988, considerable efforts have been made to expand the size and functions of the paramilitary People's Police Force. Completely discredited in the eyes of both the public and the military regime after 1988 (albeit for quite different reasons), the PPF has been significantly expanded and reorganised.⁵⁷ By the beginning of 1995 the PPF numbered some 50,000 officers and men, compared with only 38,000 in 1988. Some sources have suggested that the 1995 figure should be at least 58,400, even before counting the anti-riot police known as the *Lon Htein*.⁵⁸ The

54 Smith, *Ethnic Groups in Burma*, pp.118-19. See also 'Burmese Army to conscript youths', *Asian Defence Journal*, May 1993, p.86.

55 Some skilled professionals, like doctors, engineers and teachers, remain liable for service until aged 56. See Lissak, *Military Roles in Modernization*, p.156.

56 Constitution of the Socialist Republic of the Union of Burma, Articles 170 and 171. See A.D. Moscotti, *Burma's Constitution and Elections of 1974* (Institute of Southeast Asian Studies, Singapore, 1977), p.117.

57 The PPF, and in particular the *Lon Htein* riot police, have been condemned for their brutal treatment of students and other pro-democracy demonstrators in 1988. At the same time, the SLORC has bitterly criticised the PPF for surrendering their arms to the demonstrators. See, for example, Lintner, *Outrage*, pp.4-7 and pp.69-71; and Address Delivered by Senior General Saw Maung, Commander-in-Chief of the Defence Services, at the 45th Anniversary of the Armed Forces Day (Resistance Day), 27 March 1990.

58 *The Military Balance 1988-1989*, p.160; and *The Military Balance 1995/96*, p.162. See also *The Military Powers Encyclopedia*, p.44.

PPF's ranks and organisational structure have been more closely aligned with those of the armed forces. The most senior PPF positions have been filled with field grade army officers and 'unity of purpose and fraternal ties among all "armed units" have been repeatedly stressed in both the army and the police'.⁵⁹ As the Union Military Police used to be before 1962, the paramilitary PPF is now in effect an extension of the Tatmadaw, the main task of which is to help prevent or control civil unrest in the country's population centres, thus freeing the army for operations elsewhere.

It was in part to equip these much larger forces that, soon after it took over government, the SLORC embarked on a massive arms purchasing programme. The munitions which were obtained in late 1988 and early 1989 were soon supplemented by additional arms and ammunition. Most came from China. They reportedly included some 10,000 7.62 mm Type 56 assault rifles, 40 mm RPG-7 rocket-propelled grenade launchers, 82 mm and 122 mm mortars (probably Type 67 and Type 55), as well as 57 mm and 75 mm recoilless guns (probably including Type 52 and Type 56).⁶⁰ Ammunition was supplied for all these weapons, together with 62 mm and 66 mm HEAT projectiles.⁶¹ China also provided the army with night vision devices and 800 military parachutes.⁶²

In addition to their earlier shipments, Pakistan, Singapore and Israel have supplied Burma with a range of infantry weapons and equipment. Before its sales to the SLORC ceased in 1991, Pakistan shipped mortars, rocket launchers, assault rifles and ammunition valued at about US\$20 million. Until the practice was stopped by the United States, many of these weapons were siphoned off foreign arms

59 Tin Maung Maung Than, 'Neither Inheritance nor Legacy', p.60, note 126. Because of the inclusion of the PPF and People's Militia in Burma's 'armed units', the SLORC now prefers to use the (English-language) term 'defence services', rather than 'armed forces' in all its formal titles.

60 The rifles and ammunition alone were reported to be worth US\$290 million. See Lintner, 'Rangoon's Rubicon', p.28. See also Bertil Lintner, 'Hardware for hardliners', *Far Eastern Economic Review*, 1 December 1994, p.12; Bertil Lintner, 'Collective insecurity', *Far Eastern Economic Review*, 3 December 1992, p.22; and Lintner, 'Myanmar's Chinese connection', p.26. The Chinese Type-52 recoilless rifle is a copy of the old US M20 'bazooka' (which the Burma Army already possessed).

61 Personal observation, Rangoon, April 1995.

62 Bertil Lintner, 'Arms for Eyes', *Far Eastern Economic Review*, 16 December 1993, p.26.

shipments sent to Pakistan for use by the anti-Soviet *mujahideen* in Afghanistan.⁶³ Pakistan may have also provided Burma with 106 mm M40 A2 recoilless rifles, which the BA now has mounted on some of its jeeps.⁶⁴ More recently, Singaporean companies are thought to have sold the SLORC M16A1 automatic rifles and 5.56 mm ammunition in defiance of US export laws.⁶⁵ Israel has contributed at least one consignment of Uzi 9 mm submachine guns to the SLORC's weapons holdings.⁶⁶

The SLORC has also turned to other suppliers to arm and equip its ground forces. In late 1992, for example, a Portuguese arms manufacturer was reported to have sold the regime some US\$1.5 million worth of arms and ammunition, despite a European Community arms embargo against Burma. Included in the shipment were 120 mm heavy mortars, 81 mm medium mortars, and possibly some 60 mm light mortars. There were also said to be at least 20,000 mortar bombs and artillery shells in the order.⁶⁷ In late 1990 North Korea sold Burma 20 million rounds of 7.62 mm rifle ammunition.⁶⁸

63 Lintner, 'Hidden reserves', p.12.

64 Personal observation, Rangoon, April 1995. These weapons are manufactured in Pakistan and are still in service with the Pakistan Armed Forces.

65 Lintner, 'Myanmar's Chinese connection', p.26. According to Trevor Watson, Singapore has sold Burma 'tens of millions of dollars' worth of military equipment and arms since 1988. See 'Report from Asia', Australian Broadcasting Corporation (ABC), FM radio, 17 July 1994.

66 These weapons only seem to have been distributed to specialist units. The bodyguards of senior SLORC identities, for example, carry Uzi submachine guns, as do soldiers assigned to protect foreign visitors to Burma. (See, for example, Angus McDonald, *The Five Foot Road: In Search of a Vanished China* (Angus and Robertson, Sydney, 1995), p.177.) It is possible that Uzis are also used by the special anti-terrorist unit formed in 1986 to protect foreign embassies, and respond to incidents like aircraft hijackings.

67 Bertil Lintner has written that the deal was arranged through a private Portuguese company, dealing with Singaporean brokers who did not divulge the final destination of the arms. The Portuguese company has been identified as either Industrias Nacionias de Defensa EP, or Companhia de Polvoras e Municoes Barcarena SA. See 'Portuguese Men-of-War', *Far Eastern Economic Review*, 12 November 1992, p.8; and Lintner, 'Myanmar's Chinese connection', p.26.

68 'Burma buys AK-47 rounds', *Jane's Defence Weekly*, 2 February 1991, p.139. It is not clear why Burma did not purchase this ammunition from China, with which it shares much closer relations, particularly in the arms procurement field. Martin Smith has suggested that the ammunition was destined for the United Wa State Army (UWSA), an insurgent group in Burma's far north which had signed a cease-fire agreement with the SLORC. Given the continuing involvement of the UWSA in the opium trade, which China officially condemned, Smith feels that it would

While specific orders have not been identified, the army's munitions holdings suggest that in recent years France may have sold Burma 120 mm mortar bombs, while Belgium, Czechoslovakia, South Africa and South Korea have reportedly provided additional small arms and ammunition.

Since 1988, the Burma Army has also obtained a wide range of heavier equipment. Once again, most has come from China.⁶⁹ To modernise and strengthen its armoured warfare capabilities, for example, the SLORC initially purchased about 85 tanks. This order probably consisted of 30 Norinco Type 69II main battle tanks and 55 Type 63 light tanks. (The latter is the Chinese version of the Soviet PT76 light amphibious tank.) Rangoon also appears to have placed an order with Norinco for more than 100 armoured personnel carriers, probably Type 85 models.⁷⁰ These early shipments of Chinese armoured vehicles were followed in late 1993 by a Burmese order for an additional 50 T69 main battle tanks, 50 T63 light amphibious tanks and 150 more Type 85 APCs.⁷¹ If all these reports are correct, then Burma's armoured battalions will soon be able to boast about 80 new main battle tanks, 105 light tanks and some 250 Chinese APCs, in addition to the 50 or more APCs and light reconnaissance vehicles already produced in Burma's own arms factories. Together, they constitute a significant boost to the BA's order of battle.

The Chinese are also reported to have sold Burma more than 100 artillery pieces over the past seven years. These weapons probably include 122 mm Type 54 howitzers, a number of anti-tank guns and at

have been too embarrassing for the SLORC to ask China for the ammunition. See Smith, 'The Burmese way to rack and ruin', p.45.

69 The following paragraphs have been drawn largely from the reporting of Bertil Lintner, in particular 'Oiling the iron fist', p.28; 'Lock and load, p.28; 'Hidden reserves', p.12; '\$400m deal signed by China and Myanmar', p.1; 'Rangoon's Rubicon', p.28; and 'Myanmar's Chinese connection', p.26. See also Yindee Lertcharoenchok, 'Beijing, Rangoon ink \$1.2 billion arms deal'; and David Lague, 'Evans seeks support for ban on Burma', *Financial Review*, 27 May 1991.

70 Now known as the Type 85 family of armoured vehicles, these machines were formerly designated the Type YW 531 H. Some sources have referred to the purchase of infantry fighting vehicles (IFVs), but this appears to reflect confusion between APCs and IFVs of this type. See Lintner, 'Myanmar's Chinese connection', p.23; and *Jane's Armour and Artillery* 1994-95, pp.272 ff.

71 Bertil Lintner, 'Chinese arms bolster Burmese forces', *Jane's Defence Weekly*, 27 November 1993, p.11. See also Lintner, 'Hardware for hardliners', p.12; and Lintner, 'Arms for Eys', p.26.

least 30 Norinco 107 mm Type 63 multiple rocket launchers.⁷² The latter is a 12-round MRL normally mounted on the Type 81 four-by-four truck. It is possible that several 19-round 130 mm Type 63 MRL were also supplied.⁷³ For ground-based air defence, the SLORC has purchased at least 24 Chinese 37 mm Type 74 twin-barrel towed anti-aircraft guns, with their associated mobile generators, radars and directors. It has been reported that the BA has also taken delivery of some Norinco twin 57 mm Type 80 self-propelled anti-aircraft gun systems. There is some evidence, however, to suggest that this may not be correct, and that the latter order was in fact for about 12 Norinco single-barrel 57 mm towed anti-aircraft gun systems, complete with generators, radars and directors. It is possible that both systems have been supplied.⁷⁴

Included among these arms deals with China was a large quantity of Hongying HN-5 man-portable, shoulder-launched surface-to-air missiles (SAMs). They were probably HN-5A versions.⁷⁵ This weapon has a heat-seeking guidance system, like the Soviet SA-7 'Grail' SAM on which it is based. Also, according to the journal *Asian Aviation*, around 1991:

Myanmar acquired a surplus BAe Dynamics Bloodhound Mk II surface-to-air missile system withdrawn from service by the Rep. of Singapore AF. The package is understood to have also included missiles and three Scorpion target illuminating radars.⁷⁶

A reporter for the Australian SBS television network later suggested that more than one Bloodhound system was sold to Burma by Singapore around this time.⁷⁷ If any of these reports are true, then the Bloodhound would be the first guided missile system to be introduced into the Tatmadaw's arsenal. The *Asian Aviation* and SBS reports, however, have yet to be confirmed.

⁷² Lintner, 'Arms for Eyes', p.26.

⁷³ *ibid.* See also Lintner, 'Rangoon's Rubicon', p.28.

⁷⁴ Personal observation, Rangoon, April 1995. See also *Jane's Land Based Air Defence 1994-95* (Jane's Information Group, Coulsdon, 1994), p.293.

⁷⁵ The Institute for Asian Democracy's figure of 55,000 HN-5A missiles seems too high. See *Towards Democracy in Burma*, p.58.

⁷⁶ 'Air Forces Survey: Myanmar', p.36.

⁷⁷ Kerry Brewster, 'Dateline', SBS Television, 25 March 1995.

The Burma Army has acquired a wide range of new road transport and heavy-duty vehicles. China alone has provided about 1000 vehicles since 1988, including 6.5-tonne Aeolus trucks, five-tonne Jiefang trucks, two-tonne Lan Jian trucks, two-tonne Kungi trucks, and about 300 other heavy-duty machines. The latter appear to have included some tank recovery vehicles, armoured bridge layers and a number of wheeled tank transporters.⁷⁸ In addition, the SLORC has purchased a number of Star 266 road cranes and Star 12.5-ton trucks from Poland. Other purchases since 1988 include Nissan Container Carriers, Nissan five-ton diesel trucks and Nissan Patrol four-wheel-drive general-purpose vehicles, all from Japan, and possibly a number of AR-51 Zastava light all-terrain vehicles (LATVs) from Yugoslavia.⁷⁹

The Burma Army has also taken delivery of a large quantity of military communications equipment, mostly from China. No details of specific orders or unit types are available, but it appears that the military regime has bought a large number of command and field radios, as well as smaller personal units (often described as 'walkie talkies') for use during operations. There is a pressing need for better ground-to-air communications, and this requirement too is apparently being addressed.⁸⁰

Deliveries of the new Chinese equipment began almost as soon as the first deal was signed, with the arrival in Rangoon in August 1990 of a Chinese freighter carrying small arms and ammunition, radar equipment and anti-aircraft weapons.⁸¹ For most of the Chinese equipment, however, the SLORC was forced to wait until the completion in October 1992 of a large new bridge over the Shweli River, which runs along the Burma-China border between Namkhan and Muse. An extensive programme of road and bridge

⁷⁸ Personal observation, Rangoon, April 1995. There has been speculation that some of this equipment, such as the (reportedly Type 72) tank recovery vehicles and armoured bridge layers, are in fact of Eastern bloc origin and may have been provided by Yugoslavia or Poland.

⁷⁹ Personal observation, Rangoon, April 1995. See also *Jane's Military Vehicles and Logistics*, 1995-96 (Jane's Information Group, Coulsdon, 1995), p.770.

⁸⁰ Interview, Rangoon, April 1995. Falla (*True Love and Bartholomew*, p.364) has reported a claim by Karen insurgents that BA spies infiltrated into Karen camps had been caught carrying small, portable ground-to-air radios, for contact with passing military aircraft.

⁸¹ Lintner, 'Myanmar's Chinese connection', p.12. See also Bertil Lintner, 'The Volatile Yunnan Frontier', *Jane's Intelligence Review*, Vol.6, No.2, February 1994, p.86.

building on both sides of the border has also been undertaken, with a view in part to expediting further arms deliveries.⁸² By the end of 1993 arms were said to be flowing into Burma 'at a faster pace than at any time since the first deliveries [from China] took place in August 1990'.⁸³

Attention has also been given to the Burma Army's increased training requirements. Included in the SLORC's 1989 arms deal with China, for example, was an agreement that some 400-600 Burmese officers and men would undertake instruction in China. Most of this training was to cover the operation and maintenance of the new Chinese arms and equipment prior to its delivery.⁸⁴ At least 180 junior grade field officers had completed this training by early 1993.⁸⁵ There have been several reports that, at one stage, up to 75 Chinese instructors were working in Burma itself, including a number directly advising troops in the field.⁸⁶ There have also been unconfirmed reports that in 1991 Pakistan sent a number of instructors to Burma to help the BA become more familiar with those items of Chinese equipment which were also operated by Pakistan. Pakistan Army instructors may have provided Burma with special forces training, including airborne training, at the army's airborne school at Hmawbi.⁸⁷ The Singapore Armed Forces (SAF) have developed a very close relationship with the Tatmadaw since 1988. They have provided training (in Singapore) for a Burma Army parachute display team and there have even been reports that SAF units have been seen in Burma itself.⁸⁸ It is also possible that Singaporean companies have provided

82 The infrastructure development along the China-Burma border has also been undertaken to facilitate cross-border trade, now estimated to be about US\$1.5 billion per year, and still increasing rapidly. See Lintner, 'Rangoon's Rubicon', p.28; and Lintner, 'Arms for Eyes', p.26.

83 Lintner, 'Arms for Eyes', p.26.

84 Interview, Rangoon, April 1995.

85 Yindee Lertcharoenchok, 'Beijing, Rangoon ink \$1.2 billion arms deal'. See also Fredholm, *Burma: Ethnicity and Insurgency*, p.84.

86 Karen insurgents, for example, have claimed that they have seen Chinese officers advising the Burmese at artillery bases near Manerplaw. Neil Kelly, 'Burmese soldiers close in on Karen rebels', *The Times*, 11 February 1992. See also 'The China Connection', *Asiaweek*, 21 July 1993, p.23.

87 Fredholm, *Burma: Ethnicity and Insurgency*, p.89. See also 'Air Forces Survey - Myanmar', p.34.

88 Interview, Singapore, May 1995; and Lague, 'Evans seeks support for ban on Burma'. No mention of Burma occurs in *Defence of Singapore 1994-95* (Ministry of Defence, Singapore, 1994), but nor does this official publication mention the

training packages with computer equipment which they are thought to be installing in the Burmese Defence Ministry.⁸⁹ One French source has stated that specialist military instructors from Vietnam have been assisting the BA in southern Burma since 1987, and some Rohingya insurgents have claimed that Israeli instructors have been seen in Burma in recent years.⁹⁰

There seems little doubt that a large number of Burmese officers and men have been sent to China for training on the BA's new equipment. Chinese officials have openly admitted as much.⁹¹ The presence of foreign military instructors in Burma, however, is much more difficult to confirm. When questioned about the matter, spokesmen for both the SLORC and the other countries concerned have invariably rejected the idea.⁹² Some reports, like the reference to Vietnamese instructors, seem rather improbable. On being pressed, the Karens could not substantiate their claims of Chinese instructors assisting the BA in the field, and the Rohingya claims seem designed simply to attract greater support from the Arab countries.⁹³ The Burmese government has always been fiercely independent, and the Tatmadaw is intensely proud of its own military traditions and achievements. It is unlikely that the Rangoon regime would feel it necessary or even desirable to seek foreign assistance in this way except in unavoidable circumstances, for example where new or specialised technology was being introduced into service. It is possible that this may have required some additional instruction by foreign military personnel in Burma itself but, if so, it is unlikely that they would be permitted to stay in the country any longer than was necessary.⁹⁴

89 'navigational' flights regularly made to and from Rangoon by SAF aircraft, including Lockheed C-130 Hercules and Fokker F-50 transports.
 90 Interview, Singapore, May 1995.
 91 *The Military Powers Encyclopedia*, p.38 and p.46; and personal communication, Bertil Lintner to the author, 17 October 1995.
 92 Interview, Rangoon, April 1995.
 93 Interviews, Rangoon, Kuala Lumpur and Singapore, April and May 1995.
 94 Personal communication, Bertil Lintner to the author, 17 October 1995.
 Chinese Prime Minister Li Peng may have been correct when, during a visit to Burma in December 1994, he stated that China did not have any military personnel in the country. Any Chinese instructors sent to Burma before then could have completed their tasks and left. See 'Li denies China's plans on expansion', *Times of India*, 29 December 1994.

The New Burma Army

With its greatly increased numbers, new weapons, more plentiful supplies of ammunition and greater mobility, the Burma Army in 1995 must be considered a formidable force. Arguments over the exact numbers aside, it is now one of the largest ground forces in Southeast Asia.⁹⁵ It is also better equipped than at any time in its history. Thanks to its 50 years of continuous active service, it has more direct experience of combat in the field than many comparable countries. One foreign journalist with the rare experience of seeing Burmese soldiers in action against ethnic insurgents was 'thoroughly impressed by their fighting skills, endurance and discipline'.⁹⁶ Other observers have described the BA as 'the toughest, most effective light infantry jungle force now operating in Southeast Asia'.⁹⁷ Even the Thais, not known to praise the Burmese lightly, have recently described the BA as 'skilled in the art of jungle warfare'.⁹⁸ Given its development over the past seven years, and its equipment acquisitions, the Burma Army should also be able to perform a much wider range of conventional defence roles.

At first sight, these assumptions would appear to be well justified. During the 1991-92 dry season, for example, the SLORC was able to conduct concurrent campaigns against ethnic and religious minorities along the borders with Thailand, Bangladesh and India. From the scope and nature of these operations it was clear that the Burma Army had benefited considerably from its expansion and modernisation programme.⁹⁹ Its new-found strength was confirmed during later campaigns, including the 1994-95 dry season offensive against the Karen insurgent strongholds of Manerplaw and

⁹⁵ According to the IISS, Vietnam is the only Southeast Asian country which currently has a larger standing army. See *The Military Balance 1995/96*, p.197. See also Udai Bhanu Singh, 'Growth of Military Power in South-east Asia', *Asian Strategic Review 1994-95* (Institute for Defence Studies and Analysis, New Delhi, 1995), p.312 ff.

⁹⁶ Bertil Lintner, *Land of Jade: A Journey Through Insurgent Burma* (Kiscadale, Edinburgh, 1990), p.viii.

⁹⁷ 'Terror on the border', *Asiaweek*, 21 February 1992, p.25.

⁹⁸ *The Defence of Thailand 1994*, p.15.

⁹⁹ This has been suggested by several observers. See, for example, James Walsh, 'The Dogs of War', *Time*, 17 February 1992, pp.18-19; Teresa Poole, 'Refugees flee Burma to escape army offensive', *Independent*, 28 January 1992; Nick Cuming-Bruce, 'Burma batters separatist stronghold', *Guardian*, 11 February 1992; and Lintner, 'Centrifugal forces', p.16.

Kawmura.¹⁰⁰ There were several reasons for the army's victories in 1995, when so many earlier campaigns against the Karens had failed, and some were clearly unrelated to improvements in the armed forces.¹⁰¹ Yet this latter campaign still demonstrated that the BA was now in a position to concentrate its strength more quickly, bring much greater force to bear on its enemies, and sustain its operations longer, than had been the case in the past. The size of the campaign, the rapid reinforcement of the units deployed, and the sustained fire from recoilless guns, mortars and artillery against the Karen camps, for example, all suggested much better logistics structures, improved road transport, more modern weapons and increased ammunition stocks.¹⁰²

On paper at least, the army's conventional defence capabilities should also have improved. Not only is the service now much larger, but it is more mobile and has greatly improved armour, artillery and air defence inventories. Its command, control, communications and intelligence systems have been expanded and refined. Burma may still have relatively modest weapon systems compared to its larger neighbours, but it is now in a much better position to deter external aggression and to respond to such a threat should it ever arise. That said, however, doubts must still be held about the Burma Army's ability fully to capitalise on its new structure and materiel acquisitions. This applies as much to the conduct of counter-insurgent operations as to the performance of larger scale, conventional defence roles.

The rapid expansion of the army since 1988 has placed it under considerable strain. Many units seem to be well under strength and training has suffered badly. There is a serious shortage of qualified and experienced officers and non-commissioned officers

100 The fall of Manerplaw is examined in Bertil Lintner, 'Loss and exile', *Far Eastern Economic Review*, 16 February 1995, p.23; and 'The Fall of Manerplaw', *Asiaweek*, 17 February 1995, pp.31-2. See also Patrick Lescot, 'Burma launches assaults on rebel base', *Australian*, 10 February 1995.

101 Of critical importance was a major split in the Karen insurgent forces, and the defection to the SLORC of hundreds of Buddhist Karen guerrillas. See, for example, William Ashton, 'Karen down but not out', *Asia-Pacific Defence Reporter*, Vol.21, No.8/9, May/June 1994, p.18. It is also significant that by this time the SLORC had reached cease-fire agreements with most other major insurgent groups, thus freeing army resources for redeployment from other areas of the country.

102 Interviews, Bangkok, April 1995. See also Yindee Lertcharoenchok, 'Kawmura falls to Rangoon forces', *Nation*, 22 February 1995.

(NCOs), a problem compounded by the SLORC's clear preference for the army's higher ranks to be filled by ethnic Burmans.¹⁰³ The 1991-92, 1992-93 and 1994-95 dry season offensives against various ethnic insurgent groups (notably the Kachins and Karens) may have demonstrated some of the army's new material strengths, but they also highlighted a number of major shortcomings in its doctrine, tactics and leadership. There have been persistent reports, for example, of large-scale assaults being launched with insufficient combat intelligence, inadequate planning and poor coordination of all the units involved.¹⁰⁴ It is also clear that in the 1990-91, 1991-92 and 1994-95 dry season campaigns against the Karens, and the 1993-94 offensives against the drug lord Khun Sa, 'human wave' tactics were used, with Burmese officers forcing large numbers of young, inexperienced and poorly trained soldiers to mount mass assaults against heavily fortified defensive positions manned by tough and resourceful guerrillas. Burmese casualties from all these campaigns were reported to be very high.¹⁰⁵

In these circumstances, it is hardly surprising that there have been persistent reports of low morale and a lack of commitment in the army's ranks, particularly in the field. During operations against Karen insurgents in the Irrawaddy River delta in 1991, for example, local commanders were apparently ordered to 'shoot deserters on the spot'.¹⁰⁶ A Burma Army operational order reportedly captured by the Korean National Union (KNU) in 1992 ordered officers not to lead their men from the front, but to 'use stick to force them forward'.¹⁰⁷

103 Review Correspondents, 'Masses in revolt against stifling authoritarian grip', *Far Eastern Economic Review*, 25 August 1988, p.12.

104 See, for example, 'Burmese Rebels Await A Foe's Lucky Number'; and Falla, *True Love and Bartholomew*, p.219.

105 On all these matters see, for example, Peter Mitchell, 'Karens fight to survive', *Asia-Pacific Defence Reporter*, Vol.17, No.4, October 1990, pp.15-19; Edith Mirante, 'Up Into Kachin Country', *Asiaweek*, 22 November 1991, p.22; Peterson, 'Karen Kill Zone', pp.26 ff; Williams, 'Gutsy Karens Continue to Bloody Burmese Butchers', p.35; David Watts and Erskine McCullough, 'Burmese troops bombard rebel HQ', *Australian*, 25 February 1992; and Kurt Hanson, 'Calamity at Kawmura', *Soldier of Fortune*, Vol.20, No.9, September 1995, pp.36-7 and pp.70-3.

106 Bertil Lintner, 'Return to the delta', *Far Eastern Economic Review*, 14 November 1991, p.26. See also Alan Clements, 'Dragon King's Fire', *Newsweek*, 7 April 1992, p.72.

107 Karen National Union Department of Foreign Affairs Media Release, Manerplaw, 18 March 1992. See also 'Blood on the Ridge', *Asiaweek*, 13 March 1992, p.30; and Bertil Lintner, 'Military guns silent', *Far Eastern Economic Review*, 28 May 1992, p.26.

Some young Burmese soldiers captured by Karens during the 1991-92 dry season offensive along the Thai border complained of poor training, inadequate rations and low morale. It is also common for BA prisoners and deserters to complain of brutal treatment from their officers.¹⁰⁸ Some 15-year-old recruits interviewed by Western journalists have claimed that they were given whisky by their officers because they were 'scared to go to the front', and Karen insurgents have often claimed that Burmese soldiers appear to be drugged before being sent into battle.¹⁰⁹ Even allowing for an inevitable amount of exaggeration on the part of both captors and captives, these and other reports all point to serious deficiencies in training, leadership and morale.

Some of these problems seem to have arisen because the Burma Army has largely rejected its British (and British Commonwealth) traditions and relies instead on the styles of command and instruction which it learnt from the Japanese during the Second World War.¹¹⁰ This approach emphasises centralised control, rigid discipline and unquestioning obedience to orders, rather than the encouragement of innovation and initiative, or attention to matters of personnel welfare. At times, concerns about the political reliability of soldiers called upon to shoot unarmed demonstrators, or to destroy rural villages, seem to take priority over attention to purely military

108 Kerry Brewster, 'Dateline', SBS Television, 25 March 1995. See also Clements, 'Dragon King's Fire', p.72; and *Human Rights Yearbook 1994: Burma*, pp.73-4.

109 See 'Burmese Rebels Await A Foe's Lucky Number'; Lindsay Murdoch, 'Rangoon tightens the noose around defiant Karen guerrillas', *Age*, 30 January 1995; and '40 die as Burmese hit KNU base', *Bangkok Post*, 9 February 1995. It is hard to determine the truth of some of these claims (which are also made by the SLORC against the insurgents). Claims of BA soldiers being intoxicated in battle, for example, may be based on the fact that the most common anti-malaria medicine distributed to BA troops is quinine mixed with rum, which has often been found in their water bottles. Personal communication, Bertil Lintner to the author, 17 October 1995.

110 After the Japanese invasion of Burma in December 1941, and the influx of ethnic Burmans into the ranks, the Japanese tradition has always been strong in the Burma Army. A Military Academy was established at Mingaladon, outside Rangoon, in 1942. Japanese Army manuals were used and all instruction was in the Japanese language. Until 1945 a number of Burmese academy graduates were sent each year to Japan for further military training. After the military coup in 1962, most of the new Revolutionary Council (including General Ne Win himself) and many other senior Burma Army officers, were graduates of the Mingaladon Military Academy during the Japanese occupation. See Lebra, *Japanese-Trained Armies in Southeast Asia*, p.70; and Selth, 'Race and Resistance in Burma, 1942-1945'.

skills. The very strict regime enforced within the ranks, however, is matched by an extraordinary licence in the field. In another echo of past Japanese military practice, there have been numerous reports of Burma Army officers permitting their men to loot, rape, torture and even murder civilians, while on active duty.¹¹¹ This behaviour often appears to be part of a deliberate strategy to terrorise the local population and ensure its submission to Rangoon. Quite apart from the obvious (and very serious) human rights issues raised, to most professional observers this kind of leadership undermines the soldiers' discipline and morale, and thus detracts from their military efficiency.

Nor can the Burma Army's new weapons and equipment be counted upon to tip the scales entirely in the regime's favour. Despite the overseas training provided, many in the army still seem to find much of their new equipment unfamiliar and, in some cases, difficult to handle. There have already been a number of complaints, for example, particularly about those items provided by China:

The artillery pieces were clumsy and heavy and misfired frequently. The armoured vehicles broke down often and were in any case useless against the rebels who operate in Myanmar's mountainous frontier areas. Chinese army trucks were not nearly as good as the Japanese-supplied Hino and Nissan vehicles which the Burmese army also uses.¹¹²

There have also been problems with maintenance and the supply of spare parts. Shortages still occur, even on operations. In fighting against the drug warlord Khun Sa in mid-1993, for example, Burmese troops were said to be outgunned by members of the insurgent Shan State Army and Mong Tai Army.¹¹³ Despite the BA's massive arms purchases in recent years, observers said that the Burmese soldiers appeared to lack small arms and combat radios, and were 'being

¹¹¹ See, for example, *Myanmar* (Amnesty International, London, 1990); *Burma: Entrenchment or Reform? Human Rights Developments and the Need for Continued Pressure* (Human Rights Watch/Asia, New York, 1995), pp.19-23; and *Human Rights and Progress towards Democracy in Burma*, Report of the Joint Standing Committee on Foreign Affairs, Defence and Trade, Parliament of the Commonwealth of Australia (Australian Government Publishing Service, Canberra, 1995).

¹¹² Lintner, 'Myanmar's Chinese connection', p.26. See also 'Myanmar and China: But will the flag follow trade?', pp.31-2.

¹¹³ See, for example, 'The King of the Shan', *Asiaweek*, 15 June 1994, p.26.

attacked with the more sophisticated weapons of the guerrillas'.¹¹⁴ Fighting was fierce, but Burmese troops could not make much headway.

Some of the Burma Army's problems lie in the nature of Burma itself - its large size, its varied physical geography and extreme tropical climate. As was clearly demonstrated during the Second World War, these features can pose formidable challenges to armies far better equipped and supported than the current small Burmese force.¹¹⁵ Also, Burma's international isolation since 1948, and the manifest failure of Ne Win's 'Burmese Way to Socialism' between 1962 and 1988, deprived the government of the funds it needed to build a comprehensive and strategically beneficial network of all-weather roads, railways, bridges and airfields.¹¹⁶ The steadfast refusal of the military hierarchy in Rangoon to contemplate any meaningful political settlement with Burma's ethnic minorities, particularly after 1962, helped to encourage separatist tendencies and exacerbated long-standing internal security problems. Insurgent groups have also been strengthened by the harsh treatment meted out to the minority peoples by the armed forces during its annual counter-insurgency campaigns.

Some of these problems could be overcome, or at the least made more manageable, during a protracted guerrilla war in which the central government enjoyed certain military advantages, could isolate its enemies (both physically and politically) and felt it could ignore international opinion. These circumstances may not apply, however, in a war against an external aggressor, where such shortcomings could be very costly. The Burma Army lacks any real experience in large-scale conventional operations. There were a number of major campaigns against the KMT remnants during the

¹¹⁴ 'Heavy toll in Burmese fighting', *Sydney Morning Herald*, 17 July 1993. See also Bertil Lintner, 'Fighting Weather', *Far Eastern Economic Review*, 30 June 1994, p.24; and 'Burma', *Jane's Defence Weekly*, 30 July 1994, p.19.

¹¹⁵ The many difficulties faced by the Allies in Burma during the Second World War are best described in William Slim, *Defeat Into Victory* (Cassell, London, 1956). See also Louis Allen, *Burma: The Longest War 1941-45* (Dent, London, 1984).

¹¹⁶ There have been suggestions over the years that the failure to develop an adequate communications network in Burma's border areas was part of a deliberate strategy by the Ne Win regime to deter military incursions by neighbouring countries. (See, for example, Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.257). While this is partly true, other factors have also contributed to the lack of development along the frontier, such as Burma's economic problems and Rangoon's inability to exercise control over the areas in question.

1950s and early 1960s, and some later engagements against insurgent groups also had the flavour of set-piece battles.¹¹⁷ Yet, for many years the army has been occupied with defeating tough, well-armed but relatively small bands of guerrillas concentrated in remote rural areas. These operations have usually been carried out at battalion or even company level. A command structure of two BSOs, 10 LIDs and 10 Regional Commands may be well suited to the conduct of such counter-insurgency operations, but would be put under real strain if ever called upon to manage a large-scale conventional conflict.

There are other deficiencies. Burmese soldiers apparently have a commitment to remain in 'inactive reserve status' for a period after the termination of their period of enlistment but, these veterans aside, the army has no strategic reserve. Nor, it appears, does Burma have any national mobilisation plan.¹¹⁸ Joint operations have always been difficult, as demonstrated by the lack of coordination between the army and air force during successive dry season offensives against ethnic insurgents.¹¹⁹ Even greater difficulties would be experienced in the unlikely event that the Burma Army was obliged to conduct combined operations with the armed forces of another country. Indeed, there is only one case in which this is known to have occurred since independence in 1948. It was in 1961, when about 5,000 BA soldiers conducted a major attack against KMT remnants in northern Burma, in conjunction with three divisions (about 20,000 men) of the Chinese People's Liberation Army. Yet even in this case, the two forces did not operate closely together, simply coordinating their deployments to trap the KMT forces in what later became known as 'the Mekong River Operation'.¹²⁰

If Burma was ever attacked, the Burma Army would fight hard and well with the limited resources it had. Defending a country the size of Burma, however, against coordinated assaults by a well-prepared force armed with modern weapons, would be a completely new experience for the BA which would test it severely. In these

117 See, for example, Lintner, *Burma in Revolt*, pp.101 ff; and Tin Maung Maung Than, 'Burma's National Security and Defence Posture', pp.40-4.

118 Lissak, *Military Roles in Modernization*, p.156; and Fredholm, *Burma: Ethnicity and Insurgency*, p.82.

119 Interview, Rangoon, April 1995. See also 'Karens fight off massive Myanmar army assault', *Bangkok Post*, 14 March 1992; and 'Blood on the Ridge', p.30.

120 Lintner, *Burma in Revolt*, p.165.

circumstances, much would depend on the combat capabilities of the other two services, particularly the air force.

CHAPTER 4

THE BURMA AIR FORCE

The army has always dominated the Burmese armed forces and will continue to do so, but over the past few years the Burma Air Force (BAF or Tatmadaw Lei) has increasingly claimed a share of international attention.¹ This has mainly been due to its acquisition of several new kinds of aircraft, and thus the potential for significantly increased operational capabilities. For long a mere adjunct to the ground forces in their internal security role, the BAF is now beginning to emerge as a significant force in its own right.

The Burma Air Force before 1988

The BAF was established in March 1948.² Although an Air Training Unit had been created by the British colonial administration in 1940, the real nucleus of the new service was the Burma Volunteer Air Force, which was founded in December 1947 with a number of personnel who had served with the Royal Air Force (RAF) during the Second World War. It also included a few Burmese who had been trained by the Imperial Japanese Army Air Service during Japan's four-year occupation of Burma. In its early days, the BAF was advised by the RAF component of the official British Military Mission which had remained in Burma after independence under the Let Ya-Freeman agreement.³ The Military Mission was withdrawn at the request of the Burmese government in early 1954, but until the 1962 military coup both BAF pilots and ground crew continued to receive their main training in places like the United Kingdom and Australia.⁴

¹ See, for example, William Ashton, 'The Burmese Air Force', *Jane's Intelligence Review*, Vol.6, No.10, October 1994, pp.463-6.

² The BAF formally traces its history, however, to the United Kingdom's 1947 Burma Act, which set the stage for the colony's independence.

³ During the crisis of 1949, members of this unit even helped the BAF manufacture crude bombs to drop on insurgent forces. Tinker, *The Union of Burma*, p.42.

⁴ *ibid.*, pp.324-5 and p.332. See also Andrew Selth, 'Australian Defence Contacts with Burma, 1945-1987', *Modern Asian Studies*, Vol.26, No.3, July 1992, pp.451-68.

Reflecting its origins, the BAF's initial organisation, rank structure and operational procedures were closely patterned along British lines, with designated training, combat (both air defence and counter-insurgency), transport and liaison squadrons. Radar and other signals units were also organised into squadrons and usually co-located with ground staff and air crew at the larger airfields. In some areas, however, the formal structure existed only on paper and many units were badly under strength. The BAF was responsible for its own administration and training, but for operations was closely integrated with the army. Despite occasional reports that the Burma Navy had its own fleet air arm, no aircraft were operated by any other service. BAF Fokker F-27 aircraft were used for long-range maritime and coastal patrols, and the BAF's smaller helicopters were sometimes embarked on Burma Navy vessels, but all military aircraft in Burma formally remained under the command of the air force.⁵

The main BAF operational base was at Mingaladon, just outside Rangoon, which until recently was Burma's only international civil airport.⁶ It was the site of the BAF's principal supply, maintenance and repair facilities. A number of Military Police (Air) and Intelligence (Air) units were also stationed there. The second largest air base was at Meiktila, south of Mandalay and closer to the BAF's main areas of operation. It was also home to the BAF's specialist training facilities, including its Administrative Training School, Technical Training School, Electronic Training School and Advanced Pilot Training School. The main flight training base was at Shante, near Meiktila. Other BAF units were based at Hmawbi near Rangoon, Myitkyina in the far north of the country and at Moulmein in the south-east.⁷ Small air bases have also been identified at Kutkai, Loi Mwe and Bahtu, all in the Shan State.⁸ Depending on the kind of aircraft operating, and the state of the facilities at each location, the BAF often used the various civil airfields scattered around the country. These included sealed strips at Tavoy, Mergui and Magwe in the south; Mandalay in central Burma; Kentung, Lashio, Bhamo and Heho

5 See, for example, *Jane's Fighting Ships 1994-95*, p.79.

6 Construction of a new international airport has begun at Mandalay to cater for increased traffic, including a new Burmese international airline. See, for example, 'Go Slow For Air Mandalay', *Vayu Aerospace Review* 4, 1994, p.13.

7 Bunge (ed.), *Burma: a country study*, p.255. See also 'Air Forces Survey: Myanmar', pp.34-5.

8 *Human Rights Yearbook 1994: Burma*, p.76.

(near Taunggyi) in the north; and Akyab (Sittwe) and Sandoway in the west.⁹

Since its inception, the BAF's primary mission was to provide transport and close combat support for the army in its counter-insurgency operations. Although poorly equipped (with modified Supermarine Spitfire fighters, de Havilland DHC-1 Chipmunk trainers and Airspeed Oxfords), the BAF played an important role in the years immediately following independence, as the Tatmadaw fought to keep the Union government from being overrun by ethnic, communist and other insurgent groups.¹⁰ The BAF's unchallenged command of the air repeatedly enabled Rangoon to break up insurgent concentrations and resupply its own forces, which at one stage were confined to the country's main population centres.¹¹ During the late 1950s and early 1960s the BAF was also called upon to defend Burmese airspace against incursions by foreign aircraft, as Communist and Nationalist Chinese forces carried their struggle into northern Burma, and both the United States and Taiwan provided the KMT with covert support.¹² Later, and with US assistance, the BAF's role expanded to include the monitoring of opium poppy production in the Golden Triangle, spraying poppy fields with chemical defoliants, and the identification of heroin-refining centres.¹³

Before 1988, Burma's strictly neutral foreign policy and severe economic problems placed severe limits on the development of the BAF's operational capabilities. Like the army, it benefited from British assistance in the 1950s, and the United States provided some

⁹ There are 83 airfields in Burma. Only 24 have permanent-surface, all-weather runways, however, and only 10 have runways over 1800 metres. Of these 10, only three have runways over 2,500 metres. DMS/FI File 589, June 1995; and *The Military Powers Encyclopedia*, p.27.

¹⁰ The Spitfires were F Mk 18 models. The twin-engined Oxford trainers (sometimes referred to by their civil designation as Airspeed AS.65 Consuls) were mainly used as light transport aircraft. Some sources state that a number of second-hand de Havilland DH.98 Mosquito FB Mk 6 fighter-bombers were also included in the original British aid package, but this appears to be incorrect. See, for example, Victor Flinham, *Air Wars and Aircraft: A Detailed Record of Air Combat, 1945 to the Present* (Arms and Armour Press, London, 1989), p.218.

¹¹ Tinker, *The Union of Burma*, p.324. For an idiosyncratic personal account of this early period, see C.E. Eather, *We Flew in Burma* (Chingchic Publishers, Surfers Paradise, 1993).

¹² See 'The Burmese Air Force', *Military Technology*, Vol.12, No.2, 1988, p.9; and Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.188.

¹³ Smith, 'The Burmese way to rack and ruin', p.44.

equipment and training during the 1960s and early 1970s. As military aid was generally resisted by both the Nu and Ne Win governments, however, the BAF was forced to rely on comparatively obsolete equipment, often purchased second-hand. The 20 Spitfire F Mk 9s bought from Israel in 1954, for example, had earlier seen service with the RAF. Some used Supermarine Seafires were added to the BAF's inventory in 1953, and 40 Hunting Provost T-53 trainers were acquired over the next five years.¹⁴ While strictly speaking unsuited to a ground attack role, all three aircraft types were fitted with machine guns, bomb racks and rocket pods for counter-insurgency operations. In 1954 and 1955, Burma obtained eight refurbished de Havilland FB-50 Vampire jets and six Vampire T-55 jet trainers from the RAF, and in 1957 18 Hawker Sea Fury FB11s were purchased from the Royal Navy Fleet Air Arm to act as Burma's front-line fighters. This delivery was followed a year later by three two-seater Sea Fury trainers.¹⁵

After the 1962 coup, the Ne Win regime added a number of new aircraft types to the BAF order of battle. Details of specific orders and dates of delivery are very difficult to obtain, but in 1963 it seems about 12 Lockheed T-33A Shooting Star jets were purchased to upgrade the BAF's combat capabilities. Reports that the United States sold Burma 12 North American F-86F Sabre fighters in 1968 appear to be incorrect, but in 1971 Burma obtained a dozen US-built Cessna T-37C Dragonfly basic jet trainers under the MAP, largely for counter-insurgency operations.¹⁶ From 1975, most training and combat needs were met by 12 or more SIAI-Marchetti SF-260MB/WB Warrior piston-engined aircraft which the BAF purchased from Italy.¹⁷ These were augmented in the late 1970s and early 1980s with three Pilatus PC-6A

¹⁴ The Spitfires were taken out of operational service in 1957, and the Seafires followed in 1958. The Provosts were still being used by the BAF as late as 1983.

¹⁵ The Vampires entered service in 1953, and the last fell to insurgent ground fire in June 1978. For details of the Sea Fury purchase, see Ron Mackay, *Hawker Sea Fury In Action* (Squadron/Signal Publications, Carrollton, 1991), p.38.

¹⁶ Interview, Washington, October 1995; and *The Military Balance 1970-1971* (Institute for Strategic Studies, London, 1970), p.61. The (renamed) IISS removed the Sabres from Burma's air order of battle the following year. See also Stockholm International Peace Research Institute, *Arms Trade Registers: The Arms Trade with the Third World* (MIT Press, Cambridge, 1975), p.4.

¹⁷ An additional nine SF-260s were ordered in mid-1979, but it is not known if any were delivered. The last of the type ceased operational service with the BAF in 1989.

Porters and five Pilatus PC-6B Turbo-Porters from Switzerland.¹⁸ In 1979 the BAF took delivery of eight Pilatus PC-7 Turbo-Trainers, with at least another eight following by the mid-1980s. Burma was given an option to buy additional PC-7 aircraft, but this does not appear to have been taken up. Instead, the BAF ordered four of the more powerful PC-9 version, the first country to do so. The first of these aircraft arrived in 1986, shortly after one of the PC-7s was shot down by insurgent ground fire.¹⁹ It appears that a number of other PC-9s may have followed.

These purchases of armed training and liaison aircraft by the BAF were made in the face of repeated offers from the United Kingdom and the United States of more specialised combat aircraft. Burmese policy at the time seems to have been to reduce the costs of both the initial purchase and subsequent operations by buying smaller, cheaper aircraft which could be used for both training and (after modification) internal security roles.²⁰ Thus, the designation of Burmese aircraft as trainers or combat machines has always been a rather academic one.²¹ For example, the T-33s were in fact jet trainers, but were armed and used for ground strikes against insurgents. The SF-260s were supplied with hard points on their wings for the same purpose. They were subsequently armed and used to supplement the modified Pilatus PC-7 and PC-9 trainers in counter-insurgency operations.²² Both Pilatus types were armed with French Matra rocket packs, (fitting 68 mm Brandt rockets), bomb racks and podded 7.62 mm machine guns.²³ It was apparently confusion over the combat role of these aircraft which led an Australian company to export

18 The declared value of this deal was US\$13.5 million. Smith, 'The Burmese way to rack and ruin', p.44.

19 'Far East Air Arms: Southern Region - Burma (Myanmar)', *World Airpower Journal* 8, Spring 1992, pp.140-2. The Institute for Asian Democracy is incorrect in stating that these aircraft were purchased after 1988. See *Towards Democracy in Burma*, p.58.

20 This practice was not without its dangers. In 1950 the BAF Commander-in-Chief, Wing Commander Selwyn Khin, was killed while on a mission over the Shan State. It is thought that he died as a result of problems associated with the bombs jury-rigged under his aircraft.

21 This does not include the gliders (mainly Slingsby Darts and Slingsby Swallows) and de Havilland DH.82 Tiger moth trainers used by the BAF over the years for *ab initio* flight training.

22 'Air Forces Survey: Myanmar', p.36.

23 *ibid.*, p.35; and 'Far East Air Arms: Southern Region - Burma (Myanmar)', p.142. See also *The Military Powers Encyclopedia*, p.39.

repaired Pilatus engine parts to Burma in 1991, despite the Hawke Labor government's ban on arms sales to the SLORC.²⁴

For many years Douglas C-47D Dakotas, Beech C-45 Expeditors and Bristol 170 Freighters were the mainstay of the BAF's transport arm. In 1978, however, Burma acquired five second-hand Fairchild-Hiller FH-227 (licence-built Fokker F-27 Friendship) turboprop aircraft from Allegheny Airlines in the United States, for surveillance and general transport duties. They were adapted to military needs by the addition of a side cargo-door and replaced the BAF's few remaining C-47s.²⁵ Another F-27 was bought for staff transport. At one stage, the BAF had plans to acquire a number of Lockheed C-130 Hercules transport aircraft but they were abandoned around 1982, probably due to the cost. The BAF also showed some interest in the Australian GAF Nomad short take-off and landing (STOL) aircraft before production lines closed down in 1984, but no orders were ever lodged. In any case, in the late 1980s Union of Burma Airways operated a fleet of five Fokker F-27 and three Fokker F-28 Fellowship passenger planes which could be used to supplement military airlift capabilities.²⁶ There has never been any clear distinction between civilian and military aircraft in Burma and, during major counter-insurgency campaigns, all state-owned aircraft in the country have been considered available for troop transport and medical evacuation, as required.

A range of light aircraft provided the BAF with liaison and transport capabilities. Eight single-engined DHC-3 Otters were purchased from Canada in 1957. These reliable utility aircraft were not phased out until 1985, but their role was gradually taken over by the Pilatus PC-6 Porters and Turbo-Porters. From 1957 the BAF also operated 10 US-made Cessna 180s (or possibly Cessna 185s) and a small number of Beechcraft D-18S aircraft.²⁷ In August 1982 the

24 Roy Eccleston, 'Export to Burma approved despite Evans call for ban', *Australian*, 3-4 August 1991; and Roy Eccleston, 'Row over sale of plane parts to Burma', *Australian*, 13 August 1991.

25 'Far East Air Arms: Southern Region - Burma (Myanmar)', p.142.

26 These were F27-600, F28-1000 and F28-4000 variants. *Asian Aviation*, Vol.14, No.2, February 1994, p.24. Union of Burma Airways also operated a Boeing 727 which *in extremis* could be used to ferry troops between major airfields.

27 Instead of the Cessna 180, some sources cite the U-17. The latter aircraft is the military variant of the Cessna 185 Skywagon. See, for example, T.N. Dupuy *et al.*, *The Almanac of World Power* (Presidio, San Rafael, 1980), p.86.

Burmese government purchased a Cessna 550 Citation II business jet, which was maintained and flown by the Burma Air Force. It was mainly a VIP transport but, together with a small number of Beechcraft Queen Air planes, it was also used for aerial survey work.²⁸ In 1975 the United States donated five Ayres S-2R Turbo Thrush crop-dusting aircraft to Burma under the International Narcotics Control Program (INCP), for spraying opium poppy fields with chemical defoliants. It appears that these small aircraft have also been used for low-level reconnaissance flights over insurgent camps.²⁹

The BAF has long maintained a helicopter fleet for transport and observation duties. Between 1956 and 1958, for example, Japan provided Burma with 13 Kawasaki-Bell KB-47G Sioux light trainer and reconnaissance helicopters as part of Japanese war reparations.³⁰ This package may have also included two or three Kawasaki-Vertol KV-107 II twin-rotor transport helicopters. The KV 107 II helicopter is a military variant of the more familiar Sea Knight. Despite reports that the BAF still operates between two and ten of these aircraft, the number actually acquired (and when) has never been clear.³¹ From 1958 until 1978 the BAF operated a small fleet of Vertol H-21 Shawnee medium transport helicopters, assisted during the early 1960s by about four Mil Mi-4 'Hound' utility helicopters purchased from the Soviet Union. In 1961 the BAF took delivery of four Aerospatiale SA-316B Alouette IIIs from France. Nine more Alouettes were provided between 1963 and 1965, but by 1988 a bare half dozen of them were airworthy. One was usually embarked on the Burma Navy's

28 Personal observation, Rangoon, April 1995. *Asian Aviation* magazine stated in June 1994 that the Burmese Citation may be grounded for lack of funds for its next overhaul. See 'Air Forces Survey: Myanmar', p.36.

29 Edith Mirante, *Burmese Looking Glass: A Human Rights Adventure and A Jungle Revolution* (Grove Press, New York, 1993), p.217.

30 These aircraft had all been taken out of service by 1973. Jane's has suggested that 10 KB-47G helicopters are still operational and are attached to the Burma Navy. Unless Burma has purchased additional 47-Gs in recent years, which is unlikely, this is incorrect. *Jane's Fighting Ships 1995-96* (Jane's Information Group, Coulsdon, 1995), p.90.

31 *The Military Balance* listed 10 KV 107s in 1975-1976, but only two in 1978-1979. SIPRI listed only three (reportedly acquired in 1968) in *Arms Trade Registers*, p.4. There have been no reported sightings of these aircraft in Burma for many years, however, and it is possible that they have been confused with Burma's Vertol H-21 Shawnee helicopters (which were often omitted from published BAF orders of battle). See also 'The Burmese Air Force', *Military Technology*, p.9; and M.J.H. Taylor, *Encyclopedia of the World's Air Forces* (Patrick Stephens, Wellingborough, 1988), p.29.

hydrographic survey ship.³² In 1962 the United States provided Burma with 12 Kaman HH-43B Huskie light transport helicopters, but by 1979 none were still flying.

The BAF received a major boost in 1975 when the United States donated 18 Bell 205A Iroquois and nine Bell 206B Jet Ranger helicopters to Burma under the INCP. Replacement parts, training, maintenance support and telecommunications equipment were all included in the INCP package.³³ The Iroquois were intended for anti-narcotics patrols, but by the early 1980s all had been fully integrated into the BAF for military operations.³⁴ They were used for resupply, casualty evacuation and liaison purposes. Over the years, accidents and ground fire reduced the number of these aircraft still serviceable to about 12, and the number of airworthy Jet Rangers to about six.³⁵

Throughout this period, the same economic problems that hindered the modernisation of the BAF's inventory also contributed to serious maintenance and servicing problems. The lack of spare parts, in particular, led to a high ratio of unserviceable aircraft. Like other parts of the Tatmadaw, however, the BAF became expert at improvisation and adaption, as seen in the remarkably long life of its aircraft and the transformation of its various trainers into reasonably effective light ground attack planes. Still, the BAF suffered from a lack of skilled manpower and, foreign exchange permitting, was sometimes forced to hire foreign experts to maintain its aircraft. Between 1975 and the mid-1980s, for example, Italian engineers were contracted to service and repair the air force's SIAI Marchetti SF-260s in Burma.

There have been other problems. It has been suggested, for example, that the shortage of aviation grade fuel (which Burma had to import specially in drums) forced the sale in 1990 of the BAF's entire fleet of SF-260s.³⁶ This problem had in fact prompted the BAF to consider converting to turboprop power as early as 1982 but, at the

32 'Air Forces Survey: Myanmar', p.36.

33 Mya Maung, *The Burma Road to Poverty*, p.198.

34 When it gave Burma these aircraft the US government was doubtless aware of the danger of this problem arising, if for no other reason than the close relationship which has always existed between narcotics and insurgency in Burma. See Lintner, *Burma in Revolt*.

35 'Far East Air Arms: Southern Region - Burma (Myanmar)', p.142.

36 *ibid.* See also 'World's Air Forces - Burma (Myanmar)', *Flight International*, 27 November-3 December 1991, p.38; 'Air Forces Survey: Myanmar', p.36; and DMS/FI File 589.

time, any major steps in that direction were prohibited by the cost. Before 1988, this factor constantly hindered air force operations and helped inhibit any planned modernisation or expansion of the BAF's small fleet.

The Burma Air Force after 1988

Since 1988 the published BAF establishment has remained steady at about 9,000, only a little higher than the level of 7,500 which was standard in the mid-1980s.³⁷ The BAF's size is expected to increase significantly over the next few years, however, in order to manage the much larger number of aircraft, and aircraft types, which are being introduced into service under the SLORC.

Once again, details of specific orders and actual deliveries are difficult to obtain but, from the information publicly available, it would appear that the BAF has benefited considerably from the SLORC's arms-buying programme. For example, the BAF Chief of Staff accompanied Lieutenant General Than Shwe to China in 1989, and in December 1990 the BAF's Commander-in-Chief, Lieutenant General Tin Tun, also paid a visit there. As a result of these and other contacts the BAF has received a major injection of Chinese aircraft and related equipment. In May 1991 Burma took delivery of 10 Chengdu F-7M 'Airguard' fighters and two GAIC FT-7 twin-seat trainer aircraft, under the massive arms deal negotiated between Rangoon and Beijing in 1989. In May 1993 another squadron of 10 F-7 and two FT-7 aircraft was delivered. According to reliable reports, a third squadron of these aircraft types was delivered later that year. The US\$130-160 million price tag was reportedly paid for in part by shipments of Burmese rice and hardwood to China.³⁸ As a derivative of the Mikoyan MiG-21 'Fishbed' interceptor, the F-7 is based on fighter designs but it can be fitted with rocket pods and converted into a serviceable ground attack aircraft. The FT-7 is the export version of the GAIC JJ-7, itself a copy of the MiG-21 'Mongol-B' trainer.

³⁷ *The Military Balance* 1995/96, p.162. See also *The Military Balance* 1987-1988, p.155.

³⁸ 'Myanmar's air power boosted', *Jane's Defence Weekly*, 11 December 1993, p.13; 'More F-7s for Myanmar AF', *Vayu Aerospace Review* 5, 1994, p.14; and 'Myanmar in large arms barter deal with China', *Asian Aviation*, Vol.11, No.2, February 1991, pp.88-9. See also 'Air Forces Survey: Myanmar', pp.34-5; and Lintner, 'Arms for Eyes', p.26.

China has also undertaken to provide Burma with 24 (two squadrons of) second-hand NAMC A-5C close air support and ground attack aircraft. An upgraded, export version of the NAMC Q-5 'Fantan', the A-5C is a simple but rugged fighter-bomber well suited to counter-insurgency operations. The first squadron was flown to Burma by Chinese pilots in September 1994 and the second will probably arrive in late 1995 or early 1996.³⁹

There were several reports, in 1990 and since, that the SLORC had also ordered at least one squadron of Shenyang F-6 fighters, to be delivered later that year or in 1991. No sightings of this aircraft (a Chinese copy of the Mikoyan MiG-19 'Farmer'), however, have yet been confirmed.⁴⁰ While there are indications that a small number of FT-6 two-seat trainers may now be in service with the Burma Air Force, it appears that the main F-6 order was abandoned, either in favour of additional F-7s or perhaps even the A-5s. (The latter is also a MiG-19 variant.) There have also been rumours that the SLORC was interested in the SAC F-8 II 'Finback' multi-role fighter. This is an export version of the J-8 II twin-engined air superiority fighter with a secondary capacity for ground attack. No firm orders appear to have been placed with the Chinese, probably because the F-8 II upgrade programme was thrown into doubt after the Tienanmen Square massacre, and the withdrawal of promised US technical assistance.⁴¹ There is no pressing strategic imperative for an air superiority fighter, but Burmese interest in purchasing such an aircraft still seems to be high.

39 Although most reports refer to the NAMC A-5M, it appears that the A-5C version may in fact have been supplied. See 'Myanmar: New Chinese arms package', *World Airpower Journal*, Autumn 1995, p.11. See also R.J. Francillon (ed.), *The Naval Institute Guide to World Military Aviation*, 1995 (Naval Institute Press, Annapolis, 1995), p.605; 'Myanmar's air power boosted', p.13; and Lintner, 'Arms for Eyes', p.26. The report 'Chinese Takeaway', *Far Eastern Economic Review*, 22 September 1994, p.12, seems to have been a little premature.

40 SIPRI has stated that 12 F-6s were due to be delivered, and had probably arrived, in 1990. Stockholm International Peace Research Institute, *SIPRI Yearbook 1991: World Armaments and Disarmament* (Oxford University Press, Oxford, 1991), p.252. See also Yindee Lertcharoenchok, 'Beijing, Rangoon ink \$1.2 billion arms deal'; and 'Myanmar in large arms barter deal with China', p.88.

41 In 1987 Grumman won a contract to design a new avionics suite for the F-8. Although work began, it was halted in 1989. *Jane's All the World's Aircraft*, 1994-95 (Jane's Information Group, Coulsdon, 1994), pp.59-60. See also 'Air Forces Survey: Myanmar', p.36.

The Chinese have not forgotten the BAF's transport arm. In late 1991 it was reported by the journal *Flight International* that a senior delegation led by the Burma Air Force Chief of Staff had again visited Beijing, this time to discuss the possible purchase of three new aircraft types. These were the SAC Y-8 general-purpose medium-range transport, the 17-seat Harbin Y-12 STOL utility aircraft and the Changhe Z-8 heavy lift helicopter.⁴² Two SAC Y-8D aeroplanes (China's export version of the Soviet Antonov An-12 'Cub') were delivered to Burma in September 1993, and two more had arrived by late 1994.⁴³ No other firm orders for transport aircraft have yet been revealed, although in January 1993 a regional defence journal stated that China may supply the SLORC with up to six Harbin Y-12s and the same number of another turboprop aircraft, the Xian Y-14.⁴⁴ The same journal article also suggested that future Burmese orders may include an unspecified number of NAMC/PAC K-8 Karakorum jet trainers, which are produced jointly by China and Pakistan. This particular report was repeated by another regional defence journal in 1994, but no firm orders appear to have eventuated.⁴⁵

The Changhe Z-8 helicopter referred to by *Flight International* is the unauthorised Chinese version of the Aerospatiale SA-321 Super Frelon. Since the appearance of the journal's 1991 report, the SLORC's possible interest in this aircraft has not reappeared. There have been rumours of other Burmese helicopter deals, however, and according to *Jane's Defence Weekly* the arms package negotiated by the SLORC with China in 1994 included some 20 helicopters.⁴⁶ The specific type being purchased has not been revealed, but they are unlikely to be heavy lift

42 John Bailey, 'Myanmar and China in Z-8 helicopter talks', *Flight International*, 30 October-5 November 1991, p.18. See also 'Air Forces Survey: Myanmar', p.36.

43 'Myanmar: New Chinese arms package', p.11. See also 'More F-7s For Myanmar AF', p.14. The author observed three BAF Y-8s at Mingaladon air force base in April 1995.

44 Edmond Dantes, 'An In-depth Look at the Asia-Pacific Air Forces and Future Procurement', *Asian Defence Journal*, January 1993, p.28. This latter aircraft type cannot be identified, but the article may be referring to the Xian Y-7 twin turboprop short/medium-range transport. See also 'Air Forces Survey: Myanmar', p.36.

45 Prasun Sengupta, 'Force Modernisation Continues for Asia-Pacific Air Forces' in *Asia-Pacific Military Balance 1994/95* (ADPR Consult, Kuala Lumpur, 1994/95), p.89.

46 '\$400m deal signed by China and Myanmar', p.1. In February 1991 the journal *Asian Aviation* also referred to the purchase of some Chinese helicopters by Burma,

models. A number of other reports have referred to them as 'assault' helicopters, but it is not known what this description might mean in the Chinese context.⁴⁷

While the SLORC has looked first to China to meet the BAF's aircraft needs, it has not ignored other suppliers further afield. In August 1990, for example, the SLORC ordered between 14 and 20 SOKO G-4 Super Galebs (Seagulls) from Yugoslavia, under a barter deal involving the supply of Burmese timber.⁴⁸ These aircraft were designed to operate as both jet trainers and light ground attack aircraft. They can carry a 23 mm cannon in a removeable ventral pod and have four underwing stores points for rockets and bombs. Six Galebs were delivered to Burma in early 1991 and soon saw action against ethnic insurgents and narcotics traffickers along the Burma-Thailand border. A second batch of six aircraft arrived in early 1992.⁴⁹ It has been suggested that these deliveries were in violation of an agreement between the United Kingdom and Yugoslavia covering the re-export of the Galebs' Rolls Royce Viper turbojet engines, but the status of the Burmese sale is unclear.⁵⁰ Given events in the former Republic of Yugoslavia, the balance of the Burmese order may never be filled. Despite nearby fighting, the SOKO factory at Mostar continued production for the Yugoslav Air Force for a period, but was abandoned in May 1992 with a number of airframes left unfinished. Attempts have been made since to transfer production elsewhere, but

but no details were given. See 'Myanmar in large arms barter deal with China', p.88.

47 Lintner, 'Hardware for hardliners', p.12. See also 'Myanmar', *Air International*, Vol.48, No.1, January 1995, p.4; and 'Burma (Myanmar)', *Jane's Defence Weekly*, 7 January 1995, p.19.

48 'Super Galebs for Myanmar', *Jane's Defence Weekly*, 29 June 1991, p.1172. Some sources have stated that 20 or even 30 Super Galebs were ordered. See, for example, 'Burma: Equipment updated', *World Airpower Journal* 4, Winter 1990/91, p.8; Smith, 'Myanmar's Armed Forces - Retaining Power', p.388; and Lintner, 'Oiling the iron fist', pp.29-30. Contrary to one report, the Super Galeb is not a modified version of the Lockheed T-33A trainer. 'Burmese Air Support', *Far Eastern Economic Review*, 25 October 1990, p.9.

49 'Super Galebs total 12', *Jane's Defence Weekly*, 18 April 1992, p.646. See also 'Air Forces Survey: Myanmar', p.35; and 'SOKO G-4 Super Galeb', *World Airpower Journal* 20, Spring 1995, p.18.

50 Lintner, 'Oiling the iron fist', p.30. *The Military Powers Encyclopedia* (p.39) has suggested that the Anglo-Yugoslavian agreement did not initially cover the re-export of the Rolls Royce engines.

it is unlikely that Burma's order will be completed for quite some time, if at all.⁵¹

Despite reports in the news media that President Lech Walesa attempted to halt arms sales to Burma because of concerns over its poor human rights record, the SLORC has also managed to obtain two squadrons (or about 20) PZL Swidnik Mil Mi-2 'Hoplite' helicopters from Poland, at the cost of about US\$50 million.⁵² While a relatively old design, one version of this aircraft still makes an effective gunship. The sale was finalised in 1990 and 12 of the aircraft arrived in Rangoon in July 1992 with 100 tonnes of ammunition and other equipment. It appears that the remainder of the order arrived later. There are reliable reports that most, if not all, of the Burmese Mi-2s have been fitted with a range of weapons to perform a ground attack role, or to act as armed troop transports. A number armed with air-to-ground rockets, for example, saw service against Karen and Kachin insurgents soon after their arrival in 1992.⁵³ One year later, the BAF took delivery of at least one squadron (or about 12) PZL Swidnik W-3 Sokol (Falcon) multi-purpose helicopters.⁵⁴ They are believed to have been part of a much larger order cancelled by the former Soviet Air Force.⁵⁵ In one configuration, these helicopters can carry 12 passengers, but they too can be armed and operated as highly effective gunships. It is believed that the Burmese Falcons are currently being used for transport, search and rescue, and medical evacuation purposes.⁵⁶

⁵¹ Tooling has reportedly been moved to the Utva factory at Pancevo, but production has not been resumed. Should it do so, priority will most likely be given to local needs before those of Burma. See *Jane's All The World's Aircraft 1994-95*, p.658; and 'SOKO G-4 Super Galeb', p.18. The journal *Flight International* is incorrect in stating that 20 G-4s had been delivered to Burma by July 1991. See 'World's Air Forces: Burma (Myanma)', p.38.

⁵² Charles Wallace, 'Burmese junta buys arms for big push', *Sydney Morning Herald*, 6 October 1992. See also 'Air Forces Survey: Myanmar', p.36; and 'Myanmar: More Polish helicopters', *World Airpower Journal* 12, Spring 1993, p.10.

⁵³ 'Against the wind', *Far Eastern Economic Review*, 23 July 1992, p.6. See also 'Junta takes delivery of Polish choppers', *Asian Defence Journal*, September 1992, p.108; and Bertil Lintner, 'One More to Go', *Far Eastern Economic Review*, 21 October 1993, p.32. One PZL Swidnik W-3 Sokol helicopter may have been delivered at the same time. 'Polish arms for Burma', *Far Eastern Economic Review*, 13 August 1992, p.6.

⁵⁴ 'Against the Wind', p.6; and 'Polish arms for Burma', p.6.

⁵⁵ DMS/FI File 589, June 1995.

⁵⁶ Personal observation and interviews, Rangoon, April 1995. Also, 'Air Forces Survey: Myanmar', p.36.

Even before 1988, the Soviet Union had been trying to sell military aircraft to Burma, but without any success. When it became apparent that the SLORC was looking to upgrade its air force, the Soviet Union quickly took steps to try and cash in on this sales bonanza. In mid-1991, for example, the Soviet Embassy in Rangoon approached the military regime with an offer to provide long-term credits to enable Burma to buy a range of Soviet aircraft.⁵⁷ These reportedly included Mil MI-8 'Hip' and MI-17 'Hip-H' helicopters. Both the MI-8 and MI-17 are essentially medium-lift transport helicopters, but they can also be used for medical evacuation and (fitted with external stores) employed in an assault role. In addition, in May 1991 a Soviet delegation visiting from Aviaekspost apparently offered the Burmese some Tupolev Tu-154 'Careless' medium-range transports, and during a later approach the Soviet embassy offered to sell the SLORC several rear-loading Antonov An-32 'Cline' short- to medium-range utility transports. These latter aircraft were portrayed largely as replacements for Myanmar Airways' ageing fleet of Fokker F-27 Friendships.⁵⁸

The SLORC also seems to have been offered a number of Soviet combat aircraft. For example, in his testimony before a subcommittee of the US House of Representatives Armed Services Committee in March 1991, the Director of Naval Intelligence (DNI), Rear Admiral Thomas Brooks, stated that a number of Sukhoi Su-7/17 'Fitter' aircraft had been exported to Burma the previous year.⁵⁹ If the US report is true, then this multi-role fighter-bomber would give a major boost to the BAF's intercept and ground attack capabilities. Unfortunately, no details of the sale were given to Congress. Nor have there been any confirmed sightings of Fitters in Burma to date. One regional newspaper has reported a Soviet offer of the Sukhoi Su-26, but this seems to be an error. If any such approach was made, it is more likely that the offer was of the Sukhoi Su-25 'Frogfoot' ground

57 'Soviets may sell Myanmar jets, helicopters', *Straits Times*, 3 August 1991; Also 'Soviets offer planes and helicopters to Burma', *Bangkok Post*, 3 August 1991; and 'Air Forces Survey: Myanmar', p.35.

58 'Soviets may sell Myanmar jets, helicopters'; 'Soviets offer planes and helicopters to Burma'; and 'Moscow proposes aircraft sales to Myanmar', *Radio Rangoon* (in English), 2 May 1991.

59 Statement of Rear Admiral Thomas A. Brooks USN, Director of Naval Intelligence, before the Seapower, Strategic, and Critical Materials Subcommittee of the House Armed Services Committee on Intelligence Issues, 7 March 1991.

attack jet, which performed well against the *mujahideen* in Afghanistan.⁶⁰

While details are not yet available, it seems that at least some of the effort made by Russian arms salesmen over the years has borne fruit. In late 1995 it was reported that Burma Army Chief of Staff Lieutenant General Tin Oo had led a delegation to Moscow in late October that year, to negotiate a major arms deal with the Russians. The following month, two Russian-made helicopter gunships were delivered to Rangoon in a Russian transport plane.⁶¹ From the descriptions given of these helicopters, and bearing in mind the earlier Russian offers made to the Burmese, the new acquisitions were probably Mil Mi-17 versions.⁶² If two helicopters have already been delivered to Burma, the chances are that more are on their way. Also, since the collapse of the F-8 deal with China, it appears that the purchase of a multi-role fighter from Russia has become a more attractive option, and was discussed during Lieutenant General Tin Oo's unpublicised visit to Moscow. One recent report has suggested that the SLORC has expressed a strong interest in obtaining about one squadron of MiG-29 'Fulcrum' air superiority fighters, similar to those being purchased by Malaysia and India.⁶³ If this report is true, and Fulcrums are eventually delivered to Burma, then the BAF will have taken an ambitious leap forward in technology and potential operational capability.

Given the wide range of Russian aircraft now on the global arms market, and Russia's pressing need for hard currency, further sales to Burma seem likely. There have been persistent reports, for example, that Russia is cutting prices and offering special deals in order to win sales in the region.⁶⁴ The SLORC has considered a wide range of options and may feel that it makes good strategic sense to

⁶⁰ 'Soviets offer planes and helicopters to Burma'; and DMS/FI File 589, June 1995.

⁶¹ 'From Russia, With Choppers', *Far Eastern Economic Review*, 21 December 1995, p.14.

⁶² 'Myanmar military buys gunships from Russia', *Asian Aviation*, Vol.16, No.1, December 1995/January 1996, p.51. The Mi-34, an export version of the Mil Mi-24 'Hind' assault helicopter, has apparently also been considered by the SLORC, but no firm sales have been reported.

⁶³ Anatoly Yurkin, 'Malaysia to Receive New Batch of MiG-29s', *Itar-Tass* (in English), 3 January 1996.

⁶⁴ Michael Richardson, 'Russian arms sales trigger Asian tensions', *Asia-Pacific Defence Reporter*, Vol.21, No.6/7, March/April 1995, p.48.

diversify its sources of aircraft in the future. Indeed, this might already be taking place. In addition to the Russian deal, there have been unconfirmed reports that the SLORC ordered two or three CASA C-212 Aviocar STOL utility turboprop transport aircraft from Spain in mid-1990.⁶⁵ To date, however, China has been the supplier most favoured by the BAF. This accords with Burma's current foreign policy stance, takes advantage of the very attractive sales arrangements being offered by the Chinese and ensures continuing technical support for Chinese aircraft already in the BAF inventory.

In addition to new aircraft, the BAF has purchased a range of air-delivered munitions. China alone has reportedly provided 1000 100 kg Type 2 GP HE gravity bombs, and about 145 PL-2A short-range air-to-air missiles (AAMs). The PL-2A AAM is a Chinese copy of the Soviet 'Atoll' short-range infra-red-seeking air-to-air missile.⁶⁶ At one stage, the SLORC was also seeking 5000 forward-firing aircraft rockets (FFARs). Given the BAF's counter-insurgency role, and the higher FFAR usage rate since 1988, such an interest would not be unusual.⁶⁷ The BAF's armoury already included a wide range of air-delivered munitions, both gravity bombs and air-to-ground rockets. The latter ranged from 128 mm rockets supplied by Yugoslavia, through 68 mm rockets from France and 57 mm rockets from Poland, to smaller 37 mm weapons. A variety of US-manufactured bombs and rockets were also held in Burmese stores, including different sized cluster bombs, 250 lb and 500 lb opalm cannisters (an incendiary weapon akin to napalm), as well as a variety of bombs and rockets for producing white phosphorous smoke.⁶⁸

Since 1988 the BAF has also taken delivery of a range of new electronic equipment, both airborne and ground-based systems. The three squadrons of F-7M aircraft purchased from China, for example, carried a comprehensive avionics suite installed by GEC-Marconi. The A-5Cs have benefited mainly from Italian technology. If Burma

⁶⁵ See 'World's Air Forces: Burma (Myanma)', p.38; DMS/FI File 589, June 1995; and *The Military Powers Encyclopedia*, p.39.

⁶⁶ Personal observation, Rangoon, April 1995. See also *Jane's Air-Launched Weapons* (Jane's Information Group, Coulsdon, 1989+), Issue 19; 'China helping Myanmar build defence base', *Hindustan Times*, 1 May 1993; R.B. Gill, 'Curbing Beijing's arms sales', *Orbis*, Vol.36, No.3, Summer 1992, p.385; and *SIPRI Yearbook 1991*, p.252. The 'Atoll' is itself modelled on the American AIM-9B Sidewinder.

⁶⁷ Boyd, 'Burma arms itself against rebels in secret'.

⁶⁸ Personal observation, Rangoon, April 1995.

purchases MiG-29s, an entirely new range of Russian avionics will be acquired. In addition, it has been reported that the BAF ordered three Fokker F-27 maritime surveillance aircraft in 1990, but could not pursue the deal because of the arms embargo against Burma.⁶⁹ If this report is true, and the BAF eventually acquires specialised aircraft like the F-27 Maritime Enforcer, then they would probably carry a range of sophisticated sensors like pulse-compression search radars, passive and active acoustic systems, and electronic surveillance and monitoring systems. While already familiar to other regional air forces, these systems would be new to Burma's electronic order of battle. At present, the ageing Fokker aircraft filling the maritime surveillance role in Burma reportedly only carry Bendix weather radars.

New ground-based systems reportedly provided by China include JLP-40 tactical air defence and surveillance radars, and JLG-43 height-finding radars, which can operate together. The JLP-40 is similar to the Russian 'Bar Lock' radar, from which it has probably been derived. The JLG-43 follows the pattern of the Russian 'Cake' series radars.⁷⁰ The US electronics firm ITT may have also provided some air-defence-related equipment to the SLORC since 1988.⁷¹ If these reports are true, then the installation of this equipment would mark another major advance in the BAF's potential capabilities. Before 1988, Burma's radar equipment was obsolete and believed to be of poor resolution. Much had been provided by the United States under the MAP during the 1960s.⁷² The air force had operated a network of early warning and ground control intercept radars for some time but, even if coupled with the more modern civil equipment installed with foreign assistance (mainly to improve the safety of international airliners flying over Burma), the coverage was still very limited. Even now, after the installation of the BAF's new equipment, the SLORC admits to inadequate modern ground control for joint operations.⁷³

⁶⁹ Bernard Prezelin (ed.), *Naval Institute Guide to Combat Fleets of the World 1995* (Naval Institute Press, Annapolis, 1995), p.430.

⁷⁰ 'Air Forces Survey: Myanmar', p.36; and 'Myanmar's air power boosted', p.13. See also *Jane's Radar and Electronic Warfare Systems, 1995-96* (Jane's Information Group, Coulsdon, 1995), p.11.

⁷¹ *The Military Powers Encyclopedia*, p.40.

⁷² During the mid-1960s, for example, the BAF installed US-made TPS-ID search radars (which had a range of 160 miles) and AN/TPN-12A ground control approach radars. Personal observation, Rangoon, April 1995.

⁷³ Interview, Rangoon, April 1995.

In addition to its radar facilities, it is believed that the BAF operates a relatively crude electronic warfare (EW) capability, with units dispersed mainly to locations around the country's northern and eastern periphery. The Chinese appear to be assisting in this area too, no doubt for their own strategic purposes. Information of this kind is being very closely held, however, and no details are available.⁷⁴

The acquisition of several new aircraft types and more advanced command, control, communications and intelligence (C³I) equipment has necessitated the training of BAF personnel overseas. Both pilots and ground staff were posted to China before the delivery of the F-7s, for example, and another group was sent during 1992-93 to train on the A-5s. In mid-1994 about 30 Burmese engineers and technicians were sent to Shaanxi for instruction in the maintenance and repair of the new Y-8 transports.⁷⁵ In early 1995 a number of Burmese pilots were sent to China to undergo a conversion course on the new type of helicopter being purchased, which will reportedly be used to spearhead assaults against drug baron Khun Sa.⁷⁶ In addition, and in a major departure from past Burmese policy, several PLA air force instructors appear to have been posted to Burma, to assist with the introduction of the new Chinese machines.⁷⁷ These postings probably included on-site training for Burmese technicians on the new communications equipment.

China has not been alone in offering this kind of assistance. As part of its Mi-2 and W-3 sales, Poland gave in-country training to about 30 Burmese helicopter pilots and ground crew. Yugoslavia provided a similar service to the BAF before the delivery of the Super Galebs in 1991 and 1992.⁷⁸

As part of this massive expansion of the air force, the SLORC has undertaken a major programme to expand and upgrade Burma's aviation infrastructure. New BAF bases are reportedly being

74 *Jane's Radar and Electronic Warfare Systems*, 1995-96, p.11. See also Ashton, 'The Burmese Air Force', p.465; and William Ashton, 'Chinese Bases in Burma - Fact or Fiction?', *Jane's Intelligence Review*, Vol.7, No.2, February 1995, pp.84-7.

75 'Air Forces Survey: Myanmar', p.36.

76 'Burma (Myanmar)', *Jane's Defence Weekly*, 7 January 1995, p.19. Given Khun Sa's possession of man-portable, surface-to-air missiles, however, this seems a little unlikely.

77 Lintner, 'Hidden reserves', p.13. See also Lintner, 'Regional rivals leading Burma astray', p.1053.

78 'Super Galebs for Myanmar' p.1172.

constructed at Toungoo and Namsang, probably to take the Super Galebs and some of the Chinese F-7s and A-5s. The airfield at Moulmein is being substantially upgraded. When completed, these projects will place the BAF much closer to insurgent areas of operation, and be within an easy flight of Burma's eastern borders. Smaller airfields and helicopter landing pads have been established or improved in areas like northern Arakan State, where operations against Rohingya refugees and insurgents in recent years have increased the demand for air support in the west.⁷⁹ The projected improvements to Burma's network of civil airfields will also benefit the BAF. It is expected that most of these facilities will gradually be upgraded to cater for the new jet aircraft, as part of an extensive programme to provide the BAF with greater range and flexibility.

The New Burma Air Force

Before the SLORC's takeover, the Burma Air Force was a small, understrength counter-insurgency force flying obsolete fighters and modified training aircraft. Despite some notable successes, such as in the battle for Myawaddy in 1974, when air power proved decisive, the air force was held in contempt by most insurgent groups.⁸⁰ It was also struggling to keep its machines in the air. In early 1985, for example, it was claimed that barely half the BAF's aircraft could fly.⁸¹ By mid-1995, however, it could boast three squadrons of F-7 fighters, two squadrons of A-5 fighter/ground attack aircraft, a squadron of G-4 ground attack planes and at least two new squadrons of Mi-2 armed helicopters. The BAF's transport arm had been swollen by one or two squadrons of W-3 helicopters and four Y-8 transport aircraft. Other aircraft were on order or being evaluated. The air force's new radars could give a rudimentary air situation picture of the country for the first time. It was a remarkable transformation in a very short period.⁸²

79 See, for example, 'Terror on the Border', *Asiaweek*, 21 February 1992, p.23.

80 Falla, *True Love and Bartholomew*, p.28 and p.363.

81 Clare Hollingworth, 'Burma's uncertain future', *Pacific Defence Reporter*, Vol.11, No.8, February 1985, p.18.

82 It is relevant that the SLORC can also call upon an expanded civil fleet of three F-28 and eight F-27 aircraft, if not the B737 leased by Myanmar Airlines from Malaysian Airline Systems. See *Asian Aviation*, Vol.15, No.8, August 1995, p.38.

Some news reports have stated that the BAF's new acquisitions have taken Burma 'into the space age', but none of the aircraft types ordered or received by the SLORC so far are state-of-the-art.⁸³ Nor do they compare very favourably with the air forces of Burma's larger neighbours. They have the benefit, however, of being tested models with proven records, and are at a level of technical sophistication appropriate to Burma's developing capacities for operation, maintenance and repair. On paper at least, they significantly enhance the BAF's combat capabilities. They are more powerful, more versatile and able to operate more effectively and for longer periods than any aircraft in Burma's inventory before 1988. Also, despite occasional tensions with Thailand, India and even Bangladesh in recent years, there is little likelihood that the BAF's new acquisitions will be challenged by aircraft from any foreign power. There has been a significant reduction in insurgent activity since 1989, but counter-insurgency will remain the BAF's primary mission for the foreseeable future. There are still some serious problems for the BAF to overcome, however, and it remains to be seen how effectively its new equipment will be absorbed and operated.

Despite the rather exaggerated claims made by some observers, the purchase of these new and technically more advanced weapon systems does not translate immediately into improved military capabilities.⁸⁴ There will be problems integrating the new aircraft and their associated equipment into existing inventories and learning how to operate them together. New doctrines and operating procedures will need to be developed. Even with Chinese help, these difficulties will not be overcome quickly. In particular, much will depend on greatly improved training, logistics and maintenance procedures.

The purchase of such a diverse range of aircraft from so many different suppliers may offer certain political and strategic advantages, but it is bound to cause real problems for the BAF. There will be a continuing requirement, for example, for a wide range of training, both for pilots and ground crew, in Burma and possibly overseas. The BAF will have to maintain an extensive range of maintenance

⁸³ See, for example, Jeremy Wagstaff, 'Burma buys arms from China', *Nation*, 11 February 1991.

⁸⁴ See, for example, Smith, 'Myanmar's Armed Forces - Retaining Power', p.389.

skills and spare parts. Given its very poor record to date, this will pose a real challenge, even if the necessary foreign exchange can be found. Already problems have been experienced in keeping the new Chinese aircraft fully operational.⁸⁵ In addition, the SLORC will have to contend with the continuing ban on arms sales to Burma from some important suppliers, in protest over the SLORC's continued abuses of human rights. For example, the SLORC has been able to keep its Super Galebs flying by purchasing engines and spare parts on the open market, but it is not likely to be able to remain unaffected by the United Kingdom's arms embargo and the closure of the SOKO plant in Yugoslavia.⁸⁶ Burma's pariah status will pose other problems. For example, it may be more difficult to hire foreign expertise, as occurred before 1988. Plans by an Australian company to establish Pilatus aircraft engine overhaul facilities in Burma in 1991 seem to have foundered on the problem of the international arms embargo.⁸⁷

This is quite apart from the need to develop greater combat skills. The Burma Air Force does not have a very good reputation for its flying abilities or the accuracy of its bombing and air-to-ground rocket attacks. Indeed, according to one thoughtful and well-informed observer, its pilots 'had a splendid reputation for incompetence'.⁸⁸ During the 1989-90, 1992-93 and 1994-95 dry season offensives against ethnic insurgents, there were persistent reports of aircraft flying too high for accurate bombing, and poorly executed strafing runs against insurgent positions by both old Pilatus propellor-driven aircraft and new Chinese jets.⁸⁹ Several reasons have been offered for this situation, including poor training, inadequate intelligence, insufficient liaison with the ground forces, and the timidity of the BAF pilots. All are probably valid to a greater or lesser degree. SLORC spokesmen have admitted to the difficulties still being experienced in providing

⁸⁵ 'From Russia, With Choppers'.

⁸⁶ 'Far East Air Arms: Southern Region - Burma', p.142.

⁸⁷ An 'application in principle' from Australia's Hawker de Havilland Ltd to set up such a facility for the Burma Air Force was apparently prevented by the Australian government. See Lague, 'Evans seeks support for ban on Burma'.

⁸⁸ Falla, *True Love and Bartholomew*, p.367.

⁸⁹ See, for example, 'Blood on the Ridge', p.30; 'Karens fight off massive Myanmar army assault'; Peterson, 'Bad Day at Thingannyinaung', p.28; Adam Kelliher, 'Under fire - Karen rebels take junta's bombing raids', *Australian*, 7 March 1992; and Adam Kelliher, 'Burmese Battleground', *US News and World Report*, 16 March 1992, pp.16-17.

adequate direction of BAF aircraft from the ground.⁹⁰ Other factors are also important, such as the BAF's need to conserve its scarce resources. This was particularly the case before 1988, but even under the SLORC BAF pilots must be acutely conscious of the high cost to Burma of replacing any aircraft lost to insurgent ground fire.

Given the nature of the fighter aircraft purchased from China to date, it is also relevant that, apart from a few isolated contacts with US and Taiwanese aircraft over 25 years ago, the Burma Air Force has had little direct experience of air-to-air combat. In 1960, for example, a BAF aircraft was shot down by a Nationalist Chinese fighter. In 1961 a PB4Y-2 Privateer from Taiwan, secretly delivering supplies to KMT remnants in northern Burma, was shot down by a flight of Burmese Hawker Sea Fury fighters.⁹¹ In recent years, however, the BAF has faced no such problems. It is possible that the BAF's lack of expertise in this area is being rectified by the Chinese during their training courses (perhaps using the PL-2A air-to-air missiles they have sold to Burma). Yet it cannot be expected that Burma's pilots will be able to develop real confidence in aerial combat without a great deal more training and experience. Given the difficulty of obtaining this expertise, it is fortunate for the BAF that it is unlikely to be called upon to protect Burma against an air threat in the foreseeable future.

Before 1988 the greatest threat to BAF aircraft was from equipment failure (usually due to age or poor maintenance), or pilot error. In mid-1974, for example, five T-33 jets took off from Rangoon and inexplicably flew into a mountain, effectively halving the air force's combat capabilities at one stroke. The risk of pilot error remains, and there have already been unconfirmed reports that some of the BAF's new aircraft (both helicopters and jets) have been lost through accidents.⁹² Over the past few decades several BAF aircraft of different types have been shot down by ground fire (usually from Browning .50 calibre machine guns). If one insurgent claim is correct, even the new Chinese fighter-bombers are not safe from such

⁹⁰ Interview, Rangoon, April 1995.

⁹¹ From personal observation in Rangoon during April 1995, it appears the latter incident has assumed considerable importance in BAF folklore. See also Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.188; and 'The Burmese Air Force', *Military Technology*, p.9.

⁹² Yindee Lertchareonchok, 'Seven die when Burma 'copter and jets collide', *Nation*, 10 March 1992.

attacks.⁹³ Indeed, in recent years, this threat has grown significantly. At least one major narcotics-based insurgent group has managed to acquire a number of man-portable surface-to-air missiles. These include SA-7 SAMs and possibly even Red Eye and Stinger missiles.⁹⁴ Given the sophistication of these weapons, the threat to the new BAF aircraft from anti-government forces in Burma must now be considered much greater. Helicopters and light aircraft are particularly vulnerable. The presence of these weapons probably helps account for the circumspection of BAF pilots attacking insurgent strongholds, and the SLORC's reluctance to use its new Chinese aircraft against Khun Sa. It has also been suggested that the new airfield at Namsang in the Shan State is not being used for fear of insurgent SAM attacks.⁹⁵

The BAF presents the SLORC with certain other challenges. Although the air force has played a relatively minor role in Burma's internal political upheavals over the past 35 years, it has not escaped public criticism. As a part of the Tatmadaw, it has been closely associated with Ne Win's 1962 Revolutionary Council, the regime's tame BSPP (which formally assumed power in 1974) and the more recent SLORC. Also, BAF ground personnel have been used to support the army and police during times of serious civil unrest (as in the case of the 1974 U Thant disturbances in Rangoon).⁹⁶ Although it has not been directly involved in the periodic killings of protesters by the security forces in Burma's main population centres, the BAF's role in bombing rural settlements and insurgent camps during the Tatmadaw's long-running counter-insurgency campaigns has drawn bitter denunciations from combatants and non-combatants alike. The BAF has also borne the brunt of international criticism over the

93 For example, insurgent ground fire brought down a SF-260 in 1978, two helicopters in June 1982, a Bell 205 in February 1984, and a PC-7 in 1986. Flintham, *Air Wars and Aircraft*, p.218. See also 'Burmese jets bomb rebel base', Reuters, 2 March 1992.

94 One Thai newspaper has reported that Khun Sa received at least one dozen SAM-7s from an arms stockpile in Thailand in return for a consignment of heroin. *Nation*, 18 December 1993. See also Bertil Lintner, 'Slow Strangle', *Far Eastern Economic Review*, 14 April 1994, p.19; and 'Air Forces Survey: Myanmar', p.35. It is possible that the SAMs seen in Khun Sa's camp are not in fact old Soviet-bloc SAM-7s, but the Chinese HN-5 equivalent, particularly if they were taken from stocks intended by the Chinese for the Khmer Rouge in Cambodia.

95 Interview, Bangkok, April 1995.

96 Selth, *Death of a Hero*, p.23.

spraying of ethnic minority villages with the toxic defoliant 2,4-D (an ingredient in Agent Orange) in the mid-1980s.⁹⁷

These criticisms are not new, but they can have real, practical effects. The BAF has traditionally attracted many of the Tatmadaw's better educated recruits. The technical complexity of both flying and maintaining the BAF's aircraft have required skills which have always been in very short supply in Burma. (For many years Burma Airways Corporation was forced to employ expatriate pilots, a practice reluctantly copied since 1992 by Air Mandalay.) After the pro-democracy demonstrations were crushed, however, there has been a marked increase in the flow out of the country of its intelligentsia, including many tertiary and technical students.⁹⁸ Of those who remain, few seem happy to contemplate a military career. Even with the lure of an eventual transfer to Burma's civil airline, with its attendant privileges and black-market opportunities, doubts must remain whether or not the BAF can attract sufficient qualified recruits to keep all its new aircraft flying.

Over the past six years the SLORC has made a concerted effort to upgrade the BAF from a small, poorly equipped and relatively ineffectual service plagued by accidents and unserviceable aircraft, into a much more powerful force. It already has a range of new fighter, ground attack and transport aircraft, and other types are being considered. Burma's new and upgraded airfields should add flexibility and reach to BAF operations. These developments, however, will not translate into improved military capabilities unless the SLORC also underpins its ambitious acquisition programme with a major effort to improve the direction, operation and maintenance of its new aircraft. A greater priority will also need to be given to recruitment, training and the development of better ground facilities. Failure to do this will mean that the BAF's impressive new assets will simply become expensive new liabilities.

⁹⁷ Smith, 'The Burmese way to rack and ruin', p.44; Falla, *True Love and Bartholomew*, p.357 and p.364; and Mirante, *Burmese Looking Glass*, pp.146 ff, pp.174 ff and pp.222 ff.

⁹⁸ See, for example, Nyan Htut, 'Sackings, exodus of government workers bodes ill for Burma', *Canberra Times*, 20 December 1991; and Myint Thein, 'Burma's well-educated are leaving', *Bangkok Post*, 19 March 1995.

CHAPTER 5

THE BURMA NAVY

Of all the Burmese armed forces, the Burma Navy (BN or Tatmadaw Yay) is the most often overlooked and the least understood. Since 1948, the navy's role in the many counter-insurgency campaigns waged by the central government has been much less conspicuous than those of the other two services. Also, since the 1962 coup, the navy has held only a token position in the military regime which, under various guises, has run the country. Yet the navy has always been, and remains, an important factor in Burma's internal security.¹ The dramatic expansion of the navy since 1988 suggests that the SLORC not only shares this view, but plans to increase the BN's role and operations significantly.

The Burma Navy before 1988

The Burma Navy had its beginnings in the Burma Royal Navy Volunteer Reserve. This force was formed in 1940 and played an active part in Allied operations against the Japanese during the Second World War.² In 1947 the Union of Burma Navy was formed with 700 men. The fleet consisted of a River-class frigate (1460 tons standard) and four gunboats transferred to Burma from the United Kingdom under their founding mutual defence agreement. A number of additional motor gunboats followed, some on loan or charter from the Royal Navy. In 1950 and 1951 the US provided ten coastguard cutters under the MDAP, 'to deter insurgents from attacks against river craft and towns in the Irrawaddy delta'.³ Together with a flotilla of small motor launches and converted civilian craft, these vessels played an important part in Rangoon's fight against the ethnic and ideological insurgent groups which threatened the fledgling Union government. The navy performed both a defensive and an offensive role, protecting convoys, carrying supplies, ferrying troops and giving much needed

¹ William Ashton, 'The Burmese Navy', *Jane's Intelligence Review*, Vol.6, No.1, January 1994, pp.36-7.

² Tinker, *The Union of Burma*, p.321 and p.325.

³ From the *Third Report on MDAP*, cited in *Arms Trade with the Third World*, p.451.

fire support. While it was instrumental in relieving the port city of Moulmein (captured by Karen rebels in 1948), the navy's effort was directed almost entirely towards riverine operations. One armed patrol boat defected to the Karens, but the navy was largely unopposed and managed to maintain control over Burma's crucial inland waterways throughout this early period.⁴

In the years that followed the navy acquired a number of additional vessels, almost all from overseas and most under special agreements. In 1956 and 1957, for example, the United Kingdom sold Burma five Saunders-Roe convertible motor torpedo/motor gun boats, and in 1957 it added an Algerine-class escort minesweeper (1040 tons).⁵ In the early 1960s, the United States sold Burma six PGM-type coastal patrol craft. Burma's close relations with Yugoslavia during the late 1950s and early 1960s were reflected in the acquisition of 10 Yugoslavian-built Y-301-class river gunboats, 25 smaller river patrol launches and an ocean survey ship displacing 1059 tons. In the 1960s the navy also took delivery of two corvettes from the United States and two large Burmese-built river gunboats (later also designated corvettes). Despite the presence of these larger ships in its fleet, and the fact that the five torpedo boats gave the navy a potential offensive capability against major surface vessels, the BN at the time was little more than an internal security and coastal protection force.⁶

By the early 1980s, the Burma Navy had lost its frigate (which was decommissioned in 1979) and its escort minesweeper (which was taken out of service in 1982). Thus, when the SLORC took power in 1988 the navy had no real blue-water capability. Its largest ships were the four corvettes.⁷ Two were former US Navy ships, an ex-Admirable-class vessel of 650 tons standard, and an ex-PCE 827-class ship displacing 640 tons. Both were commissioned in the mid-1940s and transferred to Burma in the mid-1960s. They were each armed with one 3-inch gun, 40 mm Bofors guns, 20 mm Oerlikon cannons,

⁴ Tinker, *The Union of Burma*, p.325.

⁵ Burma paid the cost of reactivating this ship at a British shipyard before delivery to Burma in 1958. *Jane's Fighting Ships 1963-64* (Jane's, London, 1964), p.28.

⁶ Tin Maung Maung Than, 'Burma's National Security and Defence Posture', p.50. As the Burma Navy's flagship, the frigate UBS *Mayu* made a number of diplomatic visits to regional countries, including one to Australia in 1960. See Selth, 'Australian Defence Contacts with Burma', p.464.

⁷ The following paragraphs draw on *Jane's Fighting Ships 1994-95*, pp.76-7; and *The Military Balance* for the years in question.

anti-submarine mortars and depth charges. The other two corvettes were both 400-ton vessels of the Nawarat class, built in Burma's own Government Dockyard at Dawbon near Rangoon and commissioned in 1960. In spite of their size, both Burmese corvettes were used primarily for river patrols and rarely ventured out to sea. They were each armed with one ex-army 25-pounder field gun and a Bofors 40 mm gun purchased from Sweden.

The Burmese fleet inherited by the SLORC also included a wide range of smaller vessels, ranging in displacement from 50 to 380 tons. There were nine coastal patrol craft (ex-US PGM types or PGM types made in Burma), 18 motor gunboats (mainly ex-Yugoslavian Y-301 class and ex-US CGC types) and 36 river patrol craft of various kinds. Most of the latter were acquired from Yugoslavia or from the United States, but some had been made in Burma. There were a number of other vessels in the fleet, including the Yugoslavian-built survey ship and 15 amphibious vessels. Four of the latter were provided by Japan in the early 1970s, while ten others were ageing US-built landing craft (medium) acquired second-hand in the 1960s. The Burma Navy also operated twelve more modern patrol boats which were formally part of the People's Pearl and Fishery Corporation (PPFC). These included three offshore patrol vessels of the Osprey class, built in Denmark between 1980 and 1982, three Swift-type coastal patrol boats purchased from Singapore in 1980, and six Carpentaria-class inshore patrol boats purchased from Australia in 1979 and 1980.⁸ The Osprey- and Swift-class vessels were armed with Bofors 40 mm guns and Oerlikon 20 mm cannons. The smaller Carpentaria-class patrol boats carried Oerlikon 20 mm cannons only.

Jane's Fighting Ships has noted that 'the unique characteristic of this Navy is that no ship ever seems to be scrapped'.⁹ This overstates the case - the Saunders Roe gunboats were decommissioned in 1975, for example - but it is true that considerable efforts were made to keep vessels operational for as long as possible. Some of the hulls were very old, but operating mainly in fresh water seems to have kept corrosion to within containable limits. Also, a number of smaller craft, such as

⁸ *Jane's Fighting Ships* 1994-95, pp.76 ff.
⁹ *ibid.*, p.77.

the former US Coast Guard cutters provided in the early 1950s, were given new hulls by Burmese dockyards to prolong their service life.¹⁰

Apart from the navy's ageing corvettes, all the vessels operated by the navy and PPFC at this time were relatively small, thinly armoured and carried light armament. As their nature suggested, the primary task of the Burma Navy was patrolling the country's rivers and inshore waters in support of the army's counter-insurgency operations. Typically, about one-third of the fleet was dedicated to this 'Naval Striking Force' at any time. The navy was used for reconnaissance, to provide fire support, put soldiers ashore and to help maintain static defences around strategic towns. Most major population centres in the Irrawaddy River delta, for example, had at least one armed landing craft assigned to each, with a dedicated force of about 10 BA soldiers to man the 20 mm cannon, or .50 calibre (12.7 mm) machine gun which was usually mounted on board.

The navy's secondary role was coastal surveillance and fisheries protection. Burma's coastline is 1,930 kilometres long, it claims a territorial sea of 12 nautical miles and an exclusive economic zone of 200 nautical miles. As far as the navy's slim resources allowed, it constantly patrolled the resulting 148,000 square kilometre territory against fish poaching, smuggling, the movement of insurgent groups and pirate activity. Coastal operations in the southernmost Tenasserim Division, for example, were particularly intensive, as all these different groups tried to take advantage of the Mergui Archipelago's proximity to Thailand and Malaysia, and the area's many islands and inlets, to conduct their activities.¹¹

The Burma Navy also maintained a modest underwater repair and combat capability. Both scuba and 'hard hat' surface-fed diving apparatus was used.¹² The navy's main diving vessel was a 520-ton (standard) former torpedo tender obtained from Japan in 1967, which was used as a combined diving base and floating workshop. Sometimes a smaller buoy tender operated by the Rangoon Port Authority was also used.¹³ The navy also kept a number of inflatable

10 According to *Jane's Fighting Ships 1995-96* (p.79), only two of these veterans are still operational.

11 See, for example, Mirante, *Burmese Looking Glass*, pp.255 ff.

12 Personal observation, Rangoon, April 1995. Scuba is self-contained underwater breathing apparatus.

13 *Jane's Fighting Ships, 1995-96*, p.82.

dinghies equipped with outboard motors. While few details are available, it appears that the divers' primary role was underwater clearance and ship repair, although it seems likely that some capability existed for special operations.

The four corvettes in the navy fell under the control of the Major War Vessels Command, based in the War Office in Rangoon. The remainder of the fleet was normally assigned by the Naval Vice Chief of Staff through three regional naval commands. The largest was Irrawaddy Command, with its headquarters at Monkey Point in Rangoon. There were also sub-commands at Bassein (in the Irrawaddy River delta) and on Great Coco Island in the Andaman Sea. Arakan Command was based at Akyab (Sittwe). Tenasserim Command had its headquarters at Moulmein and exercised responsibility for several smaller naval facilities scattered among the islands of the Mergui Archipelago. These could be found in places like Mali (Malei) Island and Zadetkyi Island, but some were probably little more than sheltered anchorages.¹⁴ The navy also had access to port facilities at Tavoy and Mergui. Burma's main naval dockyard was located at Rangoon, where facilities existed to handle most kinds of ship repair. It was also where virtually all naval supplies were stored and issued. The Naval Training Centre was at Syriam, across the Pegu River from Rangoon.¹⁵

While few details are available, it appears that the navy also drew on the resources of the Burma Air Force for maritime surveillance and other air support. The BAF's smaller helicopters, like the KB-47Gs, Kaman Huskies and Aerospatiale Alouettes, for example, have assisted the navy at different times and were occasionally embarked on larger vessels like the Osprey-class offshore patrol craft and Burma's ocean survey ship.¹⁶ These aircraft performed support

14 Some of the older English names for these islands have now been replaced by Burmese names. Mali Island, for example, is called Tavoy Island on UK Admiralty charts, while Zadetkyi Island (or Zadetkyi Kyun) is still named St. Matthew's Island. See also *Bay of Bengal Pilot* (Royal Navy Hydrographer, Taunton, 1978), Vol.NP.21, pp.118 ff.

15 Bunge (ed.), *Burma: a country study*, p.255. See also *Jane's Fighting Ships 1994-95*, p.76.

16 *Jane's Fighting Ships 1995-96* (p.80) states that the BN still uses 10 KB-47G Sioux helicopters for maritime work. The journal *Military Technology*, on the other hand, claims that 10 SA-316B Alouette III helicopters are used in this role (January 1995, p.292). As noted above, however, neither were used exclusively for naval

duties and carried out short-range patrols, but none carried any sensors. They were probably not armed but, if so, they would only have had 7.62 mm machine guns. The BN also used land-based Fokker F-27 aircraft to conduct patrols of Burma's long coastline and extensive maritime claims. As noted above, a number of sources have stated that three F-27M Maritime Enforcer surveillance aircraft were added to the BAF's inventory in the early 1980s specifically to perform this role. This claim cannot be confirmed, however, and clashes with other reports that such aircraft are currently on order.¹⁷ Whatever type of F-27 was used for these tasks before 1988, it appears that they were unarmed, and only carried weather radars and wingtip searchlights.¹⁸

Generally speaking, the navy's role before 1988 was very modest. It was small, ill-equipped and starved of funds. It was also crippled by its almost total dependence on foreign logistics. Fortunately, Burma faced no serious maritime threat. The regime's most pressing security problems were land-based, from the CPB and ethnic insurgents based around the country's northern and eastern borders. Hence first priority was always given to the army and then to the air force. Even if there was the political will to do so, there were few resources left seriously to tackle the enormous problems of smuggling and the poaching of Burma's marine resources. This situation may have changed if large deposits of hydrocarbons had been found offshore but, despite the efforts of several foreign companies during the preceding 15 years, by 1988 that had not occurred. Before the advent of the SLORC, it seemed that the navy would be left forever to make do as best it could, ineffectually trying to patrol Burma's long coastline and 12,800 kilometres of navigable rivers in its vintage craft.

The Burma Navy after 1988

This situation has now changed dramatically. Since 1988 the Burma Navy has been restructured and its capabilities significantly upgraded. Manpower levels have more than doubled, from about 7000

work. By 1988 all the KB-47Cs had been taken out of service and barely six Allouettes are still airworthy.

17 See G. Jacobs, 'South Asian Naval Forces', *Asian Defence Journal*, December 1984, p.54; and *Naval Institute Guide to Combat Fleets of the World 1995*, p.430.

18 *Jane's Fighting Ships 1995-96*, p.80.

to at least 15,000 (with one battalion of 800 Naval Infantry).¹⁹ It appears that the number of naval regional commands may have been increased to five or six. Sources differ, but headquarters have been identified at Akyab (Danyawady Naval Region), Hainggyi Island (Panmawady), Rangoon (Irrawaddy), Moulmein (Mawrawady) and Mergui (Tenasserim).²⁰ Also, the scope of naval operations has been greatly expanded.

Under the SLORC, the navy has acquired a large number of new and more capable vessels. As part of the arms deal negotiated with China in 1989, for example, Burma purchased 10 Hainan (Type 37)-class coastal patrol boats and a number of smaller craft. The 375-ton (standard) Hainan-class vessels are 59 metres long and capable of 30 knots. They have an effective range of 1300 miles at 15 knots. Normally, this class is armed with twin 57 mm and 25 mm guns both fore and aft. They can also carry anti-submarine mortars and depth charges. Six of these patrol boats were delivered to Burma in January 1991 and another four arrived in mid-1993. All 10 were later variants of the Hainan class, and had already seen service with the PLA Navy between 1964 and 1987.²¹ There have since been reports that, in 1994, an order was placed with the Chinese for an additional six Hainan-class craft. Two of the patrol boats included in this later order were expected to be delivered to the Burma Navy by late 1994.²²

In December 1990 the SLORC purchased three PB 90-class coastal patrol boats from Yugoslavia. They were originally built by Brodotehnika for an unnamed African country and were completed in 1986 and 1987. When the African sale fell through they were laid up until the SLORC purchased them at a much reduced price. They

19 Lintner, 'Myanmar's Chinese connection', p.24. Some regional observers have suggested that the BN's manning levels have already reached 20,000. Interview, Rangoon, April 1995.

20 Interview, Rangoon, April 1995. See also D. Banerjee, 'Burma's naval activity raises doubts', *Bangkok Post*, 18 July 1994; and *Jane's Fighting Ships 1994-95*, p.76. Sinmalaik (also sometimes listed) is upriver from Rangoon. While a major naval facility, it is unlikely to be the headquarters of a naval region but may help coordinate naval operations on the higher reaches of the Irrawaddy River.

21 *Jane's Fighting Ships 1994-95*, p.76. See also Lintner, 'Arms for Eyes', p.26; and *Naval Institute Guide to Combat Fleets of the World 1995*, p.430.

22 Larry Jagen, 'Defence Links between Rangoon, Beijing viewed', British Broadcasting Corporation (BBC) broadcast (in Burmese), 19 August 1994; See also Lintner, 'Myanmar's Chinese connection', p.24.

arrived in Burma in October 1990.²³ It has been suggested by some commentators that these three vessels are powered by Rolls Royce Proteus gas turbine engines, and were originally armed with Swedish 40 mm Bofors guns. If this was indeed the case, the sale to Burma would have broken agreements which Yugoslavia had signed with both the United Kingdom and Sweden. These accusations, however, appear to be based on the mistaken assumption that the PB 90 vessels are the same as Koncar-class missile patrol boats, also made in Yugoslavia.²⁴ According to *Jane's Fighting Ships*, the 80-ton, 28 metre PB 90 boats are powered by diesel engines. They have a maximum speed of 32 knots and an effective range (at 25 knots) of 400 nautical miles. Under Burmese command, they have been fitted with eight 20 mm M75 cannons, one quad mount on the forecabin and one aft. They also carry two 128 mm launchers for illuminants.²⁵

At one stage, there was speculation that the Burma Navy might also buy two or three Chinese Jiangnan Type 65 frigates. These vessels are 91.5 metres long and displace 1350 tons. They are armed with three China 3.9-inch guns, one forward and two aft.²⁶ If such a purchase was ever planned, however, it seems to have been overtaken by orders for three second-hand guided missile frigates of the larger and more powerful Jianghu class. No deliveries have yet taken place, apparently because of 'technical' (probably financial) problems, but the SLORC remains keen to proceed with the sale as soon as possible.²⁷ The version of the class to be purchased, and the actual weapons fit, are not yet known. Given the Burma Navy's modest capabilities and limited resources, however, the most likely candidate is the smaller Jianghu I Type 53 guided missile frigate. These vessels displace about 1425 tons and are usually fitted with four HY-2 (C-201) surface-to-surface missiles (SSM) from twin launchers amidships.²⁸ They also

23 Robert Karniol, 'Yugoslav patrol boats for Burma', *Jane's Defence Weekly*, 5 January 1991, p.14.

24 Koncar-class missile patrol boats have carried Swedish 40 mm and 57 mm cannon. *Jane's Fighting Ships* 1995-96, p.881. See also *Towards Democracy in Burma*, p.58; and Lintner, 'Oiling the iron fist', p.30.

25 *Jane's Fighting Ships* 1995-96, p.78.

26 *ibid.*, p.77 and p.126. See also *Jane's Fighting Ships* 1994-95, p.76 and p.124.

27 Robert Karniol, 'Myanmar boosts naval power with frigates', *Jane's Defence Weekly*, 20 August 1993, p.1. See also Aung Zaw, 'Burmese island focus of strategy moves by China', *Nation*, 2 September 1994; Lintner, 'Hardware for Hardliners', p.12; and Lintner, 'Myanmar's Chinese connection', p.24.

28 *Jane's Fighting Ships* 1994-95, pp.120 ff.

carry two or four China 3.9-inch guns. If the sale of these ships goes ahead, and these weapons are fitted, the new frigates will give the Burma Navy an anti-ship missile capability for the first time.

Burma has ordered one or two Chinese-built minesweepers, to be delivered in 1995. No further details of this order, however, are known.²⁹ There have also been several reports that China has undertaken to provide Burma with a number of smaller gunboats, probably for coastal and offshore patrols.³⁰ Depending on which class (or classes) of vessel are supplied, these gunboats may also carry anti-ship cruise missiles.

Two other foreign additions to the navy since 1988 have been a tanker and a transport auxiliary. Formerly registered in Singapore, the 55 metre long tanker was arrested by the BN in Burmese territorial waters in October 1991 and subsequently taken into the navy. With its bunkers full it displaces 4000 tons and can travel at 15 knots. Although the Burma Navy already had a small coastal oil tanker, this is the first major replenishment vessel to be operated by the BN and gives a clear illustration of the SLORC's determination to extend the scope and duration of Burmese naval operations. The transport vessel was also acquired in 1991, but details of the sale are unknown. One source has described it as a former Norwegian coastal cargo ship of about 1,000 tons displacement, acquired by the BN for logistic support duties. Another source has suggested that it may be used for survey work.³¹

Not all the BN's new ships have been imported. Since 1988 the navy has ordered or taken delivery of a number of vessels built in Burma's own shipyards. They include at least two fast attack gunboats. Construction was begun in 1991 at the Naval Engineering Depot in Rangoon, with the completion date set for 1994. This may have slipped to 1995. Descriptions of the vessels vary from one source to another, but they appear to be about 45 metres long, have a full load displacement of about 213 tons, and be powered by German Mercedes diesel engines. They are armed with two Bofors 40 mm guns.³² Also,

²⁹ *Jane's Fighting Ships* 1995-96, p.81.

³⁰ See, for example, Lintner, '5400m deal signed by China and Myanmar', p.1.

³¹ *Naval Institute Guide to Combat Fleets of the World* 1995, p.432; and *Jane's Fighting Ships* 1994-95, p.78.

³² *Jane's Fighting Ships* 1994-95, p.77; and *Jane's Fighting Ships' Special Report* 1995: *World Warship Construction*, (Jane's Information Group, Coulsdon, 1995), p.8.

the Myanma Shipyard has produced two PGM-type coastal patrol craft, which were delivered to the Customs Service in 1993. Both vessels were armed, however, and may eventually be taken over by the navy.³³ In addition, another four river patrol craft have been built at the Naval Engineering Depot in Rangoon. With some modifications, their design was taken from similar craft built in Burma for the navy in the mid-1980s. These four new patrol craft were completed in 1990 and 1991. Each carry one Oerlikon 20 mm cannon and one or two .50 calibre (12.7 mm) machine guns.³⁴

To make way for these new vessels, and perhaps yield experienced crews, some of the older units in the Burma Navy are being taken out of service. The two former US corvettes, for example, were decommissioned in 1994. While still on the Fleet List in 1995, they are expected to be laid up when the new Chinese frigates appear. The old Nawarat-class corvettes are also being downgraded, and in 1989 lost some of their already modest armament.³⁵ It is possible that they too will be decommissioned in a few years time, or used only for training purposes.

Prior to 1988, the Burma Navy had little need for (or capacity to operate) sophisticated electronic warfare systems. The ex-US corvettes carried hull-mounted RCA QCU-2 sonars, but most BN vessels were only fitted with Raytheon single-band navigation or surface search radars.³⁶ Yet the Hainan-class patrol boats provided by China since 1991 reportedly carry a number of more modern systems. They include the BM/HZ8610, a highly sensitive and accurate electronic warfare support measures (ESM) system which 'provides direction finding and analysis of threat radar equipment'.³⁷ The Hainan vessels also carry the 'Pot Head' naval radar, the main function of which is surface target detection, with supplementary air warning facilities. They are fitted with 'High Pole' IFF radars, Raytheon

Slightly different specifications for the gunboats are given in the *Naval Institute Guide to Combat Fleets of the World* 1995, p.430.

33 *Jane's Fighting Ships* 1994-95, p.78.

34 *ibid.* See also J.V.P. Goldrick and P.D. Jones, 'Regional Naval Reviews: Far East', *US Naval Institute Proceedings* 117/3/1057, March 1991, p.143.

35 *Jane's Fighting Ships* 1995-96, pp.77-8.

36 *ibid.*, p.77. See also Jacobs, 'South Asian Naval Forces', p.54.

37 *Jane's Radar and Electronic Warfare Systems* 1995-96, p.518. See also Norman Friedman, *The Naval Institute Guide to World Naval Weapons Systems, 1994 Update* (Naval Institute Press, Annapolis, 1994), p.53.

Pathfinder navigational radars, and hull-mounted sonars.³⁸ Together, these systems constitute a major advance in the BN's electronic order of battle. Should the purchase of three Jianghu frigates go ahead, then it is likely that they will be fitted with additional shipborne electronic warfare (EW) systems such as the Chinese RW-23-1 ('Jug Pair') or RWD8 radar warning receiver, NJ81-3 noise jammers and PJ46 decoy launchers. Similar systems have already been fitted to this class of vessel before sales to other regional countries.

As occurred with the army and air force, many of the navy's foreign acquisitions were accompanied by a programme of training overseas. Members of the Burma Navy were reportedly sent to China and Yugoslavia, each for up to one year, to train on the vessels purchased from those countries. In addition, there have been reports that up to 70 Chinese naval personnel were sent to Burma to assist the Burmese in operating the new Chinese vessels, training local crews and maintaining new electronic equipment.³⁹

As well as increasing the size of its fleet and the technical capabilities of individual units, the SLORC has embarked on a major programme to upgrade Burma's naval infrastructure. This programme appears to include the development of existing naval bases at Akyab (Sittwe) near the Bangladesh border, and at Mergui near the southern Thai border. A new facility is reportedly being constructed on Hainggyi Island at the mouth of the Bassein River and activity has been noted on Great Coco Island, in the Andaman Sea.⁴⁰ A number of other river and coastal ports also appear to be marked for improvement, including Bassein (in the Irrawaddy River delta) and Kyaukpyu, on Ramree Island off the Arakan coast south of Akyab.⁴¹ Some sources have pointed to recent construction work at the old naval sub-station at Seikkyi at the mouth of the Irrawaddy River. One opposition group has also identified the construction (or improvement) of naval facilities at Kadan Island, Pyinzabu Island and

³⁸ *Jane's Fighting Ships*, 1995-96, p.78.

³⁹ Lintner, 'Myanmar's Chinese connection', p.24. See also 'Chinese Premier dismisses reports of Indian Ocean bases', Australian Associated Press (AAP), 29 December 1994.

⁴⁰ Robert Karniol, 'New base is boost to naval power', *Jane's Defence Weekly*, 12 September 1992, p.31; and Karniol, 'Myanmar boosts naval power with frigates', p.1.

⁴¹ 'But will the flag follow trade?', pp.31-2. See also Bertil Lintner, 'Enter the Dragon', *Far Eastern Economic Review*, 22 December 1994, p.23.

Letsutaw (Letsok-aw) Island, all in the Mergui Archipelago, and at Kawthaung (Kawthoung) on the Kra Isthmus.⁴² All this activity has been followed keenly by other regional countries, in particular India. The latter is concerned not so much by the improvements to Burma's modest naval facilities, but by the apparent involvement of China in the Burmese construction programme.⁴³

There have been numerous reports over the past few years that Burma has permitted China to install (or at least upgrade) signals intelligence (SIGINT) equipment at various sites around the Burmese coast. Once operational, this equipment would provide China (and presumably Burma as well) with a comprehensive electronic surveillance coverage of the Andaman Sea and Bay of Bengal.⁴⁴ One well-informed Burma-watcher has stated that the Burmese have come under pressure from the Chinese to permit the PRC intelligence services access not only to Hainggyi and Great Coco islands (which are the places most often mentioned), but also to Ramree Island and Zadetkyi Island. The latter is considered particularly sensitive as it is located off Kawthaung, Burma's southernmost point, and therefore close to the strategically important Malacca Straits.⁴⁵ Other possible sites of interest to the Chinese include Kadan Island, off the Burmese coast near Mergui, and Heinze Island north of Tavoy. It has been suggested that China wishes to build new facilities or improve old Burmese facilities on all these islands, with a view to conducting SIGINT operations against other regional countries. Such bases could also be used to resupply visiting Chinese warships.⁴⁶

42 *Human Rights Yearbook 1994: Burma*, p.76. Kadan Island was formerly known as King Island, and Pyinzabu Island was named Bentinck Island. On some older maps, Letsutaw (or Letsok-aw) Island is called Letsutan Island. Kawthaung used to be known as Victoria Point. See *Bay of Bengal Pilot*, Vol.NP.21, pp.118 ff.

43 See, for example, Lintner, 'Enter the Dragon', p.23; 'Jitters over naval buildup', *Asian Defence Journal*, January 1993, p.165; and Jayant Baranwal (ed.), *SP's Military Yearbook 1992-93* (Guide Publications, New Delhi, 1992), pp.371-7.

44 See Karniol, 'Myanmar boosts naval power with frigates', p.1. For a comprehensive examination of these claims, see Ashton, 'Chinese Bases in Burma - Fact or Fiction?', pp.84-7.

45 Lintner, 'Enter the Dragon', p.23; and 'Snooping Around', *Far Eastern Economic Review*, 4 August 1994, p.2.

46 Lintner, 'Myanmar's Chinese connection', p.24; Lintner, 'Enter the Dragon', p.23; and Linter, 'Arms for Eyes', p.26. One defence journal has stated that Chinese naval advisers have already been seen on Kadan (or King) Island, but this has not been confirmed. See 'Air Forces Survey - Myanmar', p.34. See also 'Rangoon stalls

The Tatmadaw has long had a rudimentary signals intercept capability, mainly to monitor insurgent radio traffic and possibly also the military communications of its immediate neighbours.⁴⁷ Since 1988, this basic capability appears to have been upgraded with Chinese help, and the scope of Burma's SIGINT operations widened to include monitoring of radio, radar and other electronic emissions emanating from further afield. The SLORC has also begun jamming foreign news broadcasts critical of the regime.⁴⁸ This assistance is doubtless part of a broader plan by China to upgrade its own SIGINT capabilities in the region.⁴⁹ Most public attention has focused on China's apparent role in establishing or upgrading a signals intercept station on Great Coco Island, just 20 nautical miles north of India's Andaman Island group. Since 1992 this site has reportedly boasted a 50 metre high antenna and sensitive equipment capable of picking up radio and radar transmissions from ships in the vicinity, and telemetry from missile tests at the Indian Defence Research and Development Laboratory in Hyderabad.⁵⁰

The full extent of China's involvement in Burma's naval infrastructure improvement programme, however, is very difficult to determine. Even greater uncertainty surrounds China's efforts to establish or use signals intelligence facilities around Burma's coastline to spy on other regional countries. While some of the reports on this subject are quite convincing, others are less so, and most have yet to be confirmed by independent sources. There would appear to be certain benefits to Burma in permitting China at least some of the access it desires, particularly if both countries share the product from SIGINT operations conducted from Burmese territory. Yet some caution needs to be exercised over the extent to which Burma can be seen as an agent

PRC on request to lease island for port', *Nihon Keizai Shimbun* (in Japanese), 20 January 1995.

47 The SLORC's ability to intercept insurgent radio traffic was graphically revealed in a 28-part story published in the state-controlled *New Light of Myanmar* between 29 January and 5 March 1995. The series was entitled 'Whither KNU', and was purportedly written by 'A Resident of Kayin State'. See also Ball, *Signals Intelligence in the Post-Cold War Era*, p.88; and Hanson, 'Calamity at Kawmura', p.72.

48 'BBC Burma Jammed', *International Herald Tribune*, 22 August 1995. Burmese-language broadcasts by the Voice of America were also jammed at the same time.

49 See Desmond Ball, 'Signals Intelligence in China', *Jane's intelligence Review*, Vol.7, No.8, August 1995, p.367.

50 Robert Karniol, 'Chinese puzzle over Burma's SIGINT base', *Jane's Defence Weekly*, 29 January 1994, p.14.

of the Chinese in this field. Given Burma's fierce independence and lingering suspicions of China's longer term strategic intentions, it is unlikely that the SLORC would permit China all the access that it wants. Nor can any Chinese presence be considered permanent, whatever the apparent benefits of current intelligence-sharing arrangements.⁵¹

The New Burma Navy

Burma's new warships and upgraded maritime facilities significantly increase its naval strength. With the expected arrival of three Jianghu-class frigates, Burma will have a true blue-water capability for the first time since the retirement of its one Second World War vintage frigate in 1979. Add 16 Hainan-class coastal patrol boats and its other more modern offshore patrol vessels, and Burma is now in a better position than at any time in its history to patrol its inland waterways, police its territorial waters and enforce its extensive maritime claims.

Burma faces no threats from hostile maritime powers, but the navy will still have a major role to play in the future. For example, soon after taking over government, the SLORC authorised extensive offshore oil and gas exploration by about a dozen foreign companies. While initial results were disappointing, large natural gas deposits were found off southern Burma and plans are now well advanced to sell the gas to Thailand. While the most vulnerable part of the project will be the overland pipeline, the navy will have an important role in protecting the offshore extraction facilities.⁵² In addition, since 1988 the problems of ethnic insurgencies, smuggling, the poaching of marine resources and overfishing by licenced foreign vessels have attracted increased attention. For example, naval patrols along the Arakan coast and rivers have traditionally been of minor importance,

⁵¹ For two views on this question, see Andrew Selth, 'The China-Burma-India "Triangle"' in Sandy Gordon and Stephen Henningham (eds), *India Looks East: An Emerging Power and its Asia-Pacific Neighbours*, Strategic and Defence Studies Centre, Canberra Paper No.111 (Australian National University, Canberra, 1995), pp.185-206; and Mohan Malik, 'Sino-Indian Rivalry in Myanmar: Implications for Regional Security', *Contemporary Southeast Asia*, Vol.16, No.2, September 1994, pp.137-56. See also Lintner, 'Myanmar's Chinese connection', p.24.

⁵² 'Regional Reviews: Far Eastern Navies', *US Naval Institute Proceedings* 113/3/1009, 057, March 1987, p.68. See also 'War and Money', *Asiaweek*, 10 March 1995.

but since 1991 they have significantly increased to support Burma Army operations against the local Muslim population. Rohingya insurgent groups formed at that time are still active. The outbreak of renewed Karen insurgent activity in the Irrawaddy River delta later the same year caused the SLORC serious concern, and once again the navy was called upon to support the army's counter-insurgency operations. The SLORC is also anxious to assert its control over Burma's rich fishing grounds, and to prevent poaching of its natural resources by the fishing fleets of other countries, notably Thailand. To do this, a larger, more capable navy is needed.⁵³

For all its obvious benefits, however, the rapid expansion of the Burmese navy has brought its own problems. There have been major difficulties in absorbing all the new vessels, and keeping them operating at full capacity.⁵⁴ The more sophisticated equipment purchased since 1988 is often technically more demanding, and skilled manpower is still in short supply. The range of spare parts required in stock has greatly increased, and much of it needs to be imported. Also, some of the new vessels have not lived up to expectations. The three PB 90 coastal patrol craft purchased from Yugoslavia, for example, have reportedly proved 'unsatisfactory in service'.⁵⁵ Some of the Chinese naval equipment is said to be sub-standard and, according to the *International Defence Review*, 'complaints have been voiced also over the poor performance of the 'Hainan' class patrol boats'.⁵⁶ The precise nature of the problems being experienced with these vessels is not known, but they are clearly causing the SLORC some concern. The expected arrival of the Jianghu frigates will add considerably to the navy's financial, manpower and maintenance burdens.

The navy also suffers from another problem. As noted above, ever since the 1962 coup all political processes in Burma have been dominated by Ne Win and the army. Ne Win's original 17-man Revolutionary Council included only one naval officer. Members of the service later held senior positions in the Burma Socialist Programme Party, and in the token parliament (*Pyitthu Hluttaw*) which was created in 1974. Their membership gave the navy a voice in

53 Interview, Rangoon, April 1995.

54 Interview, Rangoon, April 1995.

55 *Jane's Fighting Ships 1994-95*, p.77.

56 Lintner, 'Myanmar's Chinese connection', p.26. See also Jagen, BBC broadcast, 19 August 1994.

national affairs and promoted the image of armed forces unity. There is now one senior naval officer in the SLORC, a former Navy Chief of Staff, who holds the position of Deputy Prime Minister. Another senior naval officer acts as Burma's Health Minister. For all their apparent seniority and influence, however, the political positions granted to the navy have always been overshadowed by those held by army officers. In practical terms, this means that the navy's interests will never be considered before those of the army, nor will its needs be met until those of the army have been satisfied.

Given the overwhelming size of the army, and the nature of the country's perceived internal security problems, this situation is perhaps not surprising. Yet the navy has always had to endure a measure of distrust. Throughout the navy's early years, a large proportion of its officers were trained overseas, in countries like the United Kingdom, the United States, Sweden, Denmark, Japan or Yugoslavia. Overseas training continued for the navy even after the 1962 coup, when most military links with the outside world were abruptly severed. These included postings to the United Kingdom and the United States. Most recently, members of the navy have been trained for lengthy periods in China and Yugoslavia. Also, like the Burma Air Force, the navy has tended to recruit better educated men from urban areas, rather than the less educated rural recruits who have traditionally formed the bulk of the army. Both this overseas experience and the higher educational levels of naval personnel have tended to give rise to suspicions on the part of the military regime that these factors may have 'contaminated' the personnel concerned, and made them politically unreliable. Such concerns were doubtless compounded in 1988 when a number of naval officers and men joined in the widespread pro-democracy demonstrations against the military regime.⁵⁷

Despite any misgivings the army hierarchy may have, however, the SLORC clearly sees an important role for the navy in the future. In less than 10 years, the fleet has almost doubled and further major additions are expected. This is a major investment by the regime in an area which has long been neglected. It suggests that the SLORC is determined that Burma will exercise much greater control over its

⁵⁷ Bertil Lintner, 'Backdown or bloodbath', *Far Eastern Economic Review*, 22 September 1988 p.14; and William Stewart, 'Now A Coup', *Time*, 26 September 1988, p.14.

territorial waters than was possible in the past. It also signals a readiness to act more aggressively to protect Burma from any maritime threat that may emerge in the future.

CHAPTER 6

BURMA AND EXOTIC WEAPONS

For more than a decade now, Burma has stood publicly accused of 'probably having' an offensive chemical weapons (CW) capability. Despite repeated denials by the military regime in Rangoon, accusations of CW use by the Tatmadaw against ethnic insurgents continue to appear.¹ More recently, there have been claims that biological warfare (BW) agents have also been used against ethnic insurgent groups and their supporters. None of these claims have ever been verified by independent observers, but doubts remain. Since 1988 they have been given added focus by suggestions that the SLORC has received specialist technical assistance from China, as a way of assisting the regime to force the last few ethnic insurgent groups to give up their struggle against the central government in Rangoon.

Burma and Chemical Weapons

Over the past decade, Burmese officials have repeatedly denied that Burma has a CW capability. In 1988, for example, the Burmese representative to the United Nations Conference on Disarmament (CD) stated categorically that Burma does not possess, nor has developed, produced, stockpiled or used chemical weapons.² Formal protests have been lodged by the Burmese government against news organisations which have claimed otherwise.³ Yet, despite these denials, Burma is still accused of having produced and used CW.

One of the first public references to this issue was in 1982, when the *International Defence Review* reported that 'in recent years,

¹ William Ashton, 'Burma's Chemical Weapons Status', *Jane's Intelligence Review*, Vol.7, No.6, June 1995, pp.282-4.

² See, for example, Conference on Disarmament document CD/PV.452, 29 March 1988. See also Stockholm International Peace Research Institute, *SIPRI Yearbook 1990: World Armaments and Disarmament* (Oxford University Press, Oxford, 1990), p.134.

³ G.M. Burck and C.C. Flowerree, *International Handbook on Chemical Weapons Proliferation* (Greenwood Press, New York, 1991), p.437.

chemical agents have been used in ... Burma'.⁴ The same author published another article three years later in which he repeated this claim, referring to the 'use of combined agents as well as of newly developed CW agents in ... the Burma triangle'.⁵ In 1984, newspapers in the United States and Australia, citing what was claimed to be a leaked US Special National Intelligence Estimate (SNIE), stated that Burma had been making efforts to acquire a domestic capability to produce mustard gas since early 1981.⁶ The SNIE reportedly went on to say that the Burmese were buying chemical production plant and protective gear from West Germany. Apart from sulphur, which the Burmese were said to be importing from Italy, the raw materials for the production of the gas were obtained locally. According to these news reports, the SNIE estimated that Burma would be self-sufficient in the operation of the CW plant by the end of 1984. It identified local insurgents as the most likely target for Burmese CW attacks.⁷

These claims were repeated by academic researchers and the international news media in 1985, and were made again by the Stockholm International Peace Research Institute (SIPRI) in 1987.⁸ That year, the Institute reported in its annual *Yearbook* that Burma was 'said to be producing mustard gas using plant and chemicals imported from Italy and the Federal Republic of Germany'.⁹ More importantly, in March the following year the US Director of Naval Intelligence (DNI), Rear Admiral William Studeman, speaking in Washington before a sub-committee of the House of Representatives Armed Services Committee, stated categorically that Burma was one of a number of

4 F.H. Stelzmüller, 'NBC Defence: a German viewpoint', *International Defence Review* 15, November 1982, p.1571.

5 F.H. Stelzmüller, 'The NBC Threat - Effective Protection and Countermeasures', *Armada International* 8, December 1985, p.208. The 'Burma triangle' mentioned here is clearly the 'Golden Triangle', encompassing northern Burma, northern Thailand and western Laos, which produces a large proportion of the world's opium (and heroin).

6 Dale Van Atta, 'The Chemical Club Grows', *National Times*, 21-27 December 1984.

7 *ibid.*

8 See, for example, L.R. Ember, 'Worldwide Spread of Chemical Arms Receiving Increased Attention', *Chemical and Engineering News*, Vol.64, No.15, 14 April 1986, pp.8-16; and Don Oberdorfer, 'Chemical arms curbs are sought', *Washington Post*, 9 September 1985.

9 Stockholm International Peace Research Institute, *SIPRI Yearbook 1987: World Armaments and Disarmament* (Oxford University Press, Oxford, 1987), p.110.

countries 'developing' a chemical warfare capability.¹⁰ This claim was strengthened in 1991, when Rear Admiral Thomas Brooks, the new DNI, told the Seapower, Strategic and Critical Materials Subcommittee of the House Armed Services Committee that Burma 'probably possessed' an offensive chemical weapons capability.¹¹ Increasingly, Burma began to be listed in the academic and defence literature as a probable CW proliferant.¹²

Shortly after Rear Admiral Studeman's testimony to Congress, the *Christian Science Monitor* published a story by one of its staff writers suggesting that the German firm Fritz Werner GmbH, long known for its close links with the Ne Win regime's military supply programme, had 'played an important role in building Burma's chemical weapons capability'.¹³ It was suggested that 'German companies sold equipment, supplies, and possibly know-how under the guise of standard commercial sales'.¹⁴ The article stated that the United States had privately raised its concerns over this matter with the West German government, but could not be certain that all sales to Burma had stopped. More cautiously, but clearly conscious of chemical weapons scandals involving German companies in places like Libya and Iraq, some German parliamentarians also expressed their concerns over Fritz Werner's activities in Burma.¹⁵ Suspicions of Burma's interest in CW, and Germany's possible role, were strengthened in September 1991. Under public pressure, the German government revealed that, between 1978 and 1989, a total of 15 Burma Army officers had received 'ABC Protection' training training in protective measures against atomic, bacteriological and chemical

10 Statement of Rear Admiral William O. Studeman, USN, Director of Naval Intelligence, before the Seapower, Strategic and Critical Materials Subcommittee of the House Armed Services Committee on Intelligence Issues, 1 March 1988.

11 Statement of Rear Admiral Thomas A. Brooks, 7 March 1991.

12 See for example E.D. Harris, 'Chemical Weapons Proliferation in the Developing World', in *RUSI and Brassey's Defence Yearbook 1989* (Brassey's, London, 1989), pp.67-88. Several other references are listed in *Proliferation of Weapons of Mass Destruction: Assessing the Risks* (US Congress, Office of Technology Assessment, Washington, 1993), pp.80-1.

13 E.A. Wayne, 'Tracking chemical weapons in the Gulf war', *Christian Science Monitor*, 13 April 1988.

14 *ibid.* According to Burmese opposition groups, in 1984 West Germany exported 16.1 million marks worth of chemical pre-products to Burma, and 7.5 million marks worth of chemical end products. *Human Rights Yearbook 1994: Burma*, p.244.

15 Smith, 'The Burmese way to rack and ruin', pp.43-4.

warfare) from the *Bundeswehr* at Sonthofen Military Academy in West Germany.¹⁶

Soon after public reports about a possible Burmese CW programme began to appear, a number of claims were made that CW was being used by the Burmese armed forces against their domestic opponents. Karen insurgents based along the Thai-Burmese border, for example, told news reporters in 1984 that the Burma Army had used 'toxic gas', which had been fired into insurgent camps in artillery shells and mortar bombs. This attack was so intense that the Karens were forced to abandon their posts.¹⁷ In early 1992 the Karens claimed that several of their soldiers had suffered burns, rashes and partial paralysis as a result of CW attacks by the Burma Air Force.¹⁸

The Karens were not the only insurgents to make such claims. In July 1992 a Thai newspaper cited Kachin Independence Army (KIA) insurgents in Burma's far north, who claimed to have in their possession an air-delivered 'gas weapon' which had been dropped on them by the BAF. Through their political arm, the Kachin Independence Organisation (KIO), the insurgents said that they had also captured Burma Army soldiers who had told them of orders to withdraw 300 metres from the front line before the air strikes were made.¹⁹ The inference drawn by the KIA from the order was that precautions of this kind were necessitated by the use of a special weapon. According to another news report of the incident, a Kachin spokesman said that:

the SLORC had threatened to use weapons of mass destruction for some time, but this was the first documented case involving chemical warheads.²⁰

¹⁶ *Is the SLORC Using Bacteriological Warfare?*, Preliminary Report based on information independently gathered by the Karen Human Rights Group, 15 March 1994. See also *Human Rights Yearbook 1994: Burma*, pp.243-4.

¹⁷ 'Burmese accused of toxic gas warfare', *Bangkok Post*, 1 February 1984.

¹⁸ *Is the SLORC Using Bacteriological Warfare?*

¹⁹ 'Kachin rebels claim government using chemical weapons', *Nation*, 24 July 1992.

²⁰ Ian McPhedran, 'Chemical weapons enter Burma civil war: report', *Canberra Times*, 7 August 1992. McPhedran also stated that the KIA had obtained 'several' unexploded chemical weapons.

Later the same year, there were reports that the Burma Army had fired CW artillery rounds, in another operation against the KIA in Burma's far north-east.²¹

In a 1991 study sponsored by the Federation of American Scientists (FAS) it was suggested that in the opium-producing Golden Triangle area of northern Burma, the SLORC had 'contaminated the drug-smuggling trails with a persistent agent, presumably mustard'. No other details were given, but the authors of the FAS study gave this report some weight. Indeed, they stated that this story was at the time 'the only specific report that gives credence to the claim that Burma possessed even experimental amounts of lethal CW agents'.²² No further reports of CW being used by the Burmese in this way, however, have ever been published.

The latest claims of Burmese CW use were made by Karen insurgents in early 1995. Members of the Karen National Liberation Army (KNLA) told news reporters and human rights groups that the Burmese armed forces had used chemical weapons in their large-scale dry season offensive against the Karen strongholds at Manerplaw and Kawmura. At Manerplaw the Burmese reportedly used 'chemical shells fired by heavy artillery' which 'disperse smaller cluster-like bombs filled with chemicals that explode about 20m above the ground with the force sufficient to "shear a coconut treetrunk"'.²³ At Kawmura a month later the Karens spoke of 'chemical gas' being employed against them before they were forced to retreat into Thailand.²⁴ Other insurgents at Kawmura referred to 'a number of tear-gas like rockets' which caused chest pains, breathing difficulties, nausea and stinging eyes.²⁵ Later that year, there were reports of 'mysterious ailments' and 'ugly seeping wounds', allegedly as a result of these CW attacks. One report in a Thai newspaper suggested that the decision to use chemical weapons at Kawmura followed the visit to the area by SLORC

21 *Is the SLORC Using Bacteriological Warfare?*

22 Burck and Flowerree, *International Handbook on Chemical Weapons Proliferation*, p.428.

23 Ron Corben, 'Attack ends hopes of Burmese rebels', *Australian*, 28-29 January 1995. See also 'Manerplaw falls to Burmese', *Bangkok Post*, 28 January 1995.

24 Sutin Wannabovorn, 'Chemical shells used, say Karen', *Canberra Times*, 22 February 1995.

25 'Karen guerrillas pull out of last major stronghold', *Bangkok Post*, 22 February 1995; 'Karen guerrillas pull out of last major stronghold', *Nation*, 22 February 1995.

Secretary (1) and DDSI chief Lieutenant General Khin Nyunt. Another senior Burmese army officer was quoted as saying: 'We use it because it is necessary to use it'.²⁶ It was claimed that a later artillery bombardment of the Karen base at Kawmura by the Burma Army was designed to destroy all traces of CW use.

The difficulty with evaluating all these claims, however, and in making any firm judgements about Burma's past or current CW status, is that no reports of CW attacks by the Burmese armed forces have ever been verified by independent sources. Inevitably, this has led to a certain amount of official scepticism. Questioned about the issue in 1988, for example, the Staff Director of the Arms Control Subcommittee of the US House of Representatives Committee on Foreign Affairs stated that he doubted Admiral Studeman's report that chemical weapons were being developed in Asia. In particular, he felt that the DNI's case against Burma was only based on circumstantial evidence.²⁷ Certainly, in 1984 the Karens would have been aware of news reports about a possible Burmese CW plant, and may have seized the opportunity to publicise the ruthless nature of the Ne Win regime's counter-insurgency campaigns. On close examination, a photograph of the 'CW' weapon retrieved by the KIA in 1992 revealed it to be a high-explosive anti-tank (HEAT) rocket projectile, probably fired from a BAF aircraft to destroy Kachin defensive positions. The KIA may have genuinely been under the impression that they had obtained proof of Burmese CW use but, at the same time, they would have been quick to recognise the opportunity to use the international news media for propaganda purposes.

There are a number of other possible explanations for the phenomena cited. Over the years, it has been suggested that toxic defoliants, white phosphorous (WP) rounds, cordite fumes from artillery shells or even tear gas may have been mistaken for more lethal chemical agents.

Initially with US assistance, the Burmese armed forces have been using dangerous herbicides like 2,4-D in Upper Burma for some years, in an effort to destroy opium poppy crops taxed by insurgent groups or marketed by local drug warlords. In 1985, for example, a

²⁶ 'Evidence of Slorc gas attack mounts', *Nation*, 12 May 1995.

²⁷ Michael Richardson, 'Australia Holding Chemical Arms Talks', *International Herald Tribune*, 13-14 August 1988.

Royal Thai Army team investigated the reported use of chemicals being dropped by the BAF on insurgent areas along the Thailand-Burma border. The team's conclusion was that the chemicals were defoliants being used to destroy opium plantations.²⁸ Insurgents and refugees trying to escape the aerial spraying have claimed, however, that the defoliant was being dropped purely as a counter-insurgency weapon, without any regard for human life. As Stan Sesser has written:

supporters of the minority groups charged that Rangoon was unwilling to risk flying those [crop-dusting] planes to the major opium-growing areas and instead used the herbicides to poison vegetable crops in the villages of the ethnic minorities fighting the government.²⁹

Others have claimed that the US-supplied aircraft and herbicides were used 'primarily as weapons in an extensive war against tribal groups'.³⁰ Whether or not this was the case, aerial spraying of 2,4-D by the BAF was so intense (and so indiscriminate) during the mid-1980s that it provoked widespread criticism from the international community. There were numerous claims that 2,4-D was being ingested by local villagers causing 'extensive human toxicity' and occasionally even death.³¹

White phosphorous is commonly used by the armed forces of many countries as a smoke screen and for marking targets. It can be fired in aircraft rockets, artillery rounds and mortar bombs, all of which are in the Tatmadaw's armoury. It is not normally used as an anti-personnel weapon but, if employed in this way, can inflict serious burns. Even if only used as a target marker, it is possible that people near the point of explosive impact will be burned.³² The burns can take longer to heal than thermal burns and in this regard are similar to mustard gas. Also, if a sufficient amount of WP is absorbed through

²⁸ 'Military to probe Burmese chemicals', *Bangkok Post*, 24 August 1985.

²⁹ Stan Sesser, *The Lands of Charm and Cruelty: Travels in Southeast Asia* (Alfred Knopf, New York, 1993), p.200. See also Smith, 'The Burmese way to rack and ruin', p.44.

³⁰ W.H. Overholt, 'Dateline Drug Wars: Burma, The Wrong Enemy', *Foreign Policy* 77, Winter 1989-90, pp.177-8.

³¹ 'Rebels in Burma Say Rangoon Uses Herbicide Against Them', *New York Times*, 30 November 1986. See also Smith, 'The Burmese way to rack and ruin', pp.43-5; and Mirante, *Burmese Looking Glass*, pp.146 ff, pp.174 ff and pp.222 ff.

³² Stockholm International Peace Research Institute, *Incendiary Weapons* (MIT Press, Cambridge, 1975), pp.155-60, pp.198-201 and pp.209-23.

the skin or inhaled, it can cause serious internal damage and even be fatal. While it is difficult to be certain without specialist advice, some of the injuries and symptoms described by Burmese insurgents claiming to be the victims of CW seem to be consistent with WP burns or WP poisoning.³³ When questioned directly about the alleged use of CW by the Tatmadaw, spokesmen for the military regime have denied its use, but conceded that some of the insurgent claims could refer to the effects of WP.³⁴

In at least one case, the reported use of CW seems to have sprung from the inevitable side-effects of intense and prolonged barrages from artillery and recoilless guns. In early 1995, for example, a Western observer in the Karen stronghold at Kawmura noted that:

The smoke was so thick that many soldiers began to vomit and collapse, giving rise to the Karen claim that chemical weapons were being used.³⁵

One 'informed Western diplomatic source' was later quoted as saying that an investigation had been conducted into the Karen claims of CW use, but the results had been inconclusive. The observer felt that the Karens were more likely to have suffered the effects of cordite poisoning and battle fatigue. This problem was apparently exacerbated by the claustrophobic atmosphere and poor ventilation of the bunkers in which the Karen insurgents sheltered from the Tatmadaw's artillery bombardments.³⁶

Tear gas is less likely to be a factor. The military regime in Rangoon appears to have consistently bypassed the use of such agents in favour of more direct methods of crowd control, namely mass arrests and shooting at people with live ammunition.³⁷ Indeed, after the 1988 massacres in Rangoon SLORC Chairman Senior General Saw Maung told a group of news reporters that the army was forced to open fire on the crowds of pro-democracy demonstrators because the

33 *ibid.*

34 Interviews, Rangoon, April 1995.

35 Hanson, 'Calamity at Kawmura', p.72.

36 *ibid.* Also, personal communication, Bertil Lintner to the author, 17 October 1995.

37 Senior General Saw Maung stated in 1989 that before the army was ordered to shoot at pro-democracy demonstrators in 1988, four rubber bullets were fired, then 12 gauge shotguns were used. 'Saw Maung: "I Saved Burma"', *Asiaweek*, 27 January 1989, p.24.

regime did not possess any tear gas.³⁸ In any case, tear gas fired at insurgents in the Burmese jungle would probably be of limited utility, and its use in this manner by the Burma Army has never been publicly reported.

Another area of uncertainty is the possible location of Burma's CW production plant and CW testing facilities. The site of the factory has been the subject of speculation, both inside and outside Burma, for many years. The exiled National Coalition Government of the Union of Burma (NCGUB), for example, has made broad hints that 'Fritz Werner has also built "fertiliser" and "bottling" factories in Burma for the SLORC, all of which are highly secure locations'.³⁹ One insurgent group has alleged that chemical weapons have been produced at Warzi (Wasi), at the country's mint, 'which has been run by German technicians'.⁴⁰ Another site often identified by local sources as Burma's secret CW facility is a heavily guarded fertiliser plant across the Irrawaddy River from the ancient capital of Pagan, in central Burma.⁴¹ Other sites have also been mooted, but no evidence has ever been put forward to confirm any of these claims. Nor have any possible CW test sites been publicly identified.

In these circumstances, a number of important questions are left unanswered. Assuming that the original news reports were correct, and it was built in the first place, the fate of Burma's CW production plant is unknown. Some well-informed observers suspect that it was quietly closed down in the mid-1980s, after the US government made 'private' representations to the Ne Win regime and the existence of a secret CW programme was revealed in the international news media.⁴² Nor is it known what CW stocks might have been produced during the plant's period of operation, and whether or not they were weaponised. Whatever the answers to these

38 *ibid.* See also Sesser, *The Lands of Charm and Cruelty*, p.221. Given earlier reports of Burmese mustard gas production, the question arises whether the army also lacked gas masks.

39 *Human Rights Yearbook 1994: Burma*, p.244.

40 McPhedran, 'Chemical weapons enter Burma civil war: report'. The Burmese mint was initially equipped with the help of the East German government, but control was transferred to West German technicians in the early 1970s. The suggestion that the mint facilities hide Burma's secret CW plant probably stems from the fact that the West German firm now providing technical support at Wasi is Fritz Werner.

41 Smith, 'The Burmese way to rack and ruin', p.44.

42 Ashton, 'Burma's Chemical Weapons Status', p.283.

questions may be, since 1988 the SLORC seems to have given the development of CW a much lower priority than the acquisition of more modern conventional weapons. These are less controversial and better suited to the suppression of internal dissent, particularly in urban centres. Economic factors would also be influential. The SLORC needs to restore relations with - and thus the flow of aid and finance from - Japan and the West, and could feel that the continued pursuit of an indigenous CW programme was counter-productive at present. Consideration also needs to be given to the original purpose behind any earlier Burmese CW programme.

Most analyses of Burma's possible CW programme have concluded that it was aimed at the country's many insurgent groups.⁴³ Given the difficulties being experienced by the Burmese forces operating in the mountains from the late 1970s onwards, it is possible that the Ne Win regime saw chemical weapons as a means of attacking insurgent concentrations, and heavily defended bases that could not be taken by other means. Despite the rugged terrain, thick vegetation and often humid climate of Burma's border regions, chemical weapons could be highly effective against insurgent camps. Casualties were also bound to occur among the local population, but this was not likely to have concerned the Burman-dominated military hierarchy in Rangoon.

This explanation seems logical enough, but the insurgent threat in the early 1980s, when the CW plant is believed to have been built, was no worse than it had been for many years. Indeed, following the defeat of ethnic and communist forces in central Burma in the mid-1970s, it could be argued that the Ne Win regime was stronger than ever. There was certainly no prospect that the central government would fall as a result of insurgent action. Also, given the location of the surviving insurgent camps close to Burma's borders, and the support provided to some of the major groups by neighbouring countries, any use of CW against these insurgents would pose the risk of causing a major international incident. On balance, it is more likely that the primary impetus behind any clandestine Burmese CW

⁴³ Van Atta, 'The Chemical Club Grows'. See also Ember, 'Worldwide Spread of Chemical Arms Receiving Increased Attention', p.13; and Harris, 'Chemical Weapons Proliferation in the Developing World', p.75.

programme in the early 1980s was strategic developments in the wider Southeast Asian region.

Towards the end of the 1970s, when Burmese consideration of a CW programme probably began, a number of important shifts had occurred in the regional strategic balance. The communist victories in Vietnam and Cambodia had dramatically raised Burmese fears about the security of Laos and even Thailand. There was a strong feeling in Rangoon at the time that, should Thailand become unstable or, worse still, fall to the communists, then Burma would be gravely threatened.⁴⁴ This fear was heightened by the Vietnamese invasion of Cambodia in 1979. While very experienced in counter-insurgency operations, Burma's small and poorly equipped armed forces, consisting almost entirely of light infantry, would have found it very difficult to resist a conventional attack from a more modern, better equipped force. To the Burmese leadership, however, chemical weapons probably appealed as a force multiplier which could quickly and relatively cheaply redress the military imbalance.

It is perhaps also relevant that around this time there was increased international attention being given to the proliferation of chemical weapons. Since 1963, when five countries admitted to having a CW capability, the number known or suspected of such a capability had grown to at least 13.⁴⁵ During the 1979 conflict between China and Vietnam, each side accused the other of using chemical weapons. Also, in September 1981 the Reagan administration in the United States dramatically drew attention to this problem by charging the Soviet Union with the use of 'mycotoxins' - popularly known as 'Yellow Rain' - in Southeast Asia.⁴⁶ Although these accusations were later proved to be unfounded, the publicity given to the use of CW in Southeast Asia seems to have had an impact on the thinking of a number of regional governments, including the military regime in Rangoon. If such broad strategic factors led to the initiation of a Burmese CW programme in the early 1980s, however, the question arises whether they might do so again. It must also be asked whether Burma's accession to the new

⁴⁴ The author was living in Burma at the time, and can well remember the concerns expressed to him by Burmese officials about the implications of the communist victories in Indochina.

⁴⁵ Oberdorfer, 'Chemical Arms Curbs Are Sought'.

⁴⁶ *ibid.* For a more detailed treatment of this issue, see Sterling Seagrave, *Yellow Rain* (Abacus, London, 1982).

Chemical Weapons Convention (CWC) is likely to have any influence on Rangoon's thinking.

Upon regaining its independence in 1948, Burma became a Party to the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare. This did not prohibit the possession or development of CW, however, and the Burmese government retained the right of retaliation in kind if ever attacked with CW.⁴⁷ In November 1992, the Burmese Foreign Minister, Ohn Gyaw, announced to the United Nations General Assembly that Burma planned to sign the new Chemical Weapons Convention. This followed considerable efforts on the part of several countries to persuade the SLORC to join in regional consultations on the issue of chemical weapons proliferation, and to become a party to the CWC. Burma subsequently signed the Convention in Paris in January 1993.

There are still a number of formal requirements to be fulfilled before the CWC becomes international law. Should the SLORC ratify the Convention, and if these requirements are met, then Burma would be obliged to observe a number of restrictions on its CW use. Except in certain specified circumstances (such as legitimate research), Burma would be forbidden to develop, produce or otherwise acquire, stockpile or retain chemical weapons. It would have formally undertaken not to use chemical weapons or engage in any military preparations to use them. Also, within ten years, Burma would be required to destroy any chemical weapons it owned, or that were located in any place under its jurisdiction or control. In addition, Burma would be obliged under the CWC to destroy any CW production facilities it possessed, or which were located on its soil.

Despite the SLORC's apparent readiness to accede to these requirements, doubts persist about Burma's CW status. Given its extremely poor international record, particularly since the SLORC formally took power in 1988, there is little confidence in the military regime's continuing denials that Burma established a CW production

⁴⁷ Burck and Flowerree, *International Handbook on Chemical Weapons Proliferation*, p.428. Other sources, however, claim that Burma is not Party to the 1925 Geneva Protocol. See for example Trevor Findlay, 'The Strategic Benefits for Southeast Asia and the South Pacific of a Chemical Weapons Convention' in Trevor Findlay (ed.), *Chemical Weapons and Missile Proliferation, With Implications for the Asia/Pacific Region* (Lynne Rienner Publishers, Boulder, 1991), p.82.

facility in the early 1980s, or has used CW since then.⁴⁸ Also, ever since General Ne Win's seizure of power in 1962, the leadership in Rangoon has been extremely sensitive about Burma's sovereignty, and reluctant to accept any foreign judgements about its security policies. Even if Burma no longer has a CW programme, it is unlikely to accept any intrusive challenge inspections - a fundamental aspect of the CWC - to confirm this. Such inspections would also be necessary to verify that Burma no longer holds any stocks of chemical weapons which were produced under a discontinued programme. In these circumstances, it is not surprising that questions have been raised about Burma's willingness to abide by all the undertakings contained in the Convention.

Since 1993, questions have also been asked about Burma's adherence to similar conventions prohibiting the manufacture and use of biological weapons.

Burma and Biological Weapons

In addition to the 1925 Geneva Protocol, which also bans BW, Burma is a signatory to the 1972 Bacteriological (Biological) and Toxic Weapons Convention.⁴⁹ This instrument went further than the Geneva Protocol, in that it banned the development, production, stockpiling and acquisition of such weapons. The Convention entered into force in 1975. It did not include any provision for verification or international monitoring, although this issue is currently being addressed. Burma acknowledges these international legal obligations, and even attended meetings in Geneva in 1995 to discuss a strengthening of the BW Convention - the only non-State Party to do so. Yet, at the same time, Burma has been accused of possessing and even using BW against minority peoples along its eastern frontier.

Reports of possible BW use by the Tatmadaw along the border have varied. In early 1993, for example, there were references to BAF

⁴⁸ See, for example, the SLORC's dismissal of Karen attempts to interest 'spying correspondents' in the KNU's claims of CW use. 'Whither KNU - 14', *New Light of Myanmar*, 11 February 1995. See also Jayant Baranwal (ed.), *SP's Military Yearbook 1993-94* (Guide Publications, New Delhi, 1994), p.91.

⁴⁹ Stockholm International Peace Research Institute, *SIPRI Yearbook 1994* (Oxford University Press, Oxford, 1994), pp.765-7. See also Findlay (ed.), *Chemical Weapons and Missile Proliferation ...*, p.83.

aircraft spraying a yellow powder over rural villages. There have also been reports of aircraft dropping small balloons filled with 'a foul-smelling "black-yellow-green" liquid'.⁵⁰ Most often, however, opposition groups have pointed to the mysterious and reportedly lethal 'radiosondes', or 'white boxes' which have been found. In early 1994 the Karen Human Rights Group compiled a comprehensive report in which it stated that:

On August 12, 1993 ... SLORC planes dropped dozens ... of strange devices consisting of a 2-meter parachute with a "white box" and one or two balloons hanging underneath. ... Between 3 days and 2 weeks later, villagers in the drop area and some areas downriver started getting sick with a disease resembling cholera or shigella.⁵¹

The symptoms of this disease were severe diarrhoea, in some cases combined with vomiting. Death usually followed within a few days, mainly from dehydration. The disease was highly contagious and quickly spread to other villages in the Thaton and Papun districts, north of Moulmein.

In late 1994 these claims were investigated by an international human rights group led by Baroness Cox, the Deputy Speaker of the UK House of Lords. The team added weight to the claims by stating that it had 'very strong circumstantial evidence' that the SLORC had used germ warfare against Karen villages in eastern Burma. Baroness Cox and other members of Christian Solidarity International (CSI) reported that over 300 Karens had died from epidemics, which appeared to have resulted from air drops of 'white boxes' by the BAF as far back as April 1993.⁵² An Australian member of the CSI team also claimed that Burmese military personnel had visited Germany in 1993 for training in 'germ warfare'.⁵³

According to the *Bangkok Post*, scientists have examined some of the 'white boxes' in question, which were recovered by Karen villagers. They were subsequently identified as harmless 'radiosondes', or pressure-measuring devices made in the United States and

⁵⁰ *Human Rights Yearbook 1994: Burma*, pp.235-43.

⁵¹ *Is the SLORC Using Bacteriological Warfare?*.

⁵² "Strong evidence" over Burma's germ warfare', *Bangkok Post*, 17 November 1994.

⁵³ *Human Rights Yearbook 1994: Burma*, p.236.

routinely used in meteorological work.⁵⁴ There have also been suggestions that they were in some way related to Thai rain-making experiments. Yet these explanations have been rejected by members of CSI. They have claimed that such pressure-measuring devices are normally carried by large hydrogen balloons at great heights, not scattered at lower altitudes from aircraft or suspended from small parachutes. It has been suggested by members of CSI that the white boxes contained dangerous bacteria which could be released by a controlled explosion over villages sympathetic to insurgent groups. Christian Solidarity International has claimed that, immediately after the boxes were dropped, Burmese troops stopped going into the affected areas and even local traders were barred from entering. This imposition of an apparent 'quarantine area', and the fact that the Tatmadaw had earlier sent officers to Germany for training in biological warfare defence, have also been cited as evidence of the SLORC's complicity in the deliberate spread of disease.⁵⁵

The public case against Burma was taken further in mid-1995 when the influential UK newspaper *The Times* published a report stating that:

Germ warfare is being used by the Burmese military Government to eliminate the last remnants of resistance among the Karen guerrillas fighting for autonomy, British chemical and biological warfare experts believe.⁵⁶

The article referred to 'more than 300 deaths' from cholera, dysentery and other diseases after 'mysterious objects' were dropped by aeroplanes over insurgent-held areas. It also stated that tests had been carried out by UK defence experts at Porton Down on such objects, which had been brought back from Burma by two British film-makers. The results of these tests were described as 'inconclusive', but the British experts were later quoted as saying that the objects were 'consistent with the covert use of germ warfare'.⁵⁷

The truth of all these claims is very hard to determine. The facts that independent scientists in Thailand and Canada have reportedly examined the 'white boxes' dropped by the BAF and found

⁵⁴ "Strong evidence" over Burma's germ warfare'.

⁵⁵ *ibid.* See also *Is the SLORC Using Bacteriological Warfare?*.

⁵⁶ Reprinted as 'Burma junta accused of germ war', *Australian*, 11 July 1995.

⁵⁷ *ibid.*

them to be harmless pressure-measuring devices, and that the UK tests were inconclusive, suggest that other explanations may be necessary for the outbreaks of disease in eastern Burma over the past few years. It is possible, for example, that they have been caused by the spread to Burma of a new strain of cholera, known as *Vibrio cholerae* 0139 or 'Bengal' cholera. Scarcely known before 1992, it caused a major epidemic in India that year, which later spread to Bangladesh.⁵⁸ By early 1993 there were reports of the disease occurring in Thailand.⁵⁹ A particularly virulent strain of cholera, it has displaced other bacteria as the main cause of diarrhoeal disease in South Asia. As no natural immunity has been developed against it, and it is resistant to many of the drugs normally used to combat cholera, the Bengal strain has resulted in many deaths.⁶⁰ It is possible that the outbreaks of cholera-like diseases reported in eastern Burma in early and late 1993 simply reflect the spread of this particular strain. In such circumstances, the imposition of a quarantine zone around the affected areas by the Burma Army would not be unusual. This explanation has apparently been accepted by Canadian officials, among others.⁶¹

These and other questions remain unanswered, and a number of others still need to be asked. For example, the possible motives of the SLORC in developing or using BW at this time are not clear. The regime is firmly in power and faces no real military threats. Indeed, almost all the major insurgent groups in Burma have now reached cease-fire agreements with the SLORC while others, like the Karens, have been gravely weakened by recent offensives. From the evidence available to date, there seems to have been little or no strategic gain from the reported use of BW in eastern Burma. Most of the regime's resources have been put into developing the armed forces' conventional capabilities. Nor is it known why the SLORC might drop

58 M.J. Albert *et al.*, 'Large outbreak of clinical cholera due to *vibrio cholerae* non-01 in Bangladesh', *Lancet*, Vol.341, No.8846, 13 March 1993, p.704. See also M.J. Albert *et al.*, 'Large epidemic of cholera-like disease in Bangladesh caused by *Vibrio cholerae* 0139 synonym Bengal', *Lancet*, Vol.342, No.8868, 14 August 1993, pp.387-90 and p.430.

59 Manas Chongsa-nguan *et al.*, 'Vibrio cholerae 0139 Bengal in Bangkok', *Lancet*, Vol.342, No.8868, 14 August 1993, pp.430-1.

60 F.G. Morris, *et al.*, 'Vibrio cholerae non-01 - the eighth pandemic?', *Lancet*, Vol.342, No.8868, 14 August 1993, pp.382-3; and Tapas Ray, 'Another pandemic', *Frontline*, 11 March 1994, pp.78-9.

61 *Human Rights Yearbook 1994: Burma*, p.236. See also pp.242-3 for a survey of other possible explanations for the outbreaks of disease in eastern Burma.

BW over isolated rural villages instead of known insurgent bases, like Manerplaw. The attacks may have been simply to test BW agents and their means of distribution but, if so, the risk of an introduced disease spreading to other parts of Burma or even to Thailand would have been very high. Given the very poor state of Burma's medical services, any large outbreak would be almost impossible to contain. Should it spread across the nearby border to Thailand, the international repercussions would be extremely damaging to the Rangoon regime.

Taken as a whole, the case for Burmese possession and use of BW is not persuasive. The SLORC's brusque dismissals of opposition claims, however, have tended to arouse suspicions, rather than dispel them. The CSI team led by Baroness Cox, for example, was dismissed as 'a mere half-baked motley (*sic*) trying to mix religion with politics'.⁶² This attitude, combined with the regime's known readiness to use any means available to suppress domestic dissent, can only fuel speculation that it has biological weapons, is prepared to use them if the need was felt to be great enough, and indeed may have already done so.

The SLORC and Exotic Weapons

Before 1988, claims of Burmese CW use seemed designed largely to discredit the Ne Win regime and draw attention to the brutal nature of its counter-insurgency campaigns. The inference of some of the more recent reports about Burma's possible development and use of exotic weapons, however, is that Burma has benefited in this area from its close military relationship with China. In 1990, for example, the KNU claimed that the Chinese had sold tonnes of chemical weapons to the SLORC for use against insurgent groups, and in 1995 similar accusations were made after the fall of Kawmura.⁶³ Should it be discovered that China was in any way assisting the SLORC with an exotic weapons programme, there would be serious repercussions for Burma's (and China's) relations with both regional countries and members of the wider international community.

⁶² 'Whither KNU - 14', *New Light of Myanmar*, 11 February 1995.

⁶³ Alan Boyd, 'Burmese junta calls in troops', *Australian*, 31 October 1990; and 'Karen guerrillas pull out of last major stronghold'.

It is conceivable that China has taken Germany's place as the prime source of Burma's military technology, and is secretly providing Burma with the specialised equipment and expertise necessary to manufacture chemical and biological weapons. China has long been suspected of having active CW and BW development programmes of its own, and in 1979 was even accused of using CW against Vietnam.⁶⁴ China has also demonstrated a readiness to share some of its most sensitive technology with its closest friends and allies, as seen in the apparent transfer of ballistic missiles and nuclear weapons expertise to Pakistan in recent years. Given the rapid development of its military and other ties with China since 1988, it is possible that Burma is now viewed in the same privileged category. Even if China was not actively participating in a clandestine Burmese exotic weapons programme, it is possible that it has provided training for Burmese scientists and technicians. It could even be the case that the possible CW and BW attacks reported in Burma since 1988 have been field tests of Chinese exotic weapons, conducted with active Burmese cooperation.

There is no evidence to confirm claims of such close collaboration, however, and on balance it seems unlikely. The first reports of Burma's indigenous CW programme appeared during the early 1980s, almost six years before the SLORC's takeover of power and some seven years before its close relationship with China began to develop. At that time the Chinese were still actively assisting the CPB in its military campaign against the Rangoon government. Burma's strictly neutral foreign policy and historical suspicions of China aside, bilateral relations were simply not close enough for the Chinese to be invited to participate in such a programme. Nor would the Chinese be likely to assist the Ne Win regime develop a weapon that could be used against its own allies, or indeed against China itself. Even if Rangoon sought to develop such ties with Beijing after 1989, perhaps faced with West Germany's passing reluctance to be associated with an international pariah like Burma, the chances of China wishing to be associated with such a controversial and potentially counter-productive scheme seem remote. Rather, China has preferred to sell the SLORC large quantities of conventional weapons, usually at a lower level of technological sophistication and much less danger to itself.

⁶⁴ See *Proliferation of Weapons of Mass Destruction: Assessing the Risks*, pp.80-2.

The available evidence of Burma's possible development, or use, of exotic weapons is still too thin to permit any firm judgements. Despite the many claims that have been made over the past 15 years, no independent verification has been possible in any of the cases of CW or BW use which have been reported. A number of alternative explanations are possible for all the cases cited to date. The US SNIE appears to provide firm evidence of Burma's intention at least to manufacture CW in the early 1980s, and the case for West German involvement in secret CW production elsewhere in the world is overwhelming.⁶⁵ Yet, as a leaked national intelligence document, the SNIE cannot be properly verified and no independent confirmation of CW in Burma has ever been produced. Evidence of BW production or use in Burma is even more unreliable. No specific samples of harmful bacteria dropped from aircraft have ever been isolated or identified. On close reading, the support reportedly given by the Porton Down laboratories in the United Kingdom, to claims of Burmese BW attacks during 1993, does not specifically confirm actual BW use, simply the possibility that such kinds of attack are possible.⁶⁶

None of this is to say that Burma would not be prepared to develop or even use exotic weapons in the future. Despite uncomfortable relations with Thailand and recent frictions with India and Bangladesh, Burma faces no appreciable external threat at present. Burma's relationship with China, its main traditional enemy, is now closer than it has ever been. Yet over the years Ne Win, and since 1988 the SLORC, have shown a capacity for muddled thinking, if not paranoia. There have been some indications, for example, that the dramatic expansion of the Burmese armed forces since 1988, and large-scale arms purchases from China, have been prompted at least in part by a fear that Burma might become the target of external powers. Under the impression that it was faced with such a threat, chemical or biological weapons might start looking attractive to an isolated and fearful regime in Rangoon.

Also, should it become known that any of Burma's neighbours were developing CW or BW capabilities of their own, Burma could be

⁶⁵ See, for example, K.R. Timmerman, *The Death Lobby: How the West Armed Iraq* (Fourth Estate, London, 1992), pp.105 ff; and Christopher Andrew, *For the President's Eyes Only: Secret Intelligence and the American Presidency from Washington to Bush* (Harper Collins, New York, 1995), pp.501-2.

⁶⁶ 'Burma junta accused of germ war'.

prompted to follow suit. Indeed, the original US SNIE reportedly stated that one reason behind Burma's initial CW programme was because it had been 'sensitised by its neighbours' possession of chemical weapons'.⁶⁷ Given the close relationship which currently exists between Burma and China, the latter's CW and BW capabilities are not likely to encourage a new Burmese programme. More worrying would be the prospect of India developing a significant CW arsenal, as insurance against a possible CW threat from Pakistan. Although bilateral relations with India are gradually improving after a low point in the late 1980s, Burma would not like to feel vulnerable to any Indian threat. Thailand has also been suspected of considering an exotic weapons production programme at different times. In these circumstances, there is a danger that CW might once again be seen by the military regime in Rangoon as a cost-effective way of defending itself. If Burma sought an exotic weapons capability, this could in turn trigger the proliferation of CW or BW elsewhere in the region, with untold consequences.

⁶⁷ Van Atta, 'The Chemical Club Grows'.

CHAPTER 7

PLANS AND PERCEPTIONS

Since taking over the reins of government in 1988, the State Law and Order Restoration Council has been reluctant to elaborate on the reasons for its massive armed forces expansion programme. Questioned about Burma's purchases of new weapons and equipment, for example, spokesmen for the military regime have simply stated that:

These arms are for our legitimate defence needs. There hasn't been an excessive amount of buying, just what's adequate for our needs.¹

Those needs have not been spelt out in detail, but they have usually been related in whole or in part to three broad goals which the SLORC has raised to the level of guiding principles. These are:

- the non-disintegration of national solidarity;
- the non-disintegration of the Union;
- the perpetuation of the sovereignty of the state.²

These goals can be interpreted in a number of ways. Indeed, on closer examination, they can be read as codes to disguise a number of different policies, the logical consequence of which is the expansion and modernisation of the country's armed forces. Most of these policies stem from domestic concerns, but some seem related to external developments. In this regard, the Tatmadaw's rapid growth under the SLORC shares certain characteristics with the military development programmes of other Southeast Asian countries.³ More often, however, changes in the Tatmadaw since 1988 stem from

1 U Aye, Director-General of the Foreign Ministry, cited in Wallace, 'Burmese junta buys arms for big push'. See also Lieutenant General Khin Nyunt, 'The Tatmadaw as Preserver of the Union', *Business Times*, 4 August 1995.

2 Interviews, Rangoon, April 1995. See also Address delivered by Senior General Saw Maung, 27 March 1990.

3 For an examination of the reasons behind the arms procurement programmes of the ASEAN countries, see, for example, Bilveer Singh, 'ASEAN's Arms Procurements: Challenge of the Security Dilemma in the Post Cold War Era', *Comparative Strategy*, Vol.12, No.2, April-June 1993, pp.199-223.

developments in Burma alone, and the Burmese regime's unique perceptions of external threats.

The SLORC's Domestic Imperatives

The first and most important priority for the SLORC after the 1988 massacres was to consolidate its grip on government. As a longer term goal, it was determined to put into place all necessary means to ensure that the Tatmadaw would remain the real arbiter of power in Burma. To achieve these aims, the armed forces needed to be large enough and strong enough to answer any future challenge to military rule, whether it came from the civilian population in the cities and towns, armed insurgents and dissident groups based around Burma's borders, or even from forces outside the country. It also seems to have been the SLORC's view that, once these more immediate threats were eliminated or effectively contained, it could relax its iron grip. It could then contemplate general elections and the erection of a civilian administrative structure which disguised its continued control of the country's more important political processes.⁴

Before 1988, the Tatmadaw had the capacity to crush sporadic outbreaks of civil unrest in the main population centres, but it lacked sufficient reserves to respond in strength to a large number of demonstrations held concurrently all around the country. Even smaller and more confined protests, like the 1974 U Thant disturbances in Rangoon, had forced the regime to declare martial law and call on troops deployed against ethnic insurgents in the border areas.⁵ The enormous and widespread demonstrations in 1988 thus severely tested the capacity of the armed forces. Never before in Burma's history had so many people taken to the streets in so many places at the same time. The SLORC was not only faced with the possibility of further demonstrations of this kind, but it even feared that these essentially peaceful protests might evolve into an armed uprising against the regime by the civil population. As a number of observers have noted, the urban-led democracy movement is now the

⁴ See, for example, the statement issued by the SLORC Information Committee at the press conference held at the Ministry of Defence, Rangoon, on 17 November 1989, and reprinted as 'Tatmadaw Will Yield Power to New Gov't', *Diplomacy*, Vol.15, No.12, December 1989, pp.19-21.

⁵ Selth, *Death of a Hero*, p.23.

SLORC's greatest concern, and the highest priority has been given to developing the means to contain and destroy it.⁶ This determination to preserve what the SLORC has called 'national solidarity' has been a major factor behind the expansion of the Tatmadaw and the People's Police Force, and the increased emphasis on the regime's domestic intelligence capabilities. It has also prompted drastic measures to reduce the threat posed by ethnic and other insurgent groups.⁷

Faced with the possibility of further civil unrest in Burma's heartland, the SLORC was particularly anxious to reduce the potential for insurgent groups and narcotics-based armies to absorb its resources and wear down its military strength around the country's periphery. There was also a concern after 1988 that some of the insurgent groups in Burma may try to combine, or at least coordinate their actions, with other anti-SLORC forces in order to bring down the military regime.⁸ To help overcome this problem, the SLORC has adopted a 'carrot and stick' approach reminiscent of the policy which saw the creation of *Ka Kwe Ye* militia groups in 1963.⁹ Over the past five years the regime has made a range of concessions to ethnic insurgents in order to remove them as active opponents of the regime. Cease-fire agreements have been reached with 16 groups to date, including members of the Kachin, Shan, Kayah (Karenni), Pa-O, Palaung, Akha and Wa peoples. In return for undertakings not to fight the central government or disrupt cross-border trade, these groups have been permitted to retain their weapons and exercise control over their old territories. This has included the freedom to grow and market opium.¹⁰ As an added inducement, the SLORC has undertaken to

6 See, for example, Bertil Lintner, 'Conflict of Interests', *Far Eastern Economic Review*, 19 May 1994, p.28; and interviews, Bangkok and Rangoon, April 1995.

7 The CPB still posed a threat when the SLORC took power, but collapsed from internal differences in 1989, thus removing a problem which had dogged the Rangoon government for 40 years.

8 This was never really in prospect, despite efforts by the SLORC to link the pro-democracy movement with the Communist Party of Burma. See *Burma Communist Party's Conspiracy to take over State Power*.

9 Under this policy local leaders were permitted to keep their arms and police local trade, as long as they gave no support to separatist guerrillas, notably the Shans. The scheme was abandoned in 1973 after international protests were lodged over the involvement of these militia groups in the opium trade. See Smith, *Burma: Insurgency and the Politics of Ethnicity*, pp.65-6.

10 See, for example, Bertil Lintner, 'Divide and Rule', *Far Eastern Economic Review*, 27 January 1994, p.20; and 'Buying Off the Enemy', *Asiaweek*, 9 March 1993, p.27.

develop the civil infrastructure in border regions inhabited by the cooperating groups.¹¹

Few of the cease-fire arrangements negotiated to date are likely to become permanent, and the potential remains for Burma's internal security situation to deteriorate again very quickly. The latest round of cease-fires, however, have removed many insurgent groups as immediate security problems. They have permitted the SLORC to concentrate its forces against those 14 other organisations (like the Karen National Union) which have so far refused (in the SLORC's parlance) to 'return to the legal fold'.¹² The concessions policy has thus given the regime advantages it has not enjoyed before and contributed indirectly to a number of major military victories.¹³ To end the insurgent problem once and for all, however, it was felt that more manpower and better arms were needed to tip the scales firmly and permanently in the Tatmadaw's favour.

One reason for the failure of the 'Four Cuts' strategy after the early 1970s was that, once the insurgents were driven out of Burma's deltas and lowland plains into the rugged border regions, far greater military resources were required to contain and defeat them. Yet the Tatmadaw was too small and ill-equipped continually to mount large campaigns, sustain lengthy operations or maintain a strong military presence in all the different areas of operation. Quite apart from the capabilities of the insurgents themselves, their knowledge of the ground and the support they received from sympathetic local populations, the army was defeated by its lack of size and material strength. Operations were also hampered by weak logistics and C³I problems. After 1988, however, the SLORC resolved that this situation would change. It determined to crush completely any elements of Burma's population which did not accept rule from Rangoon and, in pursuit of this policy, has been prepared to put greatly increased resources into the development of the armed forces.¹⁴ It seems inevitable that, in due course, even those insurgent groups which are

11 See, for example, *Measures Taken for Border Areas and National Races Development*, 2 vols (Central Committee for Border Areas and National Races Development, Rangoon, 1991?).

12 Interview, Canberra, June 1995. The SLORC currently lists 30 rebel groups which have opposed the central government since 1988, but several others have been eliminated since 1948.

13 See, for example, Lintner, 'Centrifugal forces', p.16.

14 Ron Corben, 'Beijing arms back Burma's ethnic purge', *Australian*, 3 March 1992.

currently enjoying truces with the SLORC will come under pressure to acknowledge the regime's authority. Those which resist can expect to feel the full weight of a very much larger and better equipped Tatmadaw.

Most of Burma's insurgent groups have been fighting for separate ethnically based states, or at least greater independence from Rangoon under loose federal arrangements. Like Ne Win's Revolutionary Council and the BSPP government which followed it, however, the SLORC has firmly rejected these options. They are seen as leading to a disastrous fragmentation of the country, with internal unrest and increased vulnerability to external pressures as natural consequences. These fears appear to have been heightened by the political and economic collapse of the former Republic of Yugoslavia and the former Soviet Union. Both countries have been held up by SLORC spokesmen as examples of what would inevitably happen to Burma, if the centrifugal forces of ethnic and political division were not firmly resisted.¹⁵ Under the rubric of the 'non-disintegration of the Union', the SLORC has made renewed efforts to exert military control over the country and turn it into a highly centralised, ethnically Burman-dominated state, commanded by the armed forces or its servants. On this basis, any future distribution of power or allocation of civic responsibilities to minority ethnic groups seems bound to be an essentially token gesture. Real power will continue to reside in Rangoon and be exercised through regional military commanders and pliant civilian administrators.

To ensure that this system works effectively, and to guard against any upsurge of irredentism, the SLORC envisages a permanent military presence in almost every part of the country. Burma's lack of financial and military resources has long meant that large tracts of territory were effectively beyond the government's control. Some were ruled by insurgents and drug warlords, or were inhabited only by a few villagers who barely recognised Rangoon's authority. The central government's writ ran when there was a military presence, but the army was spread very thinly. Some places were so remote and difficult to reach that they rarely received more than occasional visits by BSPP officials or army patrols. Foreign intelligence agents, insurgents, black

¹⁵ Interviews, Rangoon, April 1995. See also 'Burma's Path to Democracy', Reuters, 24 November 1992.

marketeers, narcotics traffickers, foreign journalists and illegal immigrants all crossed Burma's borders without let or hindrance.¹⁶ Since 1988, however, the SLORC has determined to establish a permanent military presence throughout the country to prevent this occurring. The implementation of such a policy, however, demands much greater manpower and resources.

A permanent military presence throughout Burma would give the SLORC a number of direct benefits. It would permit the regime to monitor political developments in the frontier districts more closely, exercise greater administrative control over those areas, better regulate cross-border traffic and improve revenue collection. The armed forces could also help develop the civil infrastructure of the border areas in ways that were conducive to both economic growth and their own strategic mobility. Projects such as roads, bridges and hospitals could also be profitably linked to ceasefire agreements made with local ethnic groups. The Tatmadaw already performs these duties to a certain extent, but this role is likely to increase, possibly along the lines of the Indonesian *dwi fungsi* model, which has attracted considerable SLORC interest.¹⁷ Most importantly, the permanent deployment of soldiers all around the country will help the Tatmadaw avoid many of the problems involved in constantly moving large bodies of troops and their equipment from one distant trouble spot to another. SLORC spokesmen have openly admitted that the plan is for any outbreaks of civil unrest or ethnic insurgency to be met first with the forces *in situ*, with reinforcements only being sent from other areas if necessary.¹⁸ Such a plan may make good military sense but, once again, it will require a much larger number of soldiers and more equipment than were available to the regime before 1988.

The expansion of the Tatmadaw is also linked to the SLORC's economic ambitions. Without the means to crush any future political unrest the regime cannot establish and maintain the kind of internal stability which it believes is necessary to encourage foreign investment

16 This is well illustrated, for example, in Lintner, *Land of Jade*, and Mirante, *Burmese Looking Glass*.

17 Ulf Sundhaussen, 'Indonesia's New Order: A Model for Myanmar', *Asian Survey*, Vol.35, No.8, August 1995, pp.768-80. See also John McBeth and Bertil Lintner, 'Model State', *Far Eastern Economic Review*, 17 August 1995, p.27; Bertil Lintner, 'Bristling Border', *Far Eastern Economic Review*, 13 July 1995, pp.19-22; and 'Not quite Indonesia', *Economist*, 28 January 1995, pp.28-9.

18 Interview, Rangoon, April 1995.

and economic growth. Also, without a much larger army, the regime does not feel confident that it can protect the newly restored overland trade routes through the troubled border regions to China, Thailand and India.¹⁹ Nor can it prevent the large-scale smuggling of foodstuffs, livestock, forest products and precious stones to neighbouring countries, or the illegal import of weapons, machine parts and consumer goods. The navy is being expanded in large part to police Burma's exclusive economic zone and to guard against the poaching of Burma's rich marine resources. The government has long wanted to enforce its jurisdiction in the Andaman Sea and Bay of Bengal, but has lacked the means to do so. With its new patrol boats and frigates the BN can be in more places at once and act more vigorously against poachers and smugglers.²⁰ It will also be able to patrol at greater distances offshore and better protect gas and oil exploration ventures and extraction operations, on which the SLORC is banking to underpin Burma's future economic growth.

Another reason sometimes offered for the SLORC's expansion and modernisation of the Tatmadaw is to ensure the continuing loyalty and cohesion of the armed forces. For unless the SLORC can depend on its own troops then its survival would be gravely threatened. A number of commentators have suggested that the SLORC has undertaken its massive arms purchasing campaign in order 'to improve the morale of its officers and men, by then all but estranged from the population at large'.²¹ The members of the Tatmadaw have always been promoted as the guardians of the people and protectors of the Union. After the 1988 massacres, however, the Tatmadaw was faced with a resentful and alienated population which

19 In 1988 Burma officially recognised trade with China through a number of northern border towns (like Muse/Ruili and Panghsai). A new bridge is being built across the Moei River at Myawaddy/Mae Sot to facilitate trade with Thailand. Burma is also opening two Customs posts on the Indian border, at Moreh/Tamu and Champhai/Hri. See, for example, Bertil Lintner, 'Make Way For Trade' *Far Eastern Economic Review*, 3 November 1994, p.16; Lintner, 'The Volatile Yunnan Frontier', pp.84-92; and John Zubrycki, 'Burma, India seal border trade pact', *Australian*, 21 April 1995.

20 One SLORC spokesman has even described the new Jianghu-class frigates as 'poacher chasers'. Interview, Rangoon, April 1995.

21 Fredholm, *Burma: Ethnicity and Insurgency*, p.78. See also Bertil Lintner, 'Burma - the army's role in politics', *Jane's Defence Weekly*, 7 October 1989, pp.715-16; Lintner, 'Oiling the iron fist', p.28; and Lintner, 'Lock and load', p.28.

saw it as the blunt instrument of military oppression. Many members of the armed forces appear to have shared the sentiments being expressed by the pro-democracy movement and some officers and men even joined in the demonstrations.²² To help counter the confusion and low morale in the ranks, the Tatmadaw is also being encouraged to take greater pride in its historical achievements and its new-found material strength. The opening of a large Defence Services Museum in Rangoon to mark the occasion of the Tatmadaw's golden jubilee in 1995, and the publication of a multi-volume official history of the armed forces, can also be seen as part of this same plan. Both portray the armed forces in a manner designed to reassure its members (and if possible the wider public) about the Tatmadaw's military capabilities and its special place in Burmese society.²³

Considerable efforts have also been made by the SLORC to trade on the Tatmadaw's Burmese chauvinism and its traditional suspicion of foreigners. The rationale seems to be that, faced with a range of external threats to the Union, there will be less inclination for members of the armed forces to question domestic political developments.

External Threat Perceptions

Ever since independence in 1948, Burma's government has been preoccupied with internal security problems of one kind or another, but it has never lost sight of its vulnerability to external threats. Burma occupies a critical geo-strategic position between the regional giants of India and China, with which it shares long and permeable borders populated by rebellious ethnic groups and independent armies. Burma has always been acutely conscious of the military and political pressures these countries can bring to bear. It also fears the massive populations and economic potential of its larger neighbours, which to many Burmese threaten eventually to engulf

²² In August and September 1988 about 1000 men and women from all three services joined in the pro-democracy demonstrations. See, for example, Lintner, 'Backdown or bloodbath', p.14; Lintner, 'Oiling the iron fist', p.28; and Stewart, 'Now a Coup', p.14.

²³ Personal observation, Rangoon, April 1995.

them.²⁴ Burma's difficult colonial experience, developments during the Second World War and the KMT invasion in the 1950s have all served to remind Burma's leaders of the dangers of becoming caught in foreign power struggles. After independence, both the Nu and Ne Win governments resisted attempts to draw Burma into wider strategic competitions, such as those which existed between the United States and the Soviet Union, on the Korean peninsula or in Indochina. Within the ambit of the United Nations, Burma adopted a strictly neutral foreign policy, seeking in scrupulous even-handedness and virtual isolation to avoid inviting any foreign intervention.²⁵ Such policies also drew on the historical traditions of a country which (with some notable exceptions) has always tended to look inward, rather than towards the outside world.²⁶

When it took power, the SLORC virtually abandoned the BSPP's autarkic socialist economic policies and Burma's neutrality in international affairs. Albeit within certain limits, the military regime opened Burma's economy to the outside world and welcomed increased foreign contacts. It did not lose its deep suspicions of other countries, however, and was soon reminded of the pressures that they could bring to bear. After 1988 the SLORC suffered widespread condemnation for its violent suppression of the pro-democracy demonstrations and other violations of human rights. Almost all bilateral aid donors suspended development assistance and withdrew support for Burmese loans in international financial institutions. Even multilateral aid agencies like the United Nations Development Programme (UNDP) took steps to deny direct assistance to the military regime.²⁷ There were calls for an economic boycott of Burma

24 It is said, for example, that Ne Win's strong opposition to birth control stems from his fear that Burma may eventually be swallowed up by its more populous neighbours. See David Steinberg, 'Myanmar as Nexus: Sino-Indian Rivalries on the Frontier', *Studies in Conflict and Terrorism*, Vol.16, No.1, 1993, pp.1-8.

25 For example, Burma was a founding member of the Non-Aligned Movement (NAM) but withdrew in 1979 when, under pressure from Cuba, the NAM became more closely aligned with the Soviet Union. Burma feared that to remain a member under those circumstances would offend China and the United States. See also Tin Maung Maung Than, 'Burma's National Security and Defence Posture', pp.40-3.

26 The exceptions include Burma's repeated invasions of Siam and India between the sixteenth and nineteenth centuries.

27 Despite strong protests by the SLORC, almost all the UNDP's infrastructure programmes in Burma were stopped or significantly curtailed after May 1992, when the 39th UNDP Governing Council decided that UNDP funds to Burma

and an unofficial arms embargo was imposed by a number of Burma's traditional suppliers. There was also strong criticism of the SLORC in the United Nations and other international forums, like the European Parliament. This criticism was renewed after the arrest of charismatic opposition leader Aung San Suu Kyi in July 1989, and the SLORC's repudiation of the May 1990 general elections, which resulted in a landslide victory for the opposition National League for Democracy (NLD).

These political and economic measures against the regime were bitterly denounced by the SLORC as 'foreign interference in Burma's internal affairs', and firmly rejected as the basis for any significant policy changes. Senior SLORC spokesmen repeatedly accused the Western democracies of a plot to cripple Burma's economy and turn the country into a colony once again.²⁸ International radio broadcasts describing the terrible events in Burma during the 1988 pro-democracy demonstrations, and various measures taken after the SLORC's assumption of power, were vigorously refuted. More recently, efforts have been made to jam the offending broadcasts.²⁹ International criticism of the SLORC seemed only to harden the regime's resolve to pursue its own policies in its own time, regardless of the consequences. There is some evidence, however, to suggest that as late as 1992 the SLORC was concerned about the strong international response to the 1988 massacres, and even feared that it might extend to military action.

During the August and September 1988 demonstrations, there were repeated calls to the international community by pro-democracy activists for help in ending military rule in Burma. In themselves, these calls were not unusual. They had been made on numerous other occasions, such as in 1974, when students and monks appealed to the United Nations to help them honour the memory of former UN

should be de-committed. The funds released by this action were to be used instead for projects likely to have a greater impact at the 'grass roots' level. Minority groups and the poor in Burma were singled out for special attention.

28 See, for example, *The Conspiracy of Treasonous Minions Within the Myanmar Naing-ngan and Traitorous Cohorts Abroad* (Ministry of Information, Rangoon, 1989); and 'West accused of plot', *South China Morning Post*, 17 August 1991.

29 The most elaborate effort in this regard was the publication by the SLORC of a book entitled *Skyful of Lies: BBC, VOA: Their Broadcasts and Rebuttals to Disinformation* (News and Periodicals Enterprise, Rangoon, 1990). As the book

Secretary-General, U Thant, and to restore democratic rule.³⁰ In 1988, however, the anti-government demonstrations were much larger, received far greater publicity and prompted a higher level of international interest. News reports that the United States was sending naval vessels to evacuate American nationals from Burma apparently sparked fears among the armed forces leadership that a US invasion fleet was being sent to Burma, to assist in efforts to topple the military regime. These fears grew after the fleet was suddenly detected in Burmese waters.³¹ There were even stories in circulation at the time that US ground troops had landed in Burma.³² Despite official US denials of any hostile intent, these rumours appear to have had a major impact on the regime. SLORC Chairman Senior General Saw Maung, for example, was later quoted as saying that 'a superpower country' had sent an aircraft carrier into Burmese waters at the height of Burma's crisis 'causing fears in Rangoon that the city would be attacked'.³³ These fears appear to have been felt most strongly by the members of the SLORC, and help account for the fact that the regime's earliest arms imports included radars and air defence weapons.³⁴ Neither were relevant to Burma's internal security problems.

These fears may now appear ridiculous, but they were genuinely held at the time and remained for a number of years. In 1988, the SLORC remembered the pressure brought to bear against India in 1971 when a US task force was sent into the region during Bangladesh's war of independence.³⁵ In 1991, the Tatmadaw was reportedly placed on alert against an invasion when the United States landed troops in Bangladesh to assist in flood relief. The regime also

reproduced all the disputed foreign broadcasts, the benefit to the SLORC was questionable. See also 'BBC Burma Jammed'.

30 Selth, *Death of a Hero*, p.12.

31 There is a story circulating in Burmese expatriate circles that the presence of the US fleet in Burmese waters was not detected until a local ship happened to pass through the area and subsequently reported the sighting to the Burmese authorities. Quite apart from helping to explain the SLORC's panic, it suggests that Burma's maritime surveillance capabilities at that time were very limited. Interview, Washington, October 1995.

32 'Washington denies interfering in Burmese Affairs', AFP, 13 September 1988.

33 Yindee Lertcharoenchok, 'Burmese leader calls Thailand a "true friend"', *Nation*, 13 April 1989.

34 Lintner, 'Myanmar's Chinese connection', p.12.

35 Interview, New Delhi, May 1995. The United States sent Task Force 74, consisting of the nuclear aircraft carrier *Enterprise* and supporting ships, into the Indian

took careful note of the multilateral military operation against Iraq in 1990-91, and even placed anti-aircraft guns around Rangoon in case a similar effort was made against Burma.³⁶ In this regard, the SLORC's fears were doubtless heightened in April 1992 by remarks made by Prince Khaled Bin Sultan Bin Abdul Aziz, the commander of the Saudi Arabian forces during the Gulf War. During a visit to Bangladesh at the height of the Rohingya refugee crisis, the Prince called on the United Nations to do for the Muslim Rohingyas 'just what it did to liberate Kuwait'.³⁷ Most observers interpreted this to be a call for another 'Operation Desert Storm' against the military regime in Rangoon. Once again, following the UN-sponsored landings of US troops in Haiti, there were rumours in Rangoon that an attempt might be made by the United Nations or a coalition of UN members to force the regime's hand, and make it accept the results of the 1990 general elections.³⁸ Reports that the Chinese had pledged support for Burma in the event of any international intervention seem a little unlikely but, for all its defiant rhetoric, the SLORC clearly felt insecure and vulnerable.³⁹

There also appears to have been a concern felt in the SLORC around this time that Burma could become a target for Islamic countries angered by the regime's harsh treatment of the country's Muslim minority. After the 1988 massacres Pakistan was quick to support the SLORC (profiting from India's strong stand in favour of the pro-democracy movement). Islamic countries elsewhere in the region, like Malaysia and Indonesia, did not appear to be particularly troubled by internal developments in Burma, even after the SLORC's poor human rights record became public knowledge. This situation changed in 1991, however, when there was a very strong international reaction to the Burma Army's operations against the Rohingya community in Arakan State, and the consequent flight of over 250,000

Ocean to show its support for Pakistan in the war over East Bengal (later Bangladesh).

36 Terry McCarthy, 'Paranoia time for Burma's generals', *Canberra Times*, 4 April 1991.

37 John Bray, 'Ethnic minorities and the future of Burma', *The World Today*, August/September 1992, p.147. See also Bertil Lintner, 'The secret mover', *Far Eastern Economic Review*, 7 May 1992, p.21.

38 Interview, Rangoon, April 1995.

39 Philip Smyth, 'Burma grabs tiger's tail of democracy', *Australian*, 29 September 1994. See also 'Buddy to a Pariah', *Asiaweek*, 3 July 1992, p.31.

Muslim refugees to Bangladesh.⁴⁰ In New York, lobbying began for UN intervention.⁴¹ Among the most outspoken critics of Burma at that time were the Islamic countries, including a number in Southeast Asia. Later, there was a number of reports that Rohingya insurgent groups were being provided with funds from the Middle East to buy arms from the Cambodia-Thailand and Afghanistan-Pakistan borders.⁴² There were also rumours that Burmese Muslims had declared a *jihad* or 'holy war' against the SLORC and were being assisted by Islamic fundamentalists from abroad, some of whom had been trained by the United States for service against the Soviet Union in Afghanistan.⁴³ These developments prompted a rare policy reversal by the SLORC, which curbed its military operations in the west and reluctantly accepted the return of the Rohingya refugees to Burma under UN supervision.

All these events took place against a background of considerable strategic uncertainty and change in the wider Asia-Pacific region. In many parts of the world the collapse of the Soviet Union and the end of the Cold War did not usher in the expected 'new world order' of peace and stability. Rather, it heralded a return to the disorder and tribal rivalries of the old world. Asia and the Pacific did not face this problem as much as areas like the Balkans, but the possible withdrawal of US forces from the region aroused fears among many countries that the relative stability which they had enjoyed for so long would be diminished.⁴⁴ China's rise to the status of an economic superpower, in particular, coupled with its military modernisation programme and claims to the entire South China Sea, increased nervousness in the region about what the future might

40 See, for example, Amnesty International, *Human rights violations against Muslims in the Rhakine (Arakan) State* (Amnesty International, London, 1992).

41 Lintner, 'The secret mover', p.21.

42 SIPRI Yearbook 1992: *World Armaments and Disarmament* (Oxford University Press, Oxford, 1992), p.414. See also Bertil Lintner, 'Distant exile', *Far Eastern Economic Review*, 28 January 1993, p.23; and 'Anti-Rangoon forces eyeing Afghan arms', *Bangkok Post*, 17 October 1994.

43 Interview, Rangoon, April 1995. See also 'Muslims in Myanmar Plan "Jihad"', *Asian Defence Journal*, June 1995, p.69; and 'Afghans Training Burmese Freedom Fighters', *Asian Defence Journal*, May 1993, p.85.

44 See, for example, Andrew Selth, 'Strategic Change in the Asia-Pacific Region', *The RUSI Journal*, Vol.139, No.5, October 1994, pp.30-4.

hold.⁴⁵ These concerns had, in part, already prompted military modernisation programmes in regional countries like Thailand, Malaysia and Singapore. Faced with Burma's increasing diplomatic isolation and apparent vulnerability to external pressures, the SLORC also viewed these strategic developments with unease. In his 1995 Armed Forces Day speech, for example, Senior General Than Shwe referred to 'the changing situation in the international arena today' which made it necessary 'to build up the *Tatmadaw* to be modern and strong'.⁴⁶

Nor had the SLORC lost sight of the potential for security problems with Burma's neighbours. Since 1988 relations with China were better than ever before, but suspicions of China's long-term strategic intentions remained. Many in the Burmese armed forces could remember China's assistance to the CPB before 1989, and knew how close Burma had come to war with China in the 1950s. Relations with India had been difficult ever since Ne Win's coup, and the subsequent expulsion of 200,000 South Asians from Burma, but after 1988 relations cooled even further. India was initially highly critical of the SLORC, both in official statements and over All India Radio (AIR). The Indian government gave sanctuary to exiled Burmese dissidents and even provided clandestine assistance to anti-SLORC insurgent groups.⁴⁷ For its part, Thailand was the first country to recognise the SLORC and was quick to take advantage of the commercial opportunities offered by the regime in its desperate bid for foreign exchange. Yet, relations between Rangoon and Bangkok remained difficult. The Burmese never lost their concerns over Thailand's apparent support for ethnic insurgents and drug warlords along their common border. Even Bangladesh raised its level of military alert against Burma after a Burmese army patrol fired on a Bangladesh border post in 1992.⁴⁸

45 See, for example, William Branigin, 'As China Builds Arsenal and Bases, Asians Fear a "Rogue in the Region"', *Washington Post*, 31 March 1993; and Don Pathan, 'The China Threat: empty legacy or legitimate fear', *Nation*, 24 February 1995.

46 'Burma: Than Shwe gives Armed Forces Day Address', Reuters, 29 March 1995.

47 See, for example, Bertil Lintner, 'The Indo-Burmese Frontier - A Legacy of Violence', *Jane's Intelligence Review*, Vol.6, No.1, January 1994, pp.38-44.

48 See, for example, 'Burma places more troops along border with B'desh', *Bangkok Post*, 20 January 1992; and 'Bangladesh, Burma tense as soldiers face off', *Canberra Times*, 2 February 1992.

Other Factors

The third of the SLORC's main goals, that of 'perpetuating state sovereignty', is also important. The Burmese have always been fiercely independent and highly sensitive to perceived infringements of their national rights. Successive governments in Rangoon had long been unhappy at their inability adequately to safeguard Burma's borders, protect its airspace and police its territorial waters.⁴⁹ Since its expansion, the army has become more confident that it can reclaim any disputed territory, and guard its borders against unwanted intruders, illegal immigrants (as the SLORC calls the Rohingya communities) and insurgents from other countries seeking refuge in Burma (such as Naga and Mizo separatists from India). Before 1988 the unauthorised incursion of foreign aircraft was a common occurrence and the poaching of Burma's marine resources was widespread, yet the Tatmadaw lacked the resources adequately to respond. A larger, more powerful air force and navy, however, now permits Rangoon to be far more active in preventing these sorts of provocations and in taking action should they occur.⁵⁰

Another factor that appears to have contributed to the SLORC's decision to expand and modernise the Tatmadaw was the greater availability of funds for the defence sector after 1988. Not only was the SLORC prepared to give a higher priority to defence in the national budget (the ambiguity of the official figures aside), but as the Burmese economy benefited from increased foreign investment it was able to draw on greater reserves of foreign exchange. More importantly, the SLORC was also able to take advantage of a wide range of special 'friendship' deals, soft loans and barter arrangements which were being offered by countries like China, Singapore, Yugoslavia and Poland. Thus, the Tatmadaw was able to purchase a wide range of arms and equipments in a spending spree unprecedented in Burma's post-1948 history.

In making its purchases, the SLORC consciously chose not to take full advantage of the new technology available on the global arms

⁴⁹ In 1991, for example, the BA occupied a hill on Burma's eastern border which it claimed had been illegally incorporated into Thailand. The crisis was only defused after the intervention of the Thai king. See, for example, Rodney Tasker, 'Royal peacemaker', *Far Eastern Economic Review*, 17 December 1992, p.13.

⁵⁰ Interviews, Rangoon, April 1995.

market. It recognised that the most modern systems were beyond the capabilities of the Tatmadaw to operate and maintain at its present stage of development. They were also far too expensive. Less capable weapon systems, however, still represented an upgrading of current capabilities and were closer to the Tatmadaw's level of technical sophistication. Being cheaper, it was also possible to buy a great many more of them. Indeed, according to one SLORC spokesman, the regime quickly recognised that it did not need, nor could it afford, a small, highly mobile, quick reaction force armed with the most sophisticated weapon systems. Burma was richer in manpower than hard currency, and as a consequence opted for a much larger defence force armed with less sophisticated equipment. The regime made a deliberate decision to put quantity before quality.⁵¹

There are also a number of less tangible factors which appear to have played a part in prompting the Tatmadaw's expansion programme. The members of the SLORC, for example, have not been immune to genuine feelings of pride in the armed forces and a desire for the Tatmadaw to be seen at least as capable as the armed forces of Burma's smaller neighbours. By the late 1980s China was modernising its vast defence forces, India had its own ballistic missiles, Thailand was contemplating the purchase of an aircraft carrier, and even poverty-stricken Bangladesh had more modern aircraft and naval vessels than the Burmese. There was also a strong feeling in the SLORC that the acquisition of new arms and equipment for the Tatmadaw was long overdue, and simply reflected the normal maturation and development of a professional defence force.⁵² The military hierarchy in Rangoon was sensitive to comments that, after 50 years, the Tatmadaw was still barely able to hold its own against small groups of guerrillas who were often better armed and supplied than the government troops.

It is likely too that the expansion and modernisation of the armed forces was welcomed by the SLORC and other senior military figures in Burma for the personal opportunities that it would bring. For example, despite efforts prior to 1988 to resist an inflation of the Tatmadaw's rank structure, the senior echelons of the armed forces

⁵¹ Interview, Rangoon, April 1995.

⁵² Interview, Rangoon, April 1995.

have since been promoted twice.⁵³ Their increased power has brought many rewards. It is unlikely that personal corruption has played as great a part in Burma's force structure decisions as seems to be the case in some other regional countries, but the armed forces hierarchy would still be in an excellent position to benefit from any inducements offered by potential suppliers of arms and military equipment.⁵⁴ This is in addition to the many opportunities enjoyed by senior members of the armed forces to profit from Burma's more open and expanding economy. Most major foreign businesses in Burma, for example, are joint ventures with state-owned corporations. The latter remain under direct military control, thus opening the way to benefits of various kinds. Even in the case of smaller, more independent enterprises, the patronage of senior military figures is necessary for various clearances to be obtained, for operations to proceed smoothly and for profits to be repatriated successfully.

All of these developments helped to give greater weight to the SLORC's conviction after 1988 that it needed to expand and modernise Burma's armed forces. The regime recognised that, even if it was much larger and better equipped, the Tatmadaw still could not resist a full-scale invasion by a modern armed force like that of the United States or the multinational coalition against Iraq. It could, however, act as a much greater deterrent to external aggression than the relatively small and poorly armed counter-insurgency force which existed before 1988. A larger and stronger Tatmadaw would also give the SLORC greater confidence to resist international diplomatic pressure and to deal with its neighbours over difficult bilateral issues.⁵⁵ The SLORC was determined not to be forced by the international community into making any concessions to the democracy movement. It also saw a more powerful military base as lending significant weight to its efforts to forge new ties with other regional countries.

In considering all these issues, different factors were doubtless given greater weight by different members of the regime at different times but, in seeking a solution to the challenges they faced, it appears that they were unanimous. The obvious personal benefits aside, there appears to have been a strong conviction among the SLORC

⁵³ Lissak, *Military Roles in Modernization*, p.179, note 61.

⁵⁴ See for example M.K. Magistad, 'Myanmar Loosens Up but Burmese Still Feel Grip', *Washington Post*, 25 February 1995.

⁵⁵ Interview, Rangoon, April 1995.

membership that the Tatmadaw was the only institution in the country with the vision, cohesion and strength to hold the Union together in the face of diverse internal challenges, create the conditions necessary for economic growth and protect it from external pressures. To achieve these goals, however, the Tatmadaw needed to be transformed from a relatively small, poorly equipped counter-insurgency force, into a true defence force able to boast a more extensive and balanced inventory of modern arms and equipment. Thus the foundations were laid not only for larger and more capable armed forces, but for the perpetuation of military rule in Burma.

CHAPTER 8

THE TATMADAW TODAY

The Tatmadaw is now the largest and best equipped military force that Burma has ever mustered. It is already the second-largest in Southeast Asia and, given Vietnam's plans for future troop reductions, seems destined to become the largest by the turn of the century. Over the past seven years the SLORC has more than doubled the number of men and women in uniform, and greatly increased the number of armoured vehicles, artillery systems, combat aircraft and naval vessels in Burma's order of battle. Its C³I capabilities have been significantly enhanced. According to most estimates, defence spending has at least doubled and orders for new arms and military equipment continue to be placed with external suppliers.¹ Burma's own arms industries also appear to be expanding in size and scope, with technical and material assistance being provided by a number of foreign countries.

The rapid expansion of the Tatmadaw since 1988, and its associated arms procurement programme, have prompted widespread criticism, both from within Burma and among members of the international community. These criticisms have tended to focus on three main issues: the military regime's continued abuses of human rights since the 1988 massacres; the allocation of scarce resources to the defence sector, when so many other areas of Burmese society are clearly desperate for government support; and the refusal of the armed forces to hand over political authority to an elected civilian government. There has also been concern expressed by a number of regional countries over Burma's close strategic relationship with China, and the apparent dependence on China which is expected to result from Burma's large-scale purchases of Chinese arms and equipment.

These are all important issues which deserve close attention. The military regime's long record of human rights violations, both before and after 1988, has been the subject of numerous reports by

¹ Some estimates put the increase in Burma's defence spending since 1988 as high as 400 per cent. See Swaran Singh, 'Sino-Myanmar Military Ties: Implications for

multilateral bodies like the UN Human Rights Commission, government agencies like the US State Department and independent organisations like Amnesty International and Human Rights Watch Asia.² The Tatmadaw in particular has been the target of strong and persistent criticism for its role in suppressing peaceful protests in the cities, and for the manner in which it has conducted counter-insurgency operations in the countryside. Despite Burma's vast natural resources, the regime's doctrinaire socialist policies and mismanagement of the economy before 1988 brought it close to national bankruptcy. In 1987 Burma was even declared by the United Nations to be one of the world's least developed countries (LDC).³ The armed forces have always claimed a major share of the national budget, yet this share has increased dramatically under the SLORC while essential social services have further declined. At the general elections held in May 1990, the opposition National League for Democracy won 60 per cent of the popular vote, and 80 per cent of the 485 seats contested. Despite its earlier promises to honour the results of the poll, and hand over power to a civilian government, the SLORC still has not done so.⁴ The accusation that Burma has become a 'satellite' or 'client state' of China misrepresents the complex relationship that has developed between the two countries in recent years. Yet, China's political, economic and military ties with Burma are

India's Security', *The Journal of the United Service Institution of India*, Vol.125, No.521, July-September 1995, p.351.

2 See, for example, *Report on the situation of human rights in Myanmar prepared by Special Rapporteur, Mr Yozo Yokota, in accordance with Commission resolution 1994/85*, UN Economic and Social Council, Commission on Human Rights, 51st Session, UNCHR Document E/CN.4/1995/65, 12 January 1995; *Country Reports on Human Rights Practices for 1994*: Report submitted to the Committee on Foreign Relations, US Senate, and Committee on International Relations, US House of Representatives, by the Department of State, February 1995, pp.539-48; *Myanmar: Human rights after seven years of military rule* (Amnesty International, London, 1995); and *Burma: Entrenchment or Reform?*.

3 The three criteria for LDC status laid down by the United Nations are a per capita income of less than US\$200, a contribution to the gross domestic product by the manufacturing sector of less than 10 per cent, and a national literacy rate of less than 20 per cent. Burma was granted LDC status despite its failure to meet the last criteria. See Mya Maung, *The Burma Road to Poverty*, p.208.

4 See, for example, 'Tatmadaw Will Yield Power to New Gov't', *Diplomacy*, Vol.15, No.12, December 1989, pp.19-21; 'Myanmar military promises to hand over', *Canberra Times*, 29 May 1990; Bertil Lintner, 'Backlash at the ballot', *Far Eastern Economic Review*, 7 June 1990, pp.10-11; and Howard G. Chua-Eoan, 'Surprise! Surprise!', *Time*, 11 June 1990, pp.24-9.

now so strong that the SLORC's explanations have failed to settle the fears of some regional countries.⁵

International concern over all these issues will continue to place considerable diplomatic pressure on the SLORC and restrict its economic development plans. It will also affect the Tatmadaw's professional standing, limit its options for future arms purchases, and influence its strategic outlook. The growth of the Burmese armed forces since 1988 is significant in the terms cited by the SLORC's critics, but it is important also to examine these issues from a more technical, defence-related standpoint. Not only can this contribute to a more comprehensive and balanced understanding of events since 1988, but such an examination can also assist in the consideration of several other critical questions. These include the Tatmadaw's future role in Burma, the possibility of a split within its ranks and the attitude of the armed forces towards an eventual transition to a democratically elected civilian government.

The Tatmadaw Transformed

Despite all the criticisms which the Tatmadaw's massive expansion programme has attracted, some improvement of Burma's military capabilities after 1988 was not entirely without justification. Judged against certain objective criteria, and compared with recent military developments in other regional countries, a number of the measures taken by the SLORC do not seem unusual. Indeed, it could even be argued that some were long overdue.

In considering the Tatmadaw's expansion since 1988, and the modernisation of its equipment inventory, it first needs to be borne in mind that both started from a very low base. The central government in Rangoon has always been forced to rely on manpower rather than machinery to fight its wars. Yet, given the size of Burma's population, and the range of security problems which it has faced since independence, the armed forces have been relatively small. This was still the case in 1988, when the proportion of men and women in uniform in Burma was at least comparable to that in Thailand, which

⁵ See, for example, P. Stobdan, 'China's Forays into Burma - Implication for India', *Strategic Analysis*, Vol.16, No.1, April 1993, pp.21-37; Selth, 'The China-Burma-India "Triangle" '; and Malik, 'Sino-Indian Rivalry in Myanmar'.

faced fewer security problems.⁶ This situation has now changed, but in terms of soldiers per head of population, Burma still ranks behind Singapore, Brunei, Cambodia and Vietnam.⁷ Also, there is evidence to suggest that, in some respects, the Tatmadaw's rapid expansion since 1988 has occurred more on paper than in reality. While the number of combat units has undoubtedly increased, the actual fighting strength of the armed forces may not be as great as first appearances suggest. Few army battalions appear to be up to full strength, there is a severe shortage of pilots in the BAF and the navy is finding it difficult to crew all its new ships. Also, the increased demands of government and administration seems to have absorbed a greater proportion of the Tatmadaw's resources than originally anticipated. This burden will increase in the event that Burma adopts a comprehensive socio-political system based on the armed forces, similar to the Indonesian *dwi fungsi* model.

In addition, the Burmese armed forces have always operated very frugally. Before the SLORC took over government, for example, Burma's public expenditures per soldier were estimated by one researcher to be the lowest of any country in the Asia-Pacific region.⁸ Military pay and privileges tended to be better than those enjoyed by most other sectors of Burmese society, but for many personnel in the lower ranks conditions were still difficult. Those benefits they did receive were balanced by the high risk of death or injury while on operations against the country's numerous insurgent groups and independent armies. While some other armed forces might envy Burma's high 'tooth to tail' ratio, the average Burmese soldier usually went into battle on foot, armed with weapons that were often inferior to those of his opponents. He could have no confidence in the availability of ammunition resupply, regular rations or medical evacuation if wounded. Heavy weapons support was frequently

⁶ With 186,000 in the armed forces and a total population in 1988 of 39,395,000, Burma had a ratio of 1 serviceman/woman to every 212 people. (The IISS has calculated that in 1988 there were 5,294,000 men between the ages of 18 and 32 in Burma, and 5,282,000 women). With its population standing at 53,931,000 and its active armed forces numbering 256,000, the equivalent Thai ratio was 1:210. The Australian ratio was 1:236. *The Military Balance 1988-1989*, pp.159-60. See also Khin Nyunt, 'The Tatmadaw as Preserver of the Union'; and interview, Rangoon, April, 1995.

⁷ Singh, 'Growth of Military Power in South-East Asia', p.313.

⁸ R.L. Sivard, *World Military and Social Expenditures, 1987-88* (World Priorities, Washington, 1987), p.48.

absent and air cover was unreliable.⁹ Given the examples provided by recent dry season offensives, and anecdotal evidence from captured BA personnel, this situation has not significantly altered in recent years, despite all the changes made under the SLORC. As noted above, since 1988 there have also been problems with inadequate training, low morale, poor leadership and outmoded doctrine. All have been aggravated by the rapid expansion of the armed forces and seem likely to remain unresolved for some time.

It is possible that some of these problems could be reduced by an increased exposure to the military experiences and strategic thinking of other countries. Before 1962 there was a regular programme of overseas training for officers of all three services. Most were sent to the United Kingdom (or UK bases in Malaya and Hong Kong), but many attended courses in Australia, New Zealand, India, Pakistan, Israel and Yugoslavia.¹⁰ Burma also sent a small staff detachment to the UN Operation in the Congo (ONUC) in 1960 (its only known overseas deployment).¹¹ After Ne Win's coup such postings became much less frequent, although selected officers still attended courses in countries like the United Kingdom, the United States and the two Germanys.¹² Since 1988 a few Burmese officers have been posted to staff colleges in regional countries, such as Malaysia and India, but most overseas training has been technical in nature and directly related to the acquisition of new arms and equipment.¹³ Even these sorts of contacts, however, have been

9 See, for example, William Dowell, 'Allies but not Friends', *Time*, 29 May 1995, p.32. The 'tooth to tail' ratio is the proportion of men and women in front-line combat units compared with those in rear-echelon support roles. It is thus one measure of the fighting efficiency of a country's armed forces.

10 Tinker, *The Union of Burma*, p.327; and Fredholm, *Burma: Ethnicity and Insurgency*, p.77. See also Selth, 'Australia's Defence Contacts with Burma, 1945-1987', pp.451-68.

11 This posting probably owed a great deal to U Thant's position as Chairman of the UN's Congo Conciliation Commission.

12 For example, each year between 1980 and 1988 the United States provided 20 or more Burmese officers with counter-insurgency and counter-narcotics training. Valued at US\$1,577,000, this training was provided under the International Military Education and Training (IMET) scheme. See *Foreign Military Sales, Foreign Military Construction Sales and Military Assistance Facts*, pp.94-5 and pp.102-3; and *The Military Powers Encyclopedia*, p.45.

13 The Malaysian Armed Forces Staff College paid a visit to Burma in 1994, but no reciprocal visit has yet been arranged.

suspected by Ne Win and his protégés in the military regime. A greater awareness of Burma's international isolation, a better understanding of how other armed forces operate and more independent views on such matters as the organisation of the army and the conduct of operations, have always been seen as dangerous - at times even subversive - by the military hierarchy in Rangoon.

Personnel management was not the only area where the Tatmadaw was deficient. Before 1988 its inventories of weapons and military equipment simply did not stand comparison with those of most other regional countries. Burma's policies of strict neutrality in foreign affairs and economic self-sufficiency were given a higher priority than the benefits of military assistance of the kind provided - often quite lavishly - to some of its neighbours. While the Tatmadaw has always taken a large share of central government expenditures, Burma's perennial economic problems meant that arms imports remained very low. Most of the weapons and weapons platforms acquired before 1988 were second-hand, and many had to be modified in-country to meet specific operational requirements. The difficulty of obtaining spare parts from abroad also meant that, at any one time, a large proportion of Burmese military vehicles, combat aircraft and naval vessels was unserviceable. During the 1970s and 1980s, the Ne Win regime could only look on with envy as countries like Thailand, Malaysia and Singapore, drawing on their superior economic resources, began to upgrade their armed forces with better arms and equipment.¹⁴ Not only could they afford more sophisticated weapon systems but, to an increasing extent, they could support them with a more developed industrial base. In this sense, it could be claimed that the development of more capable and balanced armed forces in Burma after 1988 was long overdue.¹⁵

Burma may not have faced any real external threats since 1988, but there was also some basis for the SLORC's claim to have a strong strategic rationale for its efforts to improve the Tatmadaw's capabilities. In the aftermath of the Cold War, the regional strategic

¹⁴ See, for example, Cheeseman and Leaver, *Trends in Arms Spending and Conventional Arms Trade in the Asia-Pacific Region*; Singh, 'ASEAN's Arms Procurements'; and Ron Huiskens, *Arms Limitation in South-east Asia: A Proposal*, Strategic and Defence Studies Centre, Canberra Paper on Strategy and Defence No.16 (Australian National University, Canberra, 1977).

¹⁵ Tin Maung Maung Than, 'Neither Inheritance nor Legacy', p.60, note 127.

environment was changing. Most regional countries were concerned about the uncertain outlook, and many were quietly taking military precautions against possible future threats.¹⁶ In considering these issues, Burma was acutely conscious of its delicate position between China and India. Burma was also the largest state in mainland Southeast Asia, sharing long and porous borders with five different countries. In the 40 years since Burma regained its independence, all five had a record of difficult relations with Burma and in recent years at least three had in different ways assisted armed forces hostile to the central government in Rangoon.¹⁷ Burma also had a long and broken coastline, surrounded by extensive maritime claims, and its airspace covered several major east-west air routes. Yet Burma had never been in a position to defend its territory from external attack, guard its natural resources against unauthorised exploitation, or prevent intruders from crossing its borders. In these circumstances, some measures to improve the capability of the Burmese armed forces was perhaps only to be expected, regardless of who exercised power in Rangoon.

When questioned about Burma's arms procurement programme, spokesmen for both the SLORC and some of the arms suppliers have been quick to point out that the new weapons were for defensive purposes only.¹⁸ In one sense, this is correct. For all its acquisitions (or orders) of armoured vehicles, field artillery, interceptor aircraft and blue-water naval vessels, Burma still does not possess any real power-projection capability. Nor is one in prospect. Accusations of exotic weapons development and use, and therefore the potential for a proliferation of these weapons in the region, are still unproven. Although some reservations have been expressed by Burma's neighbours, notably Thailand and India, the growth and modernisation of the Tatmadaw does not in itself significantly change the regional strategic balance, or pose a serious threat to any other

16 See Andrew Selth, 'The Changing Strategic Environment: A Global and Regional Overview', *Current Affairs Bulletin*, Vol.70, No.9, March 1994, pp.17-27; and Singh, 'ASEAN's Arms Procurements'.

17 China had provided considerable material and diplomatic support to the CPB. India had supported anti-regime ethnic groups in Burma's north-west and after 1988 provided funds and refuge to pro-democracy activists. Thailand had long given at least passive support to ethnic insurgent groups, black marketeers and narcotics traffickers based along its border with Burma.

18 Interviews, Rangoon, April 1995.

country.¹⁹ Indeed, the development of the Tatmadaw since 1988 has hardly matched that of most other regional armed forces. Few of the arms and equipments purchased by the SLORC to date can be considered state-of-the art. While a marked improvement on Burma's older inventory, they still cannot match the best weapons systems of its larger neighbours, or of more advanced countries like Singapore. Indeed, given the complaints heard about the vehicles, artillery and aircraft purchased from China, and the naval patrol boats obtained from China and Yugoslavia, questions can be raised about the effectiveness of even the SLORC's most recent purchases.

Even if these and other problems were overcome, additions to an order of battle do not automatically translate into improvements in military capabilities. The acquisition of new arms and equipment needs to be based on a balanced and coherent strategic plan, something for which the Burmese leadership has not been noted in the past. It will also take some time before all the new weapon systems can be fully absorbed into the Tatmadaw's existing order of battle. Most of the new additions will depend for their full operational effectiveness on further improvements to Burma's command, control, communications and intelligence resources. There will be a greatly increased requirement for training, and the development of new doctrines and operating procedures. Also, major new weapon systems require new facilities for storage, transport, maintenance and repair. Unlike some other Southeast Asian countries, Burma's indigenous industrial base is not sufficiently developed to support more sophisticated weapons platforms and military equipment, meaning a greater dependence on foreign expertise and spare parts. Given all these factors, it is likely to be some time before the Tatmadaw's real operational capabilities match its new material strength.

Despite all the arguments in support of a larger, better equipped Tatmadaw, it is still difficult to escape the conclusion that the SLORC has devoted so much of Burma's resources to the armed

¹⁹ The Royal Thai Navy's recent claim that improvements in the Burma Navy warrant the acquisition of a Thai submarine capability is clearly a case of special pleading, but more serious concerns have been expressed from time to time. See, for example, M.G. Rolls, 'Thailand's Post Cold-War Security Policy and Defence Programme', *Contemporary Security Policy*, Vol.15, No.2, August 1994, pp.101-3. India's concerns seem to relate more to Chinese influence over the Burmese armed forces, rather than any improvements in the Tatmadaw itself. See Selth, 'The China-Burma-India "Triangle"'.

forces for purely domestic political reasons. All the regime's rhetoric aside, the rapid expansion and modernisation of the armed forces after 1988 seems to have been based primarily on the fear that it might lose its monopoly of political power. The Tatmadaw's recruitment campaign and arms procurement programme seem aimed above all else at preventing, or if necessary quelling, renewed civil unrest in the population centres. Efforts to defeat ethnic insurgent groups in the countryside have also been part of the regime's continuing determination to impose its own peculiar vision of the modern Burmese state upon the entire country.²⁰ Yet, by relying on armed force to guarantee the country's unity and stability, the regime has mortgaged Burma's vast and diverse political, economic and social resources to continued dependence on military strength. The future stability and prosperity of the country will depend not so much on the capacity of the armed forces to crush dissent and physically eliminate its opponents, but rather on its willingness to contemplate a future for the country in which the Tatmadaw does not have first call on its resources and is not the sole source of political power.

The Future

It is difficult to predict how the Tatmadaw will fare in the years ahead. Since 1988 the SLORC has steadily entrenched itself in power and the likelihood of another serious challenge to the military regime from urban dissidents seems to have receded. In the countryside, more than half the ethnic insurgent groups have entered into cease-fire arrangements with the SLORC, while most others (including the once-powerful Karens) have been gravely weakened by military offensives. Exiled Burmese and other pro-democracy activists abroad are still deeply committed to political change, but seem to be increasingly marginalised in the determination of Burma's future direction.²¹ The plans of some radical student groups to mount terrorist campaigns in Burmese cities, for example, seem doomed to failure.²² Over the past seven years the regime has managed to win

20 For an earlier discussion of this issue, see R.H. Taylor, *The State in Burma* (Hurst and Co., London, 1987).

21 See, for example, Bertil Linter, 'Arrested Development', *Far Eastern Economic Review*, 2 March 1995, pp.28-9.

22 Interviews, Bangkok, April 1995. See also Anderson, *Guerrillas*, pp.159-62.

back much of the diplomatic ground that it lost in 1988 and, before the end of the century, Burma is likely to be invited to join important regional institutions like the Association of South-East Asian Nations (ASEAN) and the ASEAN Regional Forum. Burma has already signed the Bali Treaty and been invited to three ASEAN summits as an observer. Its strategic and economic influence (at least in the Asia-Pacific region) seems likely to grow further in the near future.²³

In addition to crushing all domestic challenges to military rule from Rangoon, and establishing the kind of stability it believes necessary for economic growth, the SLORC's short-term goal seems to be the endorsement of a new constitution. This will lead in turn to the election of a 'civilian' government more acceptable to the international community. Such a government may exercise administrative and ceremonial functions but it will still be effectively controlled by the armed forces, which is guaranteed a major role in its functions. As described by Josef Silverstein, under the SLORC's plan:

25% of the seats in each house of the future legislature must be reserved for the armed forces; the future president must have long military experience as a major qualification for office; the Minister for Defence must be a member of the military and in times of emergency the head of the armed forces will have power to declare a state emergency and take power; the military budget will not be subject to approval by the elected/appointed legislature.²⁴

In addition to these measures, the Tatmadaw's powers will be extended through a much wider distribution of military units around the countryside, and a more direct role in local political, economic and social affairs.

There are a number of developments, however, which could disrupt the SLORC's steady progress towards such an outcome. One would be a resumption of open anti-regime activity by charismatic opposition leader Aung San Suu Kyi, who was released from house

²³ See, for example, William Ashton, "'Charm offensive" working', *Asia-Pacific Defence Reporter*, Vol.21, No.6/7, December 1994/January 1995, pp.41-3.

²⁴ Statement by Josef Silverstein, Professor Emeritus, Rutgers University, before the US House of Representatives Committee on International Relations, Subcommittee on Asia and the Pacific, hearing on 'Recent Developments in Burma', Washington, 7 September 1995.

arrest in July 1995 after six years' detention without trial. Her international standing and popular following in Burma is such that she could quickly reawaken public demands for a return to democratic rule.²⁵ Already, she has begun to draw attention to popular grievances and to question the validity of the national constitutional convention process.²⁶ If the SLORC was concerned about its ability to manage a resurgence of popular protest, however, it is hardly likely to have authorised Aung San Suu Kyi's release. If it was felt necessary, there is little doubt that the army would once again be called in to restore what the SLORC calls 'law and order', just as it did in 1988. A much more worrying prospect for the SLORC would be the possibility of a major split in the armed forces, its sole power base.

The question of a possible split in the Tatmadaw is a highly sensitive issue in Burma. Perhaps more than anything else, it arouses deep concerns on the part of former President Ne Win and the armed forces hierarchy. Since the 1948 mutinies, but more so since the 1962 coup, considerable efforts have been taken to prevent such a problem arising.²⁷ The most potent and pervasive weapon in the regime's arsenal is the Directorate of Defence Services Intelligence (DDSI). Through its Military Intelligence Service and an extensive network of uniformed officers and paid informers, the DDSI has kept a close watch not only on the civilian population but also on the members of the Tatmadaw itself.²⁸ Under the SLORC this capacity has been greatly increased. Also, senior officers are posted frequently, to prevent them from building up personal followings, or individual power bases in particular geographical areas. Some officers are kept away from power centres, for example through diplomatic postings overseas, while

25 See, for example, Bertil Lintner, *Aung San Suu Kyi and Burma's Unfinished Renaissance* (Peacock Press, Bangkok, 1990); and Josef Silverstein, 'Aung San Suu Kyi: Is She Burma's Woman of Destiny?', *Asian Survey*, Vol.30, No.10, October 1990. Aung San Suu Kyi's own philosophy is found in *Freedom From Fear and other writings*, ed. Michael Aris (Penguin, London, 1991).

26 'Suu Kyi pledges to fight', *Canberra Times*, 4 December 1995; and 'Myanmar: No Talking Here', *Asiaweek*, 8 December 1995, p.40.

27 See, for example, Bertil Lintner, 'Purges and spies make army Ne Win's hardest asset', *Far Eastern Economic Review*, 22 September 1988, p.16. See also 'Masses in revolt against stifling authoritarian grip', pp.12-13.

28 While the formal structure of Burma's intelligence apparatus has changed over the years, its basic components and functions have remained much the same. See Bertil Lintner, 'Myanmar's military intelligence', *International Defence Review*, Vol.24, No.1, January 1991, p.39; Bunge (ed.), *Burma: a country study*, pp.258-9; and Fredholm, *Burma: Ethnicity and Insurgency*, pp.92-3.

others are co-opted into the regime's political structure where they can be more easily controlled.²⁹ There is also a wide range of rewards which can be bestowed on 'loyal' officers, in the way of promotions, comfortable postings, special privileges, business opportunities and other perquisites. It is also relevant that many in the armed forces leadership are connected by family, financial and other personal ties. Severe punishments, however, are meted out to any officers who are considered 'disloyal' to the regime or who overstep the bounds of 'permissible' behaviour.

Despite all these measures, there have long been rumours of dissatisfaction and even active dissent within the armed forces. In Burma's closed society accurate details are very difficult to obtain, but a number of broad themes keep recurring.

Ever since the 1962 coup, differences appear to have arisen in the Tatmadaw over the place of the armed forces in Burmese society, and the degree to which they should exercise a political role.³⁰ Under Ne Win, purges of malcontents were frequent, with numerous senior officers posted abroad or forced into early retirement. Such measures were not always successful. In 1976, for example, the regime uncovered a plot by a number of disillusioned young officers to overthrow President Ne Win and take the army back to the barracks. In 1988 about 1000 servicemen from all three services actually joined the pro-democracy demonstrations in Rangoon, calling for a return to civilian rule. At the time, one former senior Tatmadaw officer told the BBC that the pro-democracy movement had the support of 60 per cent of the army.³¹ There was also considerable disquiet reported on the part of many soldiers who were later ordered to shoot down young demonstrators.³² Two years later, the NLD's landslide victory in the

²⁹ Since 1988, for example, the number of Tatmadaw officers appointed to the most senior government positions has expanded from 21 to 64.

³⁰ For a useful discussion of the growth of professionalism in the Tatmadaw, see Lissak, *Military Roles in Modernization*, pp.155 ff.

³¹ Admittedly, this was General Tin U, by that time a senior figure in the opposition NLD. See Lintner, 'Backdown or bloodbath', p.14; Stewart, 'Now a Coup', p.14; and Smith, *Burma: Insurgency and the Politics of Ethnicity*, p.10.

³² Bertil Lintner, 'Dissent in the Ranks', *Far Eastern Economic Review*, 17 August 1989, p.22.

general elections was a severe shock to the regime, not least because the overwhelming vote for the opposition forces (including in some military cantonment districts) suggested a considerable sympathy for Aung San Suu Kyi among the armed forces, and thus the potential for a serious difference of view over the Tatmadaw's future role in Burma.³³

In this regard, Aung San Suu Kyi poses a particular problem for the SLORC. Her father, Aung San, was Burma's much-revered independence leader who was assassinated in 1947. He was also the founder of the Burmese armed forces who, significantly, resigned his military position in order to pursue a political career. In the Burmese fashion, his daughter is now accorded considerable respect by many in the Tatmadaw, and she speaks about Aung San with some authority. Ne Win has consistently tried to share Aung San's mantle as a 'co-father' of the armed forces. Yet he was in a different faction of the nationalist movement and was never nominated as Aung San's military successor. In July 1989 Aung San Suu Kyi referred publicly to serious differences between Ne Win and her father, a forbidden subject since the 1962 coup. She also declared that Ne Win had taken the Tatmadaw down a different path from that mapped out by her father. Aung San Suu Kyi appealed over the heads of the SLORC to more moderate elements in the armed forces, asking them to honour her father's memory and support her demand for a return to democratic civilian government. This implicit call for members of the Tatmadaw to question their own leaders seems to have been the trigger which prompted her immediate arrest. Another senior NLD figure imprisoned at the same time was Tin U, a former army Chief of Staff and Defence Minister who retained a considerable following in the armed forces.³⁴ The SLORC was determined to prevent any faction developing in the Tatmadaw which might heed the call from these two respected figures, to eschew politics and return to the barracks.

Since 1988 there has been considerable speculation over the internal dynamics of the SLORC itself. Various members have been characterised as either 'moderates' or 'hard-liners', and have been held

33 'Statement on votes gained by candidates who represent parties, seats won by the respective parties and percentages', *Working People's Daily*, 2 July 1990.

34 Bertil Lintner, 'Sowing the wind', *Far Eastern Economic Review*, 3 August 1989, pp.11-12; and Rodney Tasker, 'Haunting Memories', *Far Eastern Economic Review*, 13 July 1989, p.30.

accountable for perceived shifts in the regime's policies. Since early 1992, for example, there have been strong rumours of disagreements in the SLORC over the approach to be taken towards Aung San Suu Kyi, and how to respond to the pressures being applied against the regime by the international community.³⁵ The so-called 'moderates', reportedly led by DDSI chief Khin Nyunt, were initially believed to have lost out to the 'hard-liners' in their wish to soften Burma's image abroad, but after Aung San Suu Kyi's unexpected release were felt to be in the ascendant. The apparent manoeuvring of these factions has also been connected with the postings of particular senior officers to positions of influence or obscurity. Such rumours abound in Burma's closed society, however, and are very difficult to confirm. Policy and personal differences no doubt exist in the SLORC, but it is unlikely that any major decision would be taken, or taken in such a manner, which might seriously threaten armed forces unity.

Serious tensions appear to have arisen in the armed forces over the degree of Chinese influence which has been allowed to develop in the country. It is likely that the SLORC's decision to turn to China for diplomatic, military and economic support after 1988 was unanimous. Indeed, given the widespread international condemnation of the regime, the arms embargoes and the withdrawal of aid and international finance, it was probably felt that there were few other options. As one leading SLORC figure put it:

What military supplies that are necessary must be provided. When you need them, you have to buy at the right price. Previously we bought from all over the world but now some Western countries don't want to sell to us, so we have to go to those who will ...³⁶

It was also an arrangement that China welcomed and facilitated. Yet there are reportedly strong differences within the armed forces over the degree to which Burma has come to rely on China for its arms, their indifferent quality, and the access that China has been given to Burmese military facilities. These concerns have been exacerbated by the social impact of China's increased presence in Burma under the regime's 'open door' economic policies. While disagreements on this issue within the SLORC appear to have been contained, there have

³⁵ See, for example, 'Statement by Dr Josef Silverstein', 7 September 1995.
³⁶ Khin Nyunt, 'The Tatmadaw as Preserver of the Union'.

been reports of continuing dissatisfaction at lower levels. In 1992, for example, an assassination plot was apparently hatched against Lieutenant General Khin Nyunt, the SLORC member believed to be the architect of Burma's pro-China policy.³⁷

Other issues have arisen over the years with the potential to cause internal problems for the Tatmadaw. Most common have been stories of resentment and antagonism between the (often younger) officers on active service in the field and those officers assigned to more comfortable administrative or political duties in rear areas. While this may not be unusual in itself, the much greater hardships experienced by the front-line troops in Burma, and the increased opportunities for personal profits in the rear, have given this issue added significance.³⁸ There have also been persistent reports of suspicion and rivalry between the graduates of Burma's prestigious Defence Services Academy (DSA) at Maymyo and the Officer Training School (OTS) at Hmawbi.³⁹ These differences were made worse by the 1976 plot against Ne Win, which was felt to have sprung from members of a particular DSA class. This led for a long time to a reluctance by the Tatmadaw leadership to appoint DSA graduates to senior positions. As Bertil Lintner has pointed out, this discrimination was something which in itself led to further tensions within the Burma Army officer corps.⁴⁰ Since 1988 there have reportedly been attempts by particular figures in the SLORC to strengthen their personal power bases by appointing DSA or OTS classmates to positions of influence.

In addition, tensions appear to have arisen between those officers who appear to owe their promotions primarily to their ties

37 'Killers cooled?', *Asiaweek*, 27 November 1992, p.43; and Bertil Lintner, 'Murmur in the ranks', *Far Eastern Economic Review*, 18 February 1993, p.20. See also Lintner, 'Myanmar's Chinese connection', p.23.

38 See, for example, 'Reining in the Majors', p.14; and V.G. Kulkarni, 'Straining at the seams', *Far Eastern Economic Review*, 7 July 1988, pp.16-18.

39 The DSA was established in 1955, and gives a four-year degree course for cadets chosen from among the best high school pupils. Graduates are assigned to services depending on the Tatmadaw's manpower requirements. The OTS conducts four-month courses for university graduates, and 18-month courses for selected enlisted men. See Bunge (ed.), *Burma: a country study*, pp.252-3; Lintner, 'Burma - Struggle for Power', pp.466-71; and Bertil Lintner, 'Simple Soldiers', *Far Eastern Economic Review*, 1 July 1993, p.24.

40 Ironically, the plot was led by an OTS graduate. The most complete discussion of this problem is Lintner, 'Burma - Struggle for Power', pp.466-71. See also Bertil Lintner, 'Myanmar's influential chief may be losing power', *Jane's Defence Weekly*, 12 June 1993, p.29.

with former President Ne Win, and those who have followed a more professional career path. To a large extent, control over the government and armed forces is no longer exercised by the ageing Ne Win, and his standing among the younger generation in the Tatmadaw is not as great as it may once have been.⁴¹ As an historical figure prominent in Burma's early struggles against ethnic and ideological insurgents, however, and later chief of the country's armed forces, the 'Old Man' still commands a degree of respect and loyalty in military circles. More importantly, he has for many years seeded the army with like-minded protégés. Many now hold powerful government positions, like Lieutenant General Khin Nyunt, the Director of Defence Services Intelligence. It has been suggested that many senior army officers, including some in the SLORC itself, resent the power currently held by Lieutenant General Khin Nyunt, because of his political connections and lack of combat experience.⁴² Ne Win is now old and infirm, and his power is on the wane. Until his death, however, he will continue to exercise influence over the SLORC's policies and act to protect his favourites.

There are also antagonisms between the army and the two other services. Much of this ill-feeling stems from their different historical traditions. During the early days of the nationalist struggle, the navy and air force were seen to be on the wrong side. The two 'technical' services tended to rely on the Anglo-Burman community and ethnic minorities (notably the Karens) for their recruits. During the Second World War most Burmese members of the air force and navy supported the Allies, in direct contrast to the army which was dominated by Burma's anti-colonial, and for a period even pro-Japanese, nationalist movement.⁴³ Despite the efforts of the Burma Air Force and Burma Navy to support the new Union government after 1948, they retained many British characteristics and were viewed with suspicion by Ne Win and the other Japanese-trained army officers around him. It is relevant too that the navy and air force tended to recruit better educated men from urban areas, and send them overseas for training, whereas the army has relied on poorly educated rural

41 One Tatmadaw source is reported to have stated that less than 25 per cent of the armed forces still feel any personal loyalty to Ne Win. See Lintner, 'Dissent in the ranks', p.22.

42 See, for example, Bertil Lintner, 'Cracks in the rock', *Far Eastern Economic Review*, 24 October 1991, p.11-12; and Lintner, 'Dissent in the ranks', p.22.

43 Personal communication, Mary Callahan to the author, 10 November 1995.

youths trained entirely in Burma. The fact that the army has always been accorded priority in the distribution of resources has also caused misunderstandings and resentment. Since 1988 a token effort has been made to redress some of these problems, but the differences which remain go well beyond the inter-service rivalries which are traditional in the armed forces of other countries.

If all these reports of tensions in the Tatmadaw are true, then they constitute a potentially explosive problem in a country where the unity of the armed forces is deemed essential for political power and continued control over all the disparate elements of the Union. Even at their now expanded levels, the air force and navy could do little on their own to shake the foundations of the state, but a major split in the ranks of the army would lead to serious problems for the military regime. There are a number of compelling reasons, however, why a major split of this kind is unlikely to occur.⁴⁴

As noted above, there are many in the armed forces, at all levels, who appear sincerely to believe the regime's oft-repeated claim that the Tatmadaw alone has been responsible for maintaining Burma's independence and unity since 1948. The danger of a breakaway by some of the ethnic minorities, for example, is held up as the main reason for the military overthrow of Nu's democratically elected government in 1962.⁴⁵ In the minds of many officers and their men, the loss of control caused by a serious split in the armed forces would be disastrous for Burma. The possible consequences range from a resurgence of popular unrest in the main population centres to increased ethnic insurgent activity in the countryside. In extreme circumstances, a mutiny by a large part of the army (as occurred in 1948) could lead to another civil war, or even the fragmentation of the country. This message has been reinforced by the SLORC since 1988, with appeals to nationalist sentiment and military tradition. The regime has also claimed that the NLD, supported as it is by ethnic parties and purportedly left-wing groups, would squander the country's hard-won independence and be unable to control its diverse political forces. Acceptance of these claims may not in itself prevent

44 William Ashton, 'Fearful army blocks transfer of power', *Asia-Pacific Defence Reporter*, Vol.17, No.6/7, December 1990/January 1991, pp.52-4.

45 Maung Maung, *Burma and General Ne Win* (Asia Publishing House, Bombay, 1969), p.291.

differences from arising within the Tatmadaw, but it would be a strong factor militating against a major breakdown in discipline.

There also seems to be a concern that, under a democratically elected civilian government in Rangoon, the armed forces would lose the large share of the national budget which they have always enjoyed. For example, during the 1989-90 election campaign there were a number of indications given that, under a NLD government, the armed forces would be drastically reduced in size. Much greater emphasis would be placed on peaceful negotiations with ethnic insurgent groups and the possible development of a federal style of political system which gave the ethnic minorities greater autonomy. It was suggested that, by abandoning the military regime's policy of crushing the ethnic insurgencies and imposing a highly centralised political system on the country, the then 200,000-strong armed forces could be reduced to a border protection force as small as 20,000-30,000 men.⁴⁶ In addition, the long-overdue economic rehabilitation of the country and improved social services demanded by the civilian population would be enormously expensive. Development projects starved of funds by the SLORC and its predecessors would be bound to get a higher priority by a democratic government. This would inevitably be at the expense of arms, military equipment and defence facilities.

Also, many members of the armed forces appear to be afraid that, should they lose control of their own fate, they will be forced to face the consequences of their harsh rule over the past 33 years.⁴⁷ Since General Ne Win seized power in 1962, the military regime has been repeatedly condemned for its gross violations of human rights, with many observers describing it as one of the most brutal in the region. According to the 1994 US State Department report on human rights, for example:

The Government reinforces its rule via a pervasive security apparatus led by military intelligence...Control is buttressed by selective restrictions on contact with foreigners, surveillance of government employees and private citizens,

⁴⁶ Rodney Tasker and Bertil Lintner, 'The plot thickens', *Far Eastern Economic Review*, 21 June 1990, pp.21-2.

⁴⁷ See, for example, Alan Boyd, 'Burma junta fears probe of massacre', *Australian*, 30 May 1990.

harassment of political activists, intimidation, arrest, detention, and physical abuse.⁴⁸

During the 1988 demonstrations and since there have been repeated demands by Burmese dissidents and others for members of the military regime to be brought before tribunals of the kind convened to judge German and Japanese war criminals after the Second World War. More recently, there have been calls for members of the SLORC to be tried by the international community *in absentia*, as has occurred with respect to crimes against humanity in the former Republic of Yugoslavia. Given the inevitable outcome of such trials, there is little likelihood that any members of the current armed forces hierarchy in Rangoon would willingly permit anything to occur which might put them in such a vulnerable position.

It is relevant too that many members of the Burmese armed forces (in particular its most senior officers) have long enjoyed considerable social and economic privileges, as the regime has tried to retain their loyalty and protect them from the results of its own economic mismanagement. Pay scales have been less of an incentive, although in August 1988, in an obvious attempt to purchase the support of the rank and file of the armed forces in the face of rising popular unrest, President Sein Lwin awarded the Tatmadaw a 45 per cent pay rise.⁴⁹ In addition, over the years a large number of officers appear to have profited from official corruption and the booming black market (including narcotics deals). The property holdings of many senior military figures, for example, are out of all proportion to their official incomes. More recently, many officers appear to have acquired strong financial interests in the commercial ventures which the SLORC has negotiated with companies from Thailand, Singapore, South Korea and elsewhere, under the regime's new 'open door' economic policies.⁵⁰ Any transfer of power to an elected civilian government would not only risk the loss of many customary privileges

⁴⁸ *Country Reports on Human Rights Practices for 1994*, p.540.

⁴⁹ Daniel Benjamin *et al.*, 'Out...In 17 Days', *Time*, 22 August 1988, p.21. Sein Lwin (known as 'the Butcher of Rangoon') is reputed to have been responsible for the shooting of students and other demonstrators in 1962, 1974 and again in early 1988.

⁵⁰ See, for example, John Badgley, 'The Burmese Way to Capitalism' in *Southeast Asian Affairs 1990* (Institute for Southeast Asian Studies, Singapore, 1990), pp.229-39.

and benefits, but in many cases would occasion considerable financial costs as well.

Personal rivalries may exist, policy differences within the leadership may become highly charged, and Ne Win's death could even lead to a spill of positions, but for all these reasons it is unlikely that a major split in the armed forces will occur in the foreseeable future. The potential consequences would be well known to the regime and would help inhibit any moves which might cause such a development. Barring unforeseen developments, the future seems to be one of increasing military strength and a tighter, if more subtle, exercise of political power.

For all their criticisms of the SLORC and the role of the armed forces in the past, Aung San Suu Kyi and many other senior pro-democracy leaders realised at an early stage of their campaign that they needed to overcome the Tatmadaw's fears if they were ever to loosen its grip on power and form a viable civilian government.⁵¹ Hence Aung San Suu Kyi's appeal to the more moderate and professional elements of the armed forces in 1989. Since her release from house arrest in July 1995, she has continued to seek a dialogue with the military regime, recognising that under current circumstances a peaceful transition to democratic rule can only occur with its concurrence, if not active support.⁵² Although her position has gradually hardened as the SLORC has continued to ignore her, Aung San Suu Kyi has emphasised that it is not the NLD's intention to split the Tatmadaw, as 'dissension within the army means trouble for the country'.⁵³ To make progress, other assurances may need to be given, as has already occurred for example in places like South Korea, South Africa and Chile. An accommodation with the armed forces, possibly including an amnesty for its past actions, may not be popular with some of the more radical elements in the democracy movement.

51 Louise Williams, 'Revenge is not our priority, says Opposition', *Sydney Morning Herald*, 4 July 1990.

52 See, for example, 'A Careful Hero', *Asiaweek*, 4 August 1995, pp.16-17; and Gordon Fairclough, 'Winds of Change', *Far Eastern Economic Review*, 31 August 1995, pp.24-6.

53 Aung San Suu Kyi, speaking at a NLD press conference in Rangoon on 29 November 1995. See also Bertil Lintner, 'A Turn for the Worse', *Far Eastern Economic Review*, 23 November 1995, p.38; and 'Lost illusions', *Economist*, 2 December 1995, p.24.

Without it, however, little progress can be made towards the kind of society that the majority of the Burmese population so clearly wants.

Such a compromise would not only be to the manifest benefit of the Burmese people, but it would also be in the long-term interests of the armed forces themselves. For unless they are prepared to retreat from their current hard-line position, and allow a greater measure of popular participation in government, they will always be weakened by their alienation from the civil population and face the potential threat of armed opposition. Since the 1988 massacres of pro-democracy demonstrators, the armed forces have lost even those last shreds of respect which dated from the early days of independence, and which had survived both the 1962 coup and Ne Win's subsequent abuse of power. The Tatmadaw's historical reputation as the guardian of the Burmese people and protector of the Union has now been irreparably damaged. No longer can it attract the kind of recruits that it will increasingly need to serve in a more complex and technically demanding strategic environment. Also, the Tatmadaw's rigid centralist policies and the predominance of ethnic Burmans in the its higher ranks will further encourage the country's minority peoples to see the armed forces simply as an instrument of 'big race' domination and oppression. The Tatmadaw may continue to increase in size and acquire more modern weapons systems but, as long as these critical issues are left unresolved, its real military capabilities will remain limited and its professionalism suspect.

APPENDIX 1

STATE LAW AND ORDER RESTORATION COUNCIL

The following list was current on 20 December 1995. Only four of those named below publicly acknowledge special responsibilities within the SLORC. (The members of the SLORC's Security and Management Committee, for example, are rarely named). The rest of the SLORC are simply listed as 'Member'. While all hold military rank, not all have formal military positions, nor have all been given Ministerial portfolios. Most SLORC Members are in the 33-member Cabinet, but others are not. It is also understood that some of those listed below are SLORC Members in name only. MAJGEN Nyan Lin, for example, is apparently very ill and unable to participate fully in SLORC proceedings.

Rank/Name	Positions Held
SENGEN General Than Shwe	SLORC Chairman Prime Minister Minister of Defence Commander-in-Chief, Defence Services
GEN Maung Aye	SLORC Vice Chairman Deputy Commander-in-Chief, Defence Services Commander-in-Chief, Army
LTGEN Khin Nyunt	SLORC Secretary (1) Head, Office of Strategic Studies Director, Directorate of Defence Services Intelligence

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LTGEN Tin Oo	SLORC Secretary (2) Chief of Staff, Army Commander, Bureau of Special Operations One
VADM Maung Maung Khin	SLORC Member Deputy Prime Minister
LTGEN (Air) Tin Tun	SLORC Member Deputy Prime Minister
LTGEN Aung Ye Kyaw	SLORC Member Member, SLORC Security and Management Committee
LTGEN Phone Myint	SLORC Member Chairman, SLORC Security and Management Committee
LTGEN Sein Aung	SLORC Member Minister of Industry No.1
LTGEN Chit Swe	SLORC Member Minister of Forestry
LTGEN Kyaw Ba	SLORC Member Minister of Hotels and Tourism
LTGEN Maung Thint	SLORC Member Minister for Progress of Border Areas and National Races and Development Affairs
MAJGEN Nyan Lin	SLORC Member
LTGEN Myint Aung	SLORC Member Minister of Agriculture
LTGEN Mya Thin	SLORC Member Minister of Home Affairs

LTGEN Tun Kyi	SLORC Member Minister of Trade
LTGEN Aye Thaung	SLORC Member Minister of Labor
LTGEN Myo Nyunt	SLORC Member Minister of Religious Affairs
LTGEN Maung Hla	SLORC Member Minister of Immigration and Population
LTGEN Kyaw Min	SLORC Member Minister of Mines
MAJGEN Soe Myint	SLORC Member Minister of Social Welfare, Relief and Resettlement

APPENDIX 2

BURMA'S 'WAR OFFICE'

The organisation listed below draws mainly on the researches of Bertil Lintner, Tin Maung Maung Than, the All Burma Students' Democratic Front and *The Military Encyclopedia*. The names of current incumbents have not been given as appointments change regularly. Occupants of particular positions are rarely in one place for more than a few years. Also, many positions have at times been filled by officers of more senior or more junior rank, depending on the availability of staff and the priority accorded to different positions at different times. In that sense, it should be considered a notional structure only.

Position	Rank
Commander-in-Chief, Defence Services	Senior General
Vice Commander-in-Chief, Defence Services and Commander-in-Chief, Army	General
Commander-in-Chief, Air Force	Lieutenant General (Air)
Commander-in-Chief, Navy	Vice Admiral
Commander, No.1 Bureau of Special Operations	Lieutenant General
Commander, No.2 Bureau of Special Operations	Lieutenant General
Director, Defence Services Intelligence	Lieutenant General
Adjutant General	Lieutenant General
Quartermaster General	Lieutenant General

Military Appointments General	Lieutenant General
Chief of Staff, Army	Major General
Chief of Staff, Air Force	Major General (Air)
Chief of Staff, Navy	Rear Admiral
Inspector General	Brigadier
Judge Advocate General	Brigadier
Director, Procurement	Brigadier
Director, Public Relations and Psychological Warfare	Brigadier
Director, Medical Services	Brigadier
Director, Artillery and Armour	Brigadier
Director, Supply and Transport	Brigadier
Director, Ordnance	Brigadier
Director, Training	Brigadier
Director, Electrical and Mechanical Engineering	Brigadier
Director, Army Engineers	Brigadier
Director, Military Police	Brigadier
Director, Signals	Brigadier
Deputy Director, Defence Services Intelligence	Colonel

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Director, Defence Services Museum	Colonel
Director, Defence Industries	Colonel
Director, Resettlement	Colonel
Director, Defence Services Academy	Colonel
Director, Staff College	Colonel

APPENDIX 3

BURMA'S ORDER OF BATTLE

The following order of battle is based largely on the entries for 'Myanmar (Burma)' in *The Military Balance 1995/96* (International Institute for Strategic Studies, London, 1995), *The Military Powers Encyclopedia: Southeast Asia* (Société I³C, Paris, 1991), and *Jane's Fighting Ships 1995-96* (Jane's Information Group, Coulsdon, 1995). Where these sources disagree, a judgement has been made on the best entry. The table has also been adjusted to take into account additional material drawn from other sources mentioned in the text, including personal observations made in Burma during a field trip in April 1995.

Every effort has been made to ensure that the table is as accurate and comprehensive as possible. Given the difficulty of confirming much of this information, however, it must still be considered indicative only. It is not always clear, for example, whether some of the older weapons platforms and items of equipment are still in use, have been put into storage, or taken out of service entirely. Also, it is difficult to account for all losses of major equipments, whether on operations, through accidents or simply a lack of spare parts.

Figures given in brackets are estimates or are based on unconfirmed reports. Question marks indicate uncertainty about certain aspects of the entry, or even the entry itself. The notation 'NA' means that no estimates are available.

TOTAL ARMED FORCES: c. 300,000 (mid-1995)

BURMA ARMY

PERSONNEL: 275,000 all ranks

Regional Commands: 10

Rangoon Command (Rangoon Division)
Southern Command (Pegu and Magwe Divisions)
Southeastern Command (Mon and Karen States,
Tenasserim Division)
Southwestern Command (Irrawaddy Division)
Central Command (Mandalay Division)
Western Command (Arakan and Chin States)
Eastern Command (southern Shan State)
Northeastern Command (northern Shan State)
Northwestern Command (Sagaing Division)
Northern Command (Kachin State)

Eight Regional Commands have 3 Tactical Operations Commands (TOCs), two have 4 TOCs. These 32 TOCs control 145 garrison infantry battalions.

Light Infantry Divisions: 10

77 LID (est. 1966, HQ at Pegu)
88 LID (1967, Magwe)
99 LID (1968, Meiktila)
66 LID (mid-1970s, Prome)
55 LID (late 1970s, Aungban)
44 LID (late 1970s, Thaton)
33 LID (mid-1980s, Sagaing)
22 LID (1987, Pa-an)
11 LID (1988, Hlegu)
101 LID (1991, Pakokku)

Each has 3 TOCs.

Summary of combat units:

- 245 infantry battalions
- 4 armoured battalions
- 7 artillery battalions
- 2 anti-aircraft artillery battalions

ARMoured VEHICLES:

Tanks:

- (80) T-69 II main battle tanks (PRC)
- (26) Comet medium tanks (UK)
- (105) Type-63 light tanks (PRC)

Other Tracked Armoured Vehicles:

- (80) Universal T-16 Bren gun carriers (UK?)

Wheeled Armoured Vehicles:

- (250) Type 85 APCs (PRC)
- (45) Daimler Ferret Scout Cars (UK)
- (40) Humber APC (UK)
- NA BAAC-83 Light Recce Vehicles (Burma)
- NA BAAC-84 Light Recce Vehicles (Burma)
- NA BAAC-85 APCs (Burma)
- NA BAAC-86 (Burma)
- NA BAAC-87 (Burma) ?

ARTILLERY:

Towed Artillery:

- | | | |
|----------|-------|---|
| 76.2 mm: | (100) | M-1948 B1 mountain guns
(Yugoslavia) |
| 88 mm: | (50) | 25-pounder gun/howitzers (UK) |
| 105 mm: | (96) | M-101 howitzers (USA) |
| 122 mm: | NA | Type 54 howitzers (PRC) |
| 140 mm: | NA | 5.5-inch medium guns (UK) |

Multiple Rocket Launchers:

107 mm:	(30)	Type 63 (PRC)
122 mm:	NA	BM-21 (USSR/Vietnam) ?
130 mm:	NA	Type 63 (PRC) ?

Air Defence Weapons:

20 mm:	NA	M38 (Yugoslavia)
37 mm:	(24)	Type 74 (PRC)
40 mm:	(10)	Bofors L/60 Mk 1 (UK/US?)
57 mm:	(12)	Type 80 (PRC) ?
	NA	(PRC) ?
94 mm:	NA	3.7-inch Mk 3A (UK)
SAMs:	(1)	BAe Dynamics Bloodhound Mk II SAM
		(UK/Singapore)
	NA	HN-5A (PRC)

Anti-Tank Artillery:

	NA	(PRC) ?
57 mm:	NA	6-pounder (UK)
	NA	M43 (ZIS-2) (USSR/Israel) ?
76.2 mm:	NA	17-pounder (UK)

Recoilless Guns:

57 mm:	NA	Type 36 (PRC) ?
75 mm:	NA	3.5-inch M20 (US)
	NA	Type 52 (PRC)
	NA	Type 56 (PRC)
84 mm:	(1200)	Carl Gustav M-2 (Sweden/Singapore)
88.9 mm:	NA	3.5-inch M20 (USA)
106 mm:	NA	M40 A2 (USA/Pakistan?)

OTHER CREWED WEAPONS:**Light machine guns:**

7.62 mm: G4/BA64 (Germany/Burma)
 FN MAG (Belgium)
 MG3/MG42 (Germany/Burma)

Heavy machine guns and cannon:

.50 cal/12.7mm Browning FN Herstal (Belgium)
 20mm Hispano Suiza Mk 5 (Switzerland)

Light and medium mortars:

	NA	2-inch ML (UK/Burma)
	NA	3-inch ML (UK/Burma)
60 mm:	NA	Type 63 (PRC/Burma)
	NA	(Portugal) ?
81 mm:	NA	M29 (USA)
	NA	(Israel)
	NA	(Portugal)
82 mm:	NA	M43 (USSR)
	NA	Type 67 (PRC)
	NA	Type 53 (PRC)

Heavy mortars:

120 mm:	(80)	Soltam (Israel)
	NA	Brandt (France) ?
	NA	UBM 52 (Yugoslavia)
	NA	(Portugal)
	NA	Tampella (Finland)
	NA	Type 53 (PRC)
122 mm:	NA	Type 55 (PRC)

INDIVIDUAL WEAPONS:

Pistols:

9 mm Browning High Power / FN 35 (Belgium)

Carbines:

.30 cal. M1 (USA)

.30 cal. M2 (USA)

Automatic rifles:

5.56 mm: M16A1 (USA/Singapore)

7.62 mm: G1 / FN FAL (Germany)

G2 / BA72 (Germany/Burma)

G3 / BA63 (Germany/Burma)

AK47 / Type 56 (USSR / PRC)

Submachine guns:

9 mm: Uzi (Israel)

Sterling L2 (UK)

BA52 (Italy/Burma)

Grenade launchers:

40 mm: NA RPG-2 (USSR/Israel)

NA RPG-7 (PRC)

(3000) M-79 (USA)

(500) M-203 (USA)

BURMA AIR FORCE

PERSONNEL AND EQUIPMENT:

c. 10,000 all ranks (including about 250 pilots)

(106) combat aircraft, including (20) armed helicopters

FIGHTERS:

Interceptors:

- (30) Chengdu F-7M (PRC)
- (10) MiG-29 (Russia) (on order?)

Fighter/Ground Attack:

- (24) NAMC A-5C (PRC)

COUNTER-INSURGENCY AIRCRAFT:

- 12 SOKO G-4 Super Galeb (Yugoslavia)
- (9) Pilatus PC-9 (Switzerland)
- (8) Pilatus PC-7 (Switzerland)

TRANSPORT AIRCRAFT:

- 4 SAC Y-8D (PRC)
- 1 Fokker F-27 (Netherlands)
- (4) Fairchild-Hiller FH-227B (USA)
- (3) CASA C-212 Aviocar (Spain) ?

MARITIME RECONNAISSANCE

- (3) Fokker F-27M (Netherlands) ?

TRAINING AIRCRAFT:

- (15) Pilatus PC-7 (Switzerland)
- (6) GAIC FT-7 (PRC)
- NA Shenyang FT-6 (PRC) ?

LIAISON AIRCRAFT:

- 6 Cessna 180 (USA)
- 1 Cessna 550 (USA)
- (5) Pilatus PC-6A/PC-6B (Switzerland)

HELICOPTERS:

- (12) Bell 205A (USA)
- (6) Bell 206B (USA)
- (6) SA-316 Alouette III (France)
- (18) Mil Mi-2 (Poland)
- (12) PZL W-3 Sokol (Poland)
- (2) Mil Mi-17 (Russia) ?

OTHER AIRCRAFT:

- (4) Ayres S-2R Turbo-Thrush (USA)
- (2) Beechcraft Queenair (USA)
- (3) Beechcraft D-18S (USA)

BURMA NAVY

PERSONNEL: 15,000 (including 1 battalion Naval Infantry)

Main Bases: Akyab, Bassein, Rangoon, Moulmein, Mergui.

PATROL AND COASTAL COMBATANTS:

Frigates:

- (3) Jianghu class (PRC) (on order)

Corvettes:

- 1 Admirable class (US) (decommissioned in 1994 but still on fleet list)
- 1 PCE 827 class (US) (decommissioned in 1994 but still on fleet list)
- 2 Nawarat class (Burma)

Offshore Patrol:

- (12) Hainan class (PRC) (4 more on order)
- 3 Osprey class (Denmark)
- (NA) ? (PRC) (on order)

Inshore Patrol:

- 3 Swift class (USA/Singapore)
- 6 PGM type (Burma)
- 6 PGM type (USA)
- 3 PB 90 class (Yugoslavia)
- 2 fast attack craft (Burma) (building)

Riverine Patrol:

- 10 Y 301 class (Yugoslavia)
- 2 improved Y 301 class (Burma)
- 6 Carpentaria class (Australia)
- 4 river gunboats (Burma)
- 2 CGC type (USA/Burma)
- 9 river patrol craft (Burma)
- 6 river patrol craft (USA)
- 25 river patrol launches (Yugoslavia)

MINE WARFARE FORCES:

- (2) minesweepers (PRC) (on order)

AMPHIBIOUS:

- 4 LCU (Japan)
- 1 LCU (Burma)
- 10 LCM 3 type (USA)

SUPPORT:

- 1 ocean survey ship (Yugoslavia)
- 1 survey vessel (Singapore)
- 1 river survey vessel (Burma?)
- 1 coastal transport (Norway?)
- 1 tanker (Singapore?)
- 1 coastal tanker
- 1 diving support ship (Japan)
- 5 transport vessels (Burma)
- 1 buoy tender (Thailand)
- 1 harbour tug
(plus several harbour launches and
personnel carriers)

PARAMILITARY

PEOPLE'S POLICE FORCE: 50,000

PEOPLE'S MILITIA: 35,000

APPENDIX 4

BURMA'S DEFENCE EXPENDITURE

As a result of the many difficulties experienced in obtaining accurate details of Burma's defence spending, and the different methods used by outside agencies for calculating their own statistics, published estimates of Burma's defence expenditure vary significantly between sources. The Stockholm International Peace Research Institute (SIPRI), for example, claims that Burma's defence expenditure in 1991 (the last year for which figures were available) was 3.8 per cent of gross national product (GNP), while the US Arms Control and Disarmament Agency (ACDA) has stated that it was 4.5 per cent of GNP, or 29.1 per cent of central government expenditures (CGE). The International Institute for Strategic Studies (IISS) does not usually calculate defence expenditure as a percentage of GNP (recognising, perhaps, the difficulties inherent in doing so), but gives the figure of US\$971 million as Burma's defence expenditure in 1991. This figure lies somewhere between the US\$263 million estimate given by SIPRI and the figure of US\$1722 million estimated by the ACDA.

Other sources give different figures again. In its annual profiles of Burma, for example, the Intelligence Unit of the *Economist* magazine has estimated that in 1988/89 only 18.8 per cent of CGE was spent on defence, and this reflected a downward trend. It believed defence spending jumped to 35 per cent of CGE in 1989/90, however, and held steady at about that level until 1992, when it dropped back to 22 per cent of CGE. See *Country Profile: Thailand, Burma 1989/90* (London, 1990) through to *Country Profile: Thailand, Myanmar 1994/95* (London, 1995).

The available SIPRI, ACDA and IISS figures are given below, for comparison. They must be considered indicative only, however, and while useful in assessing trends and orders of magnitude, caution must be exercised in their use.

Stockholm International Peace Research Institute:

	1985	1986	1987	1988
US\$m	208	181	113	129
% of GNP	3.0	2.9	1.9	2.5

	1989	1990	1991	1992	1993
US\$m	256	264	263	237	210
% of GNP	3.9	3.9	3.8	3.2	3.5

Note: Figures are given in US\$ million, at constant 1985 prices and official Burmese exchange rates.

Source: Stockholm International Peace Research Institute, *SIPRI Yearbook 1994* (Oxford University Press, Oxford, 1994), p.560.

US Arms Control and Disarmament Agency:

	1984	1985	1986	1987	1988
US\$m	967	1063	1049	1053	946
% of GNP	3.0	3.1	3.0	3.0	2.9
% of CGE	18.5	18.8	17.8	21.5	23.7

	1989	1990	1991	1992	1993
US\$m	1202	1648	1722	1616	1510
% of GNP	3.5	4.4	4.5	3.8	NA
% of CGE	24.7	27.6	29.1	NA	NA

Note: Figures are given in current US\$ million. Figures for 1990-93 are estimates only.

Source: *World Military Expenditures and Arms Transfers, 1993-1994* (US Arms Control and Disarmament Agency, Washington, 1995), p.56.

International Institute for Strategic Studies:

	1985	1986	1987	1988	1989
US\$m	245.4	228.3	252.6	286	332.6

	1990	1991	1992	1993	1994
US\$m	858	971	1200	1400	1400

Note: Figures are given in current US\$ million. During the period under review, the IISS appears to have changed its method of listing defence budgets. Figures given for a particular year can change markedly from one annual publication to the next. Where this occurs, the later figure is given. For all years except 1985, 1986, 1990 and 1991, the figures represent budget forecasts, not estimates of defence expenditure. The IISS uses the official Burmese exchange rate.

Sources: *The Military Balance 1985-1986* (International Institute for Strategic Studies, London, 1986) through to *The Military Balance 1994-1995* (Brassey's for the International Institute for Strategic Studies, London, 1994).

APPENDIX 5

BURMA'S ARMS IMPORTS SINCE 1988

Listed below are reported arms shipments to Burma since the SLORC took over government in 1988. Given the difficulty of determining precise orders, and the number of each class of equipments actually delivered to Burma, numbers have only been given where specifically cited in published reports. As considerable uncertainty still surrounds even these figures, however, they are shown in brackets. Other areas of uncertainty are denoted by question marks.

It is possible that the SLORC has received additional arms and equipment from other suppliers, details of which have not yet been made public.

People's Republic of China:

- (80) Type 69II medium battle tanks
- (105) Type 63 light tanks
- (250) Type 85 armoured personnel carriers
- (30) 107 mm Type 63 multiple launcher rocket systems
- 130 mm Type 63 multiple launcher rocket systems (?)
- 122 mm Type 54 howitzers
- anti-tank guns
- (24) 37 mm Type 74 anti-aircraft guns
- 57 mm (Type 80?) anti-aircraft gun systems
- HN-5 surface-to-air missiles
- 122 mm Type 55 mortars
- 82 mm Type 67 mortars
- (10,000) 7.62 mm Type 56 assault rifles
- 57 mm Type 52 recoilless guns
- 75 mm Type 56 recoilless guns
- 40 mm RPG-7 rocket-propelled grenade launchers
- JLP-40 air defence radars
- JLG-43 air defence radars
- radars and communications equipment

(800) military parachutes
night vision equipment
(1000) trucks and other heavy duty vehicles
(Type 72?) tank recovery vehicles (?)
armoured bridge layers (?)
tank transporters (?)
(30) Chengdu F-7M Airguard jet fighters
(6) GAIC FT-7 jet trainers
Shenyang FT-6 jet trainers (?)
(24) NAMC A-5C fighter/ground attack aircraft
(4) SAC Y-8D
(20) 'attack' helicopters
(145) PL-2A air-to-air missiles
other air-delivered munitions
(3) Jianghu-class frigates (ordered ?)
(16) Hainan-class patrol boats
(2) minesweepers
small gunboats and patrol craft
ammunition of different kinds

Poland:

(20) PZL Swidnik Mil Mi-2 helicopters
(13) PZL Swidnik W-3 Sokol helicopters
air-delivered munitions (?)
trucks and heavy duty vehicles

Yugoslavia:

(12) SOKO G-4 Super Galeb ground attack aircraft
(3) PB 90 coastal patrol boats
Zastava light all-terrain vehicles (?)
ammunition (?)

Pakistan:

(5000) 120 mm mortars
mortar bombs
rocket launchers
106 mm M40 recoilless rifles (?)

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(150) machine guns
assault rifles
(50,000 rounds) small arms ammunition

Singapore:

(1) BAe Dynamics Bloodhound MkII surface-to-air missile system
(3) Scorpion radars
mortars
mortar bombs (?)
84mm recoilless gun ammunition
automatic rifles
small arms ammunition
electronic equipment (?)
radars and communications equipment (?)
raw materials for arms manufacture

Portugal:

120 mm mortars
81 mm mortars
60 mm mortars (?)
(20,000) mortar bombs
artillery ammunition

Russia:

(2) Mil Mi-17 helicopters (?)
(10) MiG-29 'Fulcrum' air superiority fighters (ordered ?)
communications equipment

Israel:

40 mm RPG-2 rocket-propelled grenade launchers (?)
57 mm anti-tank guns (?)
small arms and ammunition

Democratic People's Republic of Korea:

(20 million rounds) 7.62 mm ammunition

Japan:

heavy duty vehicles
light all-terrain vehicles
parts for military vehicles

Other:

arms manufacturing equipment, industrial raw
materials and marine engines from Germany
small arms and ammunition from Belgium
machine parts, electronic equipment and munitions
from various suppliers in the US and elsewhere
small arms and ammunition from Czechoslovakia (?)
small arms and ammunition from South Korea (?)
small arms and ammunition from South Africa (?)
(3) C-212 aircraft from Spain (?)
mortar bombs and air-delivered munitions from
France (?)
naval guns and ammunition from Sweden (?)
cannon and ammunition from Switzerland (?)
naval logistics ship from Norway (?)

APPENDIX 6

BURMA'S SOURCES OF MILITARY TRAINING SINCE 1988

The following list has been compiled from reports in open sources, most of which could not be verified. It should not, therefore, be taken as either comprehensive or authoritative.

People's Republic of China:

China has provided training for members of all three Burmese services in the operation and maintenance of the equipment it has sold to Burma since 1988. This training has taken place mainly in China (most in Yunnan) but also, to a lesser extent, in Burma itself. It is likely that other forms of instruction have been provided by China, for example in the field of signals intelligence collection and evaluation, but no details are available.

Poland:

Poland has provided training (in Poland) for members of the Burma Air Force (both pilots and ground crew) in the operation and maintenance of the Mil Mi-2 and W-3 helicopters sold to Burma since 1988.

Yugoslavia:

Training has been provided in Yugoslavia for members of the Burma Air Force and Burma Navy in the operation and maintenance of the new Super Galeb aircraft and PB 90 patrol boats purchased by the SLORC since 1988.

Singapore:

Singapore Armed Forces aircrew regularly conduct 'navigational' training flights to and from Rangoon. It is not known, however, whether they include exercises of any kind with the Burma Air Force. Training has been provided by the SAF in Singapore for a Burma Army parachute display team. SAF personnel have reportedly been observed in Burma but, once again, it is not known whether they are there in some kind of training role or for other reasons. It is understood that Singapore may also be training Burmese military personnel in the use of modern information technology systems and other electronic equipment being provided to the Tatmadaw by Singaporean companies.

Pakistan:

There have been a number of unconfirmed reports that Pakistan has helped train members of the Tatmadaw in the use of those Chinese arms and items of equipment which are also in Pakistan's inventory. In addition, there have been reports that Pakistani instructors were based in Burma for a period to help train special forces and airborne personnel. These reports, however, cannot be confirmed.

Malaysia:

There have been unconfirmed reports that Malaysia has provided 10 Burma Air Force pilots with training on the Lockheed C-130 Hercules transport aircraft. There are no C-130s, however, in the BAF's order of battle.

Russia and the Soviet Union:

It is to be expected that Russia will help train Burmese pilots and ground crew in the operation and maintenance of the new Russian helicopters, MiG-29 interceptors and any other aircraft provided by Russia in the future. Reports in the late 1980s that Soviet instructors were helping the Tatmadaw seem

to have been designed simply to win support for opposition groups from the United States and other Western democracies.

Other:

French reports that Vietnamese instructors were active in Burma before (and possibly after) 1988 have never been verified, and seem unlikely to be true.

Reports of Israeli instructors in Burma were almost certainly fabricated by Rohingya insurgents in an attempt to obtain increased support against the SLORC from the Islamic countries.

Burma Army personnel have attended military staff colleges in Malaysia and India.

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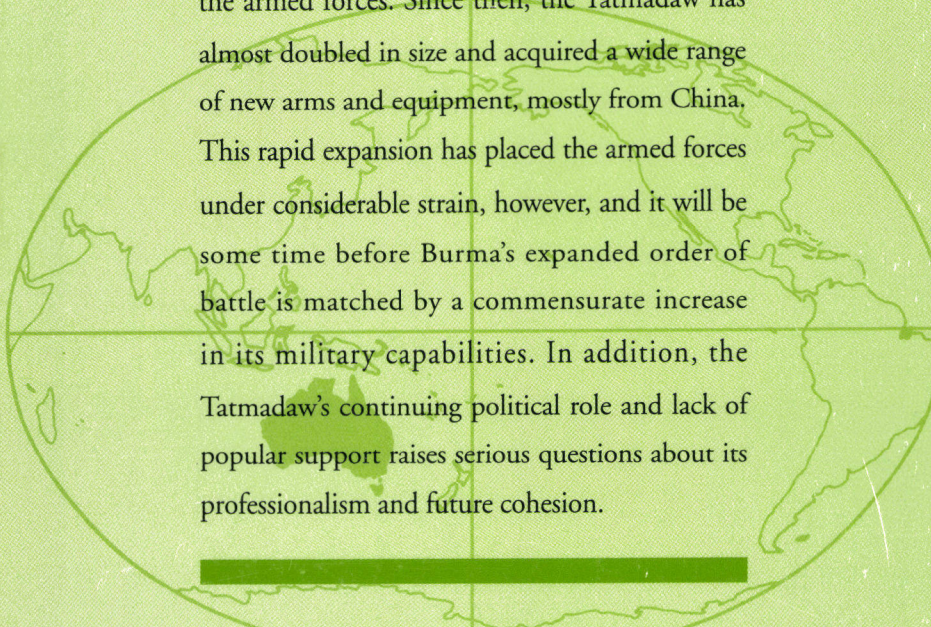
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BEFORE 1988, the Burmese armed forces, or Tatmadaw, suffered from many problems. Its major weapons and weapons platforms were obsolete, its logistics and communications systems were weak and operations were constantly hampered by a lack of essential supplies. While it could quell domestic political unrest and conduct limited counter-insurgency campaigns, it lacked the resources to perform most conventional defence roles. After taking over government in 1988, the State Law and Order Restoration Council undertook an ambitious programme to expand and modernise the armed forces. Since then, the Tatmadaw has almost doubled in size and acquired a wide range of new arms and equipment, mostly from China. This rapid expansion has placed the armed forces under considerable strain, however, and it will be some time before Burma's expanded order of battle is matched by a commensurate increase in its military capabilities. In addition, the Tatmadaw's continuing political role and lack of popular support raises serious questions about its professionalism and future cohesion.