

Master or Servant? An Examination of Civil-Military Relations and Arms Acquisitions in
the Third World

Edmund Hoh

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ABSTRACT

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the Third World

Edmund Hoh

The proliferation of conventional weapons to the Third World has increased exponentially since the end of the Cold War. The rapidity in which some developing countries have acquired state-of-the-art weapons in a period of relative peace has led scholars to dismiss it as an arms race, although some arms racing dynamics are present. Nevertheless, much of the literature on Third World arms acquisition phenomenon has attributed the underlying causes of such build-ups to various international, regional and domestic factors.

This thesis looks at domestic causes of Third World arms procurement from a different path. Instead of centring attention on domestic factors such as the military-industrial complex, or simply alluding to a regional arms race by counting states' arsenals, the focus in this thesis will examine three key important areas that shape arms acquisitions; civil-military relations, defence requirements, interservice rivalry in military organizations.

The awareness of these key characteristics of Third World arms acquisitions will allow policymakers to discern if their country's sales of advanced conventional weaponry to various Third World client states will indirectly contribute to regional instability or will have no detrimental effects at all.

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Introduction

The subject of arms races continues to be heavily debated over time, since the early 1970s, when Colin Gray first addressed the issue in his seminal work.¹ From the start, most scholars have generally examined arms races from the system-level and various methodologies have sprung up in attempting to explain the phenomenon. Most of these studies have done comparative analyses of the Anglo-German naval race and/or the Cold War superpower arms race between the United States and the Soviet Union. Despite the vastness of arms racing literature, scant attention has been paid to studying the issue of arms acquisition in the developing world. Authors that have compared arms racing between the superpowers and developing states have argued that there is a discernable lack of similarity between what the conventional definitions of arms racing specifies and the prevailing conditions that exist in the Third World.

The proliferation of conventional arms in the Third World has raised concerns among policymakers and scholars alike. While it has not reached the intensity of the Cold War-era arms race between the two superpowers, there have been distinct signs of improved military capabilities in these parts of the world. Asian states for example, have become the biggest military spenders among the peripheral countries, and even the Asian economic crisis has failed to buck the trend in Asia's military spending. Indeed, the proliferation of conventional weaponry in Asia has brought about questions: "what

¹ See Colin Gray, "The Arms Race Phenomenon," *World Politics*, Vol. 24, No. 1, (October 1971), pp. 39-79.

accounts for the paradox of Asia furiously strapping on the armour when it has seldom been more at peace?"²

Much of the arms acquisition trend in the Third World has been attributed to growing economies, abundance of military hardware in the post-Cold War era, the change in doctrines from counter-insurgency to conventional warfare, and the need to replacing aging equipment (otherwise known as "force modernization"). Nevertheless, hardware replacement has resulted in such countries gaining capabilities that have closely matched up to Western militaries, or even superseded in some instances. And despite the attention given to 'bean-counting' weapons in the Third World, little attention has been paid to analyzing the process of arms acquisition. This is an important factor in any analysis of Third World arms acquisition; if the dynamics of the Third World proliferation were dissimilar to that of the established arms race criteria, then would motivations differ as well? Are there similarities or differences in the way procurement is carried out in developing countries as compared to First World states with regard to weapons?

The purpose of this paper is to convey a higher degree of awareness in Third World weapons proliferation, since the suppliers of such high-technology weapons are ultimately developed states that have pushed the sales of such weapons. These are important considerations that policymakers have to note when making sales of arms to the developing world: are we simply watching the profit margins of our arms industries in the developed world at the expense of possibly triggering arms races (and hence, increasing regional tensions) in the periphery? More importantly, this paper attempts to provide some plausible answers to the Third World arms acquisition puzzle, i.e. what are

² "Asia's Arms Race," *The Economist*, Vol. 326, No. 7799, (20 February 1993), p. 19.

the motivations in acquiring high-technology weaponry? To situate the underlying emphasis of this paper, I will base my analysis on the role of civil-military balance and doctrine in shaping arms procurement strategies. In doing so, I hope to provide some insights into arms acquisition processes in the Third World.

Procurement and Policy-making

Arms races are often seen in the wider context of international politics and thereby, procurement strategies tend to be subsumed in this wider scope of study. Domestic factors that drive arms races have often been attributed to supply-side pressures, electoral pressures, and even the spur of military innovation that drives procurement. While adequate to some degree, these factors also tend to erroneously assume that the various branches of the government have a reasonably high degree of cooperation with each other, when it may not be the case. Succinctly put, bureaucratic politics affects policy decision-making; Graham Allison first noted the effects of bureaucratic in-fighting in his work on the Cuban Missile Crisis.³ So too, does bureaucratic determinism exist between the civilian and soldier. The former may view defence and arms procurement as a part of larger foreign policy objectives, while the latter views foreign policy objectives based on available military force; in other words, the civilian tend to see *ends* as opposed to *means* in foreign policy matters, and the soldier, *means* to achieve *ends*. The question remains as to whether both groups are able

³ See Graham Allison T., Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (Reading, MA: Longman, 1999), pp. 143-158.

to reconcile both means and ends, in turn producing a coherent national security framework.

Bureaucratic Politics and Arms Acquisition

To appropriately engage in a meaningful discussion on Third World arms acquisitions and its propensity to conflict, I believe that we have to begin from the micro-level; i.e. the focus on individual states, and how acquisition policies are affected by domestic factors. Thus, the essence of this paper focuses on civil-military relations in three areas directly linked to arms procurement: civil-military balance, weapons requirements, and defence budgeting. The purpose is to demonstrate the links in civil-military relations, and how it links to the state's military procurement strategy. It does not attempt to cover arms races in any way; instead, it moves away from the arms racing debate and simply examines acquisition policies in Third World states and how it is implemented. Specifically, this paper offers a particular perspective to arms racing by examining the linkages in civil-military relations with the formulation of strategy, weapons requirements, defence budget and ultimately, the final procurement process in developing states.

Structure of the Paper

The paper will be organized as the following: part 1 begins with an examination of scholarly works pertinent to arms racing and arms acquisition, both from the systemic

level and state-level. Part 2 organizes the theory behind the paper. Specifically, we will look at Barry Posen's arguments in military doctrines⁴ and test his arguments in three case studies. From Posen's arguments, the paper will further infer several hypotheses with regard to civil-military balance, weapons requirements and military budgeting. The theoretical framework will then be further applied to the three case studies.

Parts 3, 4, and 5 are the case studies. The paper will specifically highlight the Southeast Asian region as the 'test-bed' for the theoretical framework as a demonstration of regional arms dynamics. Further, it seeks answers as to whether interactive arms dynamics do exist in Southeast Asia or whether it is really a military modernization process that has been misconstrued as a regional race.

Part 6 concludes the paper with a brief summary of the theory and how each of the case study fared under the test variables. In addition, it will come up with some policy recommendations on the links between the bureaucracy and arms acquisition processes.

⁴ Barry Posen, *The Sources of Military Doctrine*, (London, Ithaca: Cornell University Press, 1984).

Chapter 1 - Arms Races and Arm Acquisition Processes: An Overview

Introduction

Arms races have been widely discussed and debated as one of the most widely studied areas in international relations, waxing and waning through most of the 20th century and even continuing into the 21st century. Most scholars involved in the arms racing debate tend to trace the roots of modern-day arms races back to the Anglo-German naval race in the immediate years preceding World War One. The second period of intense arms racing was the Cold War, where the U.S. and Soviet Union were engaged in strategic arms acquisition. The demise of the Soviet Union and consequently, the Warsaw Pact ultimately ended most of the economically exorbitant weapons programs that both rival superpowers were engaged in.

However, the arms race phenomenon has not ended with the Cold War. Many observers argued that regional arms races are the new phenomena, sparking off a revival of the arms race discussion, albeit in the context of regional systems. Whereas the Cold War arms race was between two superpowers vying for strategic supremacy, regional arms competitions are between regional or lesser powers, or simply between developing states. In defining arms purchases in the regional context, scholars have argued that such patterns of acquisition do not fully conform to the conditions that have typified the 'dreadnought' and Soviet-American arms races as outlined by earlier arms racing scholars; i.e. two or more parties aware of their antagonisms; visible structuring of a party's military towards meeting the other participant(s)'s military capabilities; the race

must take a qualitative and/or quantitative characteristic; and there must be a rapid increase in quantity or quality.¹

Arms race definitions have focused almost exclusively on the dreadnought and Cold War period, and as a result, most of the literature lacks explanatory power for regional arms acquisition phenomenon. I use the term 'phenomenon' as opposed to 'race' because observable conditions simply do not correlate to mainstream arms racing definitions, but yet at the same time, it cannot simply be disregarded as outlying cases.

The Southeast Asian region as an example highlights the problem of attempting to transpose conventional arms racing definitions on the regional phenomenon. Regional scholars have argued that the S.E. Asian arms race cannot be considered a 'race' but rather, an 'arms stroll' or a 'force modernization.'² The former refers to arms acquisition by states that have not reached the intensity of a race; the latter term can be defined as an equipment replacement exercise where obsolete platforms are retired from service and replaced with newer and generally speaking, more capable hardware. While these authors differ on the nature of the arms acquisition process, they concur on the argument that conventional arms race literature do not purport to explain regional phenomena.

The second problem with most arms acquisition literature is the causal path that most theorists have taken. Most arms racing literature have focused on the linkages between acquiring weaponry and likelihood of war. Mathematical, statistical and even game theoretic models have been employed in an attempt to study arms races as a casual

¹ Colin Gray, "The Arms Race Phenomenon," *World Politics*, Vol. 24, no. 1, (October 1971), p. 41.

² Shannon Selin characterizes the East Asian scenario as one of an 'arms stroll,' while Andrew Tan posits that it is a 'force modernization' process. See Shannon Selin, "Asia Pacific Arms Buildups Part One: Scope, Causes and Problems," *Working Paper No. 6*, (Institute of International Relations, University of British Columbia, November, 1994), and Andrew Tan, "Force Modernization Trends in Southeast Asia," *Working Paper No. 59*, (Institute of Defence and Strategic Studies, Singapore, January, 2004).

variable affecting the outbreak of conflict, as a dependent variable.³ This has been especially seen in the strategic and naval arms race literature that was prevalent throughout the Cold War period. Even regional scholars in Southeast Asia for example, have attempted to link weaponry acquisition to the likelihood of conflict, even though there is a distinctive lack of quantitative assessments of the region's arms build-up. The question remains however, whether we can plausibly link arms racing and conflict without first examining domestic factors. By this, I refer to the analysis of the process of arms acquisition within states and the causes and motivations behind why developing states choose to acquire sophisticated weaponry.

To begin a constructive analysis of the Southeast Asian arms phenomenon, it would be highly pertinent to first start with a review of various scholarly works that pertain to arms races between states, and domestic factors that influence procurement within states. This chapter begins with an analysis of the 'conventional' arms race literature between states, which has strongly focused on arms acquisition, and its scope, causes, dynamics and outcomes. The second section would examine the sources of military procurement decisions from a domestic-level analysis.

³ See Thomas C. Hone, "Game Theory and Symmetrical Arms Competition: The Dreadnought Race," *Journal of Strategic Studies*, Vol. 7, no. 2, June 1984, pp. 169-177, James D. Morrow, "A Twist of Truth: A Reexamination of the Effects of Arms Races on the Occurrence of War," *Journal of Conflict Resolution*, Vol. 33, no. 3, September 1989, pp. 500-529, Michael D. Ward, "Differential Paths to Parity: A Study of the Contemporary Arms Race," *American Political Science Review*, Vol. 7, no. 2, June 1984, pp. 297-317, Michael D. Wallace, "Arms Races and Escalation: Some New Evidence," *Journal of Conflict Resolution*, Vol. 23, no. 1, March 1979, pp. 3-16.

Arms Racing Dynamics: An Overview

The arms race debate has typically examined the motivations and causes as to why states seek to acquire arms on a competitive scale vis-à-vis other adversaries. Colin Gray, who has written extensively on this subject, noted that arms races take on several characteristics as earlier discussed. He posits that there are really two contending views on arms races and war; it is either an alternative to war, or simply a preparation for war.⁴ Secondly, arms races too, take on a qualitative and quantitative aspect. The qualitative increase in arms racing directly links to the increase in capabilities, such as the fielding of newer models of ballistic missiles (the successive Polaris and Minuteman models by the U.S., for example) during the Cold War. A quantitative race would be one where competing parties seek not only to increase the capabilities of their weapons system, but also to increase the numbers of such weapons. The clearest example of this is the Anglo-German naval arms race from the period 1905-1914.⁵

Of greater interest however, is Gray's typology on arms competition as focusing on either a single class or multiple classes of weapons.⁶ The U.S.-Soviet race concentrated heavily on nuclear arms acquisition, although there was also a conventional arms race on a less prominent scale, while the Anglo-German naval race consistently emphasized the building of bigger and better warships. The author also discusses the various strategies of arms racing participants, based on the two notions of stability and sufficiency. Competing states may therefore adopt five different strategies of clear

⁴ Colin Gray, "The Arms Race Phenomenon," p. 42.

⁵ Ibid., p. 47.

⁶ Ibid., p. 52.

inferiority, marginal inferiority, parity, marginal superiority, or clear superiority, depending on the nature of the adversary.⁷ Gray also highlights the outcomes of arms races, ending either in war, bankruptcy-exhaustion, a victory/defeat, an agreed termination at parity, or the resolution of political differences.⁸ Although he did not discuss in detail the goals of arms races in his earlier article, Gray later addressed this problem stating that arms racing goals are: deterrence, defence, the functional threat, vested interests, reputation and technology.⁹

The dynamics behind what actually drive an arms race as Gray points out, are two hypotheses, namely the action-reaction phenomenon, and domestic processes. The action-reaction model can be divided into two categorical events, either *internal* or *external*; a military-technological trigger, or a political trigger.¹⁰ Domestic influences that drive arms races include (1) inertia, (2) technological momentum, (3) interest, (4) epidemiology, (5) absolute planning, (6) strategic doctrine, (7) government structure and its agencies, and (8) geographical location.¹¹

Gray's analyses of arms races have been widely read and cited. His detailed discussions on the rationales and dynamics of arms racing have contributed immensely to this study and have stimulated research in this area. Throughout his articles, Gray provides a comparative analysis between pre-nuclear and nuclear arms racing periods without overextending his analysis in either, and chose to limit his investigation to the

⁷ Colin Gray, "The Arms Race Phenomenon," p. 59-65.

⁸ *Ibid.*, p. 65-71.

⁹ Colin Gray, "The Urge to Compete: Rationales for Arms Racing," *World Politics*, Vol. 26, no. 2, (January 1974).

¹⁰ Colin Gray, "The Arms Race Phenomenon," p. 72.

¹¹ *Ibid.*, p. 74.

general phenomenon. In short, Gray's work has been instrumental in arms racing literature.

The author's arguments are generally persuasive, even in the Southeast Asian scenario. However, as many regional arms race proponents have argued, one of the preconditions for an arms race to exist is the clear identification of threats and/or adversaries. This is found lacking in the regional interaction between Southeast Asian states. On the contrary, regional politics have been generally marked by cooperation and informal bilateral negotiations (or commonly known as the "ASEAN Way") over any disputes.¹²

A second problem with Gray's hypothesis that there is a action-reaction phenomenon in arms competition in the regional context is that reaction phenomenon is less than obvious; the rush to acquire new weaponry may be explained by a multitude of alternative factors, such as the lessons learned from the U.S. during the first Gulf War, increasing wealth among the regional states thereby allowing for greater military expenditure levels, a shifting focus from counter-insurgency to conventional warfare doctrine (with the exception of Singapore), high availability of weaponry from Cold War stockpiles (especially from the former communist bloc states) at low prices, and a move towards greater power projection capabilities to better defend littoral interests.¹³

Grant Hammond's arguments may be in theory, more plausible than Gray's. He makes the distinction between a *military competition* and an *arms race*, stating that the latter are really intense military competitions characterized by increasing tensions and

¹² Amitav Acharya, "An Arms Race in Post-Cold War Southeast Asia?: Prospects for Control," *Pacific Strategic Papers*, No. 8, (Singapore: Institute of Southeast Asian Studies, 1994), p. 32.

¹³ Bilveer Singh, *The Challenge of Conventional Arms Proliferation in Southeast Asia*, (Jakarta: Centre for Strategic and International Studies, 1995), pp. 78-87.

perception of threat by both parties.¹⁴ In modifying Gray's definition of an arms race, Hammond supposes three further important points worth highlighting: military and diplomatic planning based on the other party's capabilities and intent, politico-military linkages of state actions between or among rival force structures and strategies, and a focus on particular weapons with an explicit ratio goal in mind.¹⁵ While hostile state intentions are harder to demonstrate when applied to case studies (the Southeast Asian scenario is no exception), an argument can be made that a state's newly acquired weaponry is aimed towards reducing its vulnerability vis-à-vis an adversary in a certain area where the latter holds a quantitative or qualitative advantage. During the Cold War for example, the U.S. fielded dedicated anti-tank attack helicopters (the AH-6 Cobra and later, the AH-64D Apache) to counter the threat of a massive Soviet armoured thrust should conflict break out. In effect, states do plan their force structure with the intent (explicit or implicit) to deter their potential adversary or adversaries.

Hammond's second point regarding the politico-military linkages between rival force structures and strategies deserves a closer examination. While Gray dismisses Hammond's point as an immeasurable hypothesis because it lacks consistency (linkages can be tight or loose, according to Gray),¹⁶ he fails to provide an alternative hypothesis. The fact remains that the basis of military strategies *are* dependent on rival force structures; the current lack of measurable indicators should not deter us from attempting to find a workable hypothesis linking strategies and force structures.

¹⁴ Grant Hammond, *Plowshares into Swords: Arms Races in International Politics, 1840-1991*, (Columbia, SC: University of South Carolina Press, 1993), p. 43.

¹⁵ *Ibid.*, p. 31.

¹⁶ Colin S. Gray, "Arms Races and Other Pathetic Fallacies: A Case for Deconstruction," *Review of International Studies* (1996), p. 327.

Thirdly, author Hammond points out that arms racers tend to focus on a particular type of weapon with an explicit ratio goal. He defines a state's ratio goal as "a definable military goal expressed as a ratio of an adversary's forces."¹⁷ Gray however, criticizes this point noting that it is methodologically difficult to differentiate between a state's ratio goals vis-à-vis its 'friendly competitors' (for example, among NATO allies) and vis-à-vis potential adversaries.¹⁸ In the absence of concrete evidence demonstrating a state's level of arms procurement as a ratio of its adversary, Gray may be correct in pointing out this flaw in Hammond's work. But this should not preclude the possibility of further refining the 'military ratio goals' hypothesis. The rapid advancement of weapon technology has reduced the need for quantity in arms procurement; rather, quality, in terms of 'force multipliers' has radically altered military goals ratio.

A plausible path of enquiry would be determine how a new weapon platform, in the context of the state's military force structure, is aimed at countering the opposition's forces, by calculating for the enhanced capability of the weapon over the adversary's equivalent. To illustrate a simple example, and assuming all else is held constant, state A have a hundred tanks of an obsolete design, and state B has to plan its acquisitions around state A's armoured forces. The latter state decides to buy advanced tanks (or other equivalent advanced 'force multiplier' anti-tank weaponry) in which each of its tanks is equivalent to two of state A's tanks. The logical path to pursue would be to purchase fifty or sixty advanced tanks as a ratio to state A's tanks to achieve parity. This of course, does not in any way imply that states simply seek parity in arms acquisition vis-à-vis its adversary. Rather, the example is to suggest that if there is a reliable weaponry-

¹⁷ Grant Hammond, *Plowshares into Swords*, p. 47.

¹⁸ Colin S. Gray, "Arms Races and Other Pathetic Fallacies," p. 327.

performance ratio/table according to different classes of weapons that we can infer from, we may then hypothesize a state's military ratio goals in relation to its adversary, and if the state is indeed acquiring arms, we can analyze how these purchases would affect its own military force structure ratio in contrast to the opposing force.

A last interesting aspect of Hammond's work deals with arms races and war causation. Arms racing, according to the author, do not cause war. A state's military, along with its level of readiness, deployment, sustainment, general character, and the quality and quantity of its manpower and weaponry makes it a political instrument. An arms race therefore, is more of an accumulation of force for political reasons; i.e. military competitions are exercises in general preparedness, while arms races are conducted for political purposes.¹⁹ More specifically, Hammond argues that it is not arms races *per se* that result in conflict outbreak, but only army preparedness races (as opposed to air and naval races) that generally ends in war.²⁰ Furthermore, he states that arms races have 'peril points,' i.e. when the marginal utility of continuing the race is less than or equal to the marginal utility of war; although he bewilderingly suggest that there are no peril points in the general arms races since the Anglo-German and Franco-German dreadnought races.²¹ Lastly, Hammond warns that it is not arms races among Western states that we should be concerned about in the post-Cold War era, rather, arms race theorists should concern themselves with regional races that are potentially destabilizing and have a higher propensity to result in war, as tensions are more acute, and territorial antagonisms are higher.

¹⁹ Grant Hammond, *Plowshares into Swords*, pp. 242-243.

²⁰ *Ibid.*, p. 249.

²¹ Grant Hammond, *Plowshares into Swords*, p. 254.

Hammond's concluding chapter leaves much puzzlement. His argument that military competitions are general preparedness exercises while arms races are political instruments may be too simplistic. If military competitions were purely war training exercises, then how would one explain the integration of new weaponry into the state's force structure, followed by an overt displaying (or swaggering) its newly-enhanced military capabilities? A state does not merely acquire weapons for prestige and political leverage. It has to be able to display its competency of employment. In this respect then, the division between military competitions and arms races becomes blurred.

Secondly, army preparedness races, as Hammond argues, are the most war-prone, and not air or naval races. He defends it by arguing that because of the higher involvement of military personnel, and the impact of mobilization schedules, land forces are more difficult to manage than non-invasive forces such as air and naval assets.²² By this assertion, the author has disregarded the propensity to war by air or naval incidents where provocation by one side has led to, or nearly led to war between two parties. Because of the higher level of unpredictability of naval warfare and the higher unit cost of each naval vessel, the likelihood of conflict outbreak is actually *higher*.²³ Additionally, naval tactics, such as blockades, are generally seen as *offensive* moves to war. This example is clearly seen by the 1962 Cuban Missile Crisis: the U.S. naval 'quarantine' of Cuba was an attempt to prevent further Soviet shipments of medium-range ballistic missiles (MRBMs) from reaching the island. While the blockade was carried out after intelligence sources revealed the deployment of Soviet MRBMs in Cuba, U.S. preventive

²² Ibid., p. 249.

²³ This is because of the different maritime conditions which lowers shipboard defences against multilevel threats, especially when there are submarines involved as well; therefore raising the propensity to 'shoot first, ask questions later.' See Charles A. Meconis and Michael D. Wallace, *East Asian Naval Weapons Acquisition in the 1990s: Causes, Consequences, and Responses*, (Westport, CT: Praeger Publishers, 2000).

actions on the seas further spiralled tensions to the brink of a nuclear exchange between both superpowers. Hammond's argument that naval forces are 'non-invasive' and concomitantly, not as dangerous as land forces which tend to be more invasive, is clearly untenable. Naval shows of force, especially in strategic waterways or maritime trade routes are greater military-politico 'triggers' than land forces. The author's argument is more likely than not, *geographically-determined*; it applies more to *landlocked* states where the possibility of naval offensive actions are much lower than *littoral* states.

A second problem with Hammond's conclusion is his definition and explanation of 'peril points.' He further assumes also, that there have been no instances since the naval races where peril points have been reached. While his definition is theoretically sound, the application of it in reality is complicated; it is difficult to measure marginal utility of a state's actions with regard to arms racing or war-making because of the different motivations of each state's civil-military decision-making body. This is further complicated by situations where there are already pre-existing high levels of tension between two states, and an arms race merely exacerbates the conflict spiral. A clear example of this is the South Asian rivalry between India and Pakistan, where arms racing have deepened the conflict. Hence, it is difficult to establish whether peril points are reached by pre-existing enmity as the prime causal factor, and arms racing simply intensify the conflict, or whether arms races is the key cause to reaching 'peril point levels.' Similarly, because Hammond's 'peril point' is ambiguously defined, many post-dreadnought races can qualify as having reached such levels at one time or another. The Cuban Missile Crisis and the India-Pakistan rivalry are arguably, cases in point where 'peril points' have occurred.

In short, Hammond's contribution to the general arms race literature opens several avenue of research worth exploring, such as the points on military and diplomatic planning based on the other party's capabilities and intent, politico-military linkages of state actions between or among rival force structures and strategies, and the focus on particular weapons with an explicit ratio goal in mind. The author correctly suggests that it is regional arms races that we should be concerned about, although it was outside the scope of his book, and hence, did not go into further details. However, we must be aware of the limitations and pitfalls in the author's work. His concluding arguments that army preparedness being the most likely 'war trigger,' the issue on 'peril points,' and the purpose of arms races being a political fulcrum leaves out many theoretical and practical considerations. With this, let us turn to the next section on quantitative analyses done on arms races.

Quantitative Analysis and Arms Races

Lewis Fry Richardson is commonly acknowledged as one of the first scholars that have attempted to apply quantitative models to arms races. Subsequent quantitative models put forth by other scholars have been based on many of his models, or commonly known as "Richardson coefficients." The author's central hypothesis is that the level of a country A's armaments is proportional to the level of country B's existing armaments, based on the assumption that both states are arms racing, and adds to that by arguing that the only limits to mutual increases in arms are fatigue and economic costs.²⁴ Richardson sought to mathematically model arms acquisition through differential equations, which is

²⁴ Lewis Fry Richardson, *Arms and Insecurity: A Mathematical Study of the Causes and Origins of War*, eds., Nicholas Rashevsky, Ernesto Trucco (Pittsburgh: Boxwood Press, 1960), pp. 12-36.

based on the level of threat and security perceived by one party vis-à-vis the other, and how economic costs and fatigue can reduce the arms-tension spiral. His reasoning is as follows:

State A deems that state B's armament levels are a menace to its security. This is expressed by the equation:

$$dx/dt = ky,$$

where d is change, t is time, x is A's own defences, y represents the threats that A is surrounded (i.e. B's arms level), and k is a constant, or 'defence coefficient,' which stands for A's perception of the threat. Similarly, the equation can be expressed in the reverse:

$$dy/dt = kx$$

In other words, increases in A's defences is a product of B's arms level, or vice versa, where B's defence increases is a consequence of A's arms level. Therefore, if x and y are positively correlated and increasingly so, it would signify that there is an unstable arms race acceleration.²⁵ Richardson however, acknowledges that there are finite limits to acquisition acceleration, expressed by the following:

$$dx/dt = ky - \alpha x,$$

$$dy/dt = lx - \beta y,$$

where α and β are constants (respectively for both state A and B) that symbolizes fatigue and expenses of maintaining state A and B's defences, and k and l are positive defence coefficients (respectively for both state A and B) that are unstable.²⁶ To account for

²⁵ Ibid., p. 14.

factors preceding the arms race, but yet, are proximate causes to it, the author posits that there are grievances or motives that affect the equations, represented by g and h :

$$\begin{aligned} dx/dt &= ky - \alpha x + g, \\ dy/dt &= lx - \beta y + h. \end{aligned}$$

Assuming that g and h represents grievances of both states A and B, Richardson hypothesizes that both constants include “deeply rooted prejudices, standing grievances, old unsatisfied ambitions, wicked and persistent dreams of world conquest, or, on the contrary, a permanent feeling of contentment.”²⁷ In other words, when either constants are positive, state A or B is dissatisfied with the status quo, while a negative number represents acceptance of the status quo by either party.

Richardson’s formulas are an attempt to construct a parsimonious predictive model of what he argues would happen as a consequence when decision-makers are irrationally pursuing an arms race. A cursory look at his model however, tells us otherwise. First, while arms levels, defence expenditures are readily quantifiable, both g and h constants are on the other hand, problematic to quantify in reality; i.e. it is difficult to reduce a state’s discontent with the status quo to a number, unless we arbitrarily assign a value to it, based on a scale, much like logistic regression. Even so, we would run into problems of selection biases. Second, to even apply Richardson’s equations, we have to first determine *if* there is an arms race already taking place between two parties. This goes back to the fundamental problem of defining arms races; does state A increase its armaments because it perceives a threat from state B, or are there other causal factors

²⁶ Lewis Fry Richardson, *Arms and Insecurity*, p. 15.

²⁷ *Ibid.*, p. 16.

involved as well? How do we define rapidity of acquisition within a time frame? Arms race proponents are still divided over these issues.

Third, as noted by Hammond and other scholars, Richardson's formulas are dependent upon both disputants' sensitivity to each other's arms level. But some scholars have argued that if defence coefficients are large enough, and expense coefficients low enough, there can be an arms race that is based more on defensive than aggressive intents.²⁸ Thus, what Richardson's model may represent, as Hammond argues, is more of a *security dilemma* than an arms race.²⁹ Nevertheless, Richardson's attempt at mathematically modelling the arms race phenomenon was the foremost in this research field. Subsequent scholars have utilized Richardson's model albeit with modifications to the original equations.

Michael Wallace's article also bears some interest with regard to quantitative methodology. In his pioneering article on arms races, Wallace takes on a different mathematical approach from Richardson. Employing the Correlates of War project data, the author constructed an arms race index that attempts to distinguish 'normal increments' and 'runaway growth.'³⁰ By employing aggregate military expenditures (which have been adjusted) and plotting these expenditures from polynomial functions, he proceeds to calculate the rates of changes in expenditure for each side in disputes that ranged from 1816 to 1965. The author's results demonstrated that bilateral conflicts are more likely preceded by a mutual growth in military expenditure than other conflicts that

²⁸ For example, see William D. Caspary, "Richardson's Model of an Arms Race: Descriptions, Critiques and an Alternative Model," *International Studies Quarterly*, Vol. 2 no. 1, (March 1967), pp. 63-88.

²⁹ Grant Hammond, *Plowshares into Swords*, p. 279.

³⁰ Michael D. Wallace, "Arms Races and Escalation: Some New Evidence," *Journal of Conflict Resolution*, Vol. 23 no. 1, (March 1979), p. 12.

are resolved by other means.³¹ In other words, Wallace supports the hypothesis that arms races are proximate causes to conflict escalation.

There are several problems with the author's findings and methodology however. First, his assumption that arms races occur between two nations whose foreign and defence policies are interdependently linked and that the behaviour and capabilities of each nation must be highly salient to the other nations,³² and that an arms race can only occur between "great powers, or amongst local powers of comparable military standing within the same region."³³ Insofar as it holds true to a limited extent, interdependence between two states does not sufficiently express mutual sensitivity to each other's arms levels. Rather, there must be a threshold established whereby a quantitative and/or qualitative increase in arms after the 'high-water mark' leads to an armaments-tension spiral.

Secondly, Wallace contends that when two states are on opposite sides of a serious dispute, reciprocal arms acquisitions are directed towards each other in part.³⁴ Placing the author's argument in the context of Southeast Asia however, would be problematic; first, there is a lack of identified foes by the region's states. While territorial disputes have taken place (for example, the Spratly Islands clashes between Vietnam and China in 1988, and the Sino-Filipino clash in 1995), dispute-resolving mechanisms have mitigated observable arms build-up tailored towards each other. In fact, the region's arms build-up has been characterized by the lack of identified threats, i.e. it is not easily discerned which state is a threat to which. Furthermore, there is a multiplicity of threats

³¹ Michael D. Wallace, "Arms Races and Escalation," p. 14.

³² *Ibid.*, p. 5.

³³ *Ibid.*, p. 5.

³⁴ *Ibid.*, p. 7.

that the region's states faces, and it is unclear if an arms acquisition program by one state is specifically intended to deter another state.

Third, Wallace's measurement of military capabilities is based on aggregate military expenditures, which excludes among other indicators, the costs of maintaining reserves, and the author further justifies the application of this variable by arguing that since his measurement of an arms race is predicated on a ten-year time span, there will be little changes in cost-effectiveness.³⁵ Even so, Wallace's indicator for military capabilities through deriving military spending raises serious doubts. First, such an indicator does not take into account the possibility of changes that can take place in a nation's military, even within a decade. Furthermore, it is unable to account for military spending *prior* to the analysis of the time period the author makes. Bearing in mind that complex weaponry requires initial high investments, such expenditures will skew the measurement of arms racing severity if it takes place *subsequent to* a state having invested in a particular weapon or weapons. As such, the indicator is flawed: a state may not spend heavily on arms during the time period analyzed because it has already done so, but its capabilities may actually increase midway through the analysis when it reaps the benefits of its earlier investments.

Lastly, the author's chosen indicator does not adequately take into account the role of technological advancement, which can alter weaponry cost-effectiveness in a short period of time. As illustrated by Julian Schofield, Iraq's initial deployment of a mere five combat aircraft in 1983 during the early stages of the 'Tanker War' and its subsequent

³⁵ Michael D. Wallace, "Arms Races and Escalation," p. 11.

employment in the following two years resulted in high tanker loss rates.³⁶ This goes to show that aggregate military spending as an indicator would not reflect capabilities: a state may purchase small numbers of 'force-multiplying' weapons and not dramatically increase military expenditure, but ultimately attains greater military capability than its rival.

Susan Sample has provided a more balanced assessment of the arms race-conflict linkage. She affirms that there is a higher probability that militarized disputes escalate into war when viewed in the context of mutual arms build-ups.³⁷ The author employed the updated Correlates of War (COW) capability and Military Interstate Disputes (MID) datasets in a multivariate logistic regression model, and defines an MID as one where there is a threat of force, mobilization of troops, and/or actual force used, short of war.³⁸ Sample affirms that Wallace's arguments were not fully wrong; the main problem with it was the use of a bivariate instead of a multivariate model. Additionally, she introduces four independent variables in her study, namely, the saliency of territory, defence burden, power distribution, and the role of nuclear weapons.³⁹

Sample's model confirms that preceding military build-ups and escalation to war is positive and statistically significant. A dispute that occurs during a mutual military build-up is more than twice as likely to lead to war escalation than one that takes place without mutual arms build-up. She further posits that countries with high defence burdens are more likely to escalate to war, and that disputes between nuclear powers are less

³⁶ Julian Schofield, "War and Punishment: The Implication of Arms Purchases in Maritime Southeast Asia," *Journal of Strategic Studies*, Vol. 21 no. 2, (June 1998), pp. 82-84.

³⁷ Susan Sample, "Military Buildups, War, and Realpolitik," *Journal of Conflict Resolution*, Vol. 42 no. 2, (April 1998), p. 159.

³⁸ *Ibid.*, p. 161.

³⁹ *Ibid.*, pp. 164-168.

likely to escalate.⁴⁰ From the research, Sample argues that mutual military build-ups taking place before and during a militarized dispute can be seen as acts that not only demonstrate a current military threat a state faces, but also a threat that might have emerged from hostility generated from years of build-ups; in other words, the author affirms the armaments-tension spiral.

Further, Sample argues that if a state believes that it plays a central role in policy-making of other states, then it would also mean that the state, having experienced a militarized dispute or disputes, would believe that it was the target of an opponent's arms build-up from the beginning.⁴¹ Therefore, Sample argues that the realist assumptions that more arms leads to more security is fallacious. She further contends that realist policy prescription, which advocates a clear display of resolve and willingness to fight, is erroneous from her research. In the context of arms build-ups, a state believes that it has already shown resolve through arms acquisition, but when a dispute occurs, it indicates that deterrence and hence, resolve has failed.⁴²

Certainly, the realist notion that *si vis pacem, para bellum*, has to be taken in a critical light. However, deterrence, as argued in the Introduction, requires the state to both demonstrate that it owns a particular weapon or weapons, and that it knows how to employ it. Therefore, the assumption that more arms bring more security has to be qualified by assessing the value of a state's deterrence vis-à-vis its rival. The role of nuclear weapons in bilateral disputes between two nuclear powers as Sample admitted, does have a higher deterrent value in preventing disputes. However, this does not fully explain why clashes between two nuclear powers still occur. It is more plausible to

⁴⁰ Susan Sample, "Military Buildups, War, and Realpolitik," p. 171.

⁴¹ Ibid., pp. 171-172.

⁴² Ibid., p. 172.

consider the persistence of enduring rivalries; for example, between India and Pakistan. A last point that Sample missed in her research is an investigation of arms racing leading to bilateral disputes between nuclear and non-nuclear powers, and whether nuclear possession by a disputant has the same deterrent value as that between two nuclear powers.

Quantitative analyses of arms races have been widely undertaken by scholars in the attempt to demonstrate causal links between arms procurement and the likelihood of conflict. Richardson's pioneering study in mathematical modelling of arms races has generated much follow-up work in this analytical sub-field. However, most of the research conducted bears little relevance to regional races; in part due to the lack of available data, but also because regional races do not fit many of the authors' definition of arms races. As such, it may be pertinent to examine motivations within states that account for weapons acquisition.

Arms Acquisition and the State

Institutionalist arguments regarding weapons acquisitions by developing countries posit that there is a strong element of prestige involved in the process. Dana Eyre and Mark Suchman assert that through institutional theory, conventional weapons proliferation in the Third World and the concomitant trend towards developing professional, technological-savvy militaries can be interpreted as social phenomena.⁴³ Hence, the authors argue that militaries no longer build modern nations. Instead, political

⁴³ Dana P. Eyre, Mark C. Suchman, "Status, Norms and the Proliferation of Conventional Weapons: An Institutional Approach," in Peter J. Katzenstein (ed.) *The Culture of National Security: Norms and Identity in World Politics*, (NY: Columbia University Press, 1996), p. 81.

and social systems build modern nation-states, which in turn, build modern militaries and acquire modern weaponry. Therefore, “weapons spread not because of a match between their technical capabilities and national security needs but because of the highly symbolic, normative nature of militaries and their weaponry.”⁴⁴ Conventional weapons proliferation is thus seen as a process that is “both driven and shaped by institutionalized normative structures linking militaries and their advanced weapons with sovereign status as a nation, with modernization and with social legitimacy.”⁴⁵

Eyre and Suchman’s arguments provide an important insight into weapons acquisition motivations, particularly in the context of developing countries’ militaries. The authors further assert that a weapon’s symbolism itself is dependent upon the degree to which is linked to the cultural ideas and images of the nation-state; technologically-advanced fourth-generation weapons (such as advanced combat aircraft, submarines, and the like) are better at symbolizing independence than weapons that are unremarkable (such as rifles, APCs, gunboats).⁴⁶ Interestingly, Eyre and Suchman also posit that the level of conventional weaponry will be shaped by the state’s patterns of alliance with the United States and the Soviet Union, than by local security considerations.⁴⁷ This argument has to be further qualified; by assuming that there is a pattern of emulation involved, it would necessarily mean that militaries are driven more by prestige than by defence needs. While not entirely untrue, military procurement can also be shaped by other considerations such as supply-side pressure, where advanced weapons are offered at very low prices; this is typically the phenomenon for much of the Third World, following

⁴⁴ Ibid., p. 86.

⁴⁵ Ibid., p. 87.

⁴⁶ Dana P. Eyre, Mark C. Suchman, “Status, Norms and the Proliferation of Conventional Weapons: An Institutional Approach,” p. 96.

⁴⁷ Ibid., p. 99.

the end of the Cold War. Secondly, one has to also consider the level of technological transfers to the recipient state, which usually forms the catalyst for developing its own industries, both civilian and military. Therefore, alliance considerations may only be a part of the reason for acquiring advanced platforms.

Further, the authors' assumption that prestige is the major factor behind arms acquisition may be pushing the argument a little too far. States' militaries are also rational actors in that there are limits as to what its armed forces can accomplish with symbolic weapons apart from parading it during significant national events. Myanmar's armed forces for example, are still heavily dependent on manpower than technology; hence, its reliance on simple, easy-to-operate weaponry from China (mainly, but not exclusively).

A second argument advanced by some scholars has looked at the role of "iron triangles" that exist between business interest groups and the respective government organization, which tend to be exclusive in its membership and decision-making. In the context of U.S. arms acquisition process, for example, the U.S. Armed Services Committee, defence manufacturers, and the Department of Defense, forms a tripartite relationship with one another, where one party helps the other in securing weapons contracts for the U.S. military, and in turn, secures votes in the next election.⁴⁸ Raymond Vernon pointed to this in his work on U.S. foreign economic policymaking by describing how interest groups in government can shift the direction of policymaking to one that holds the most power and influence. The case on the development of the Japanese FSX fighter for example, showed how defence manufacturers, in collaboration with the

⁴⁸ By weapons contracts in this case, I refer to sophisticated, expensive weaponry that has a high unit cost, such as tanks, warships, and advanced combat fighter aircraft.

Commerce Department, can influence the Congress to force the president renege on its earlier agreement on the degree of technological transfers to Japan.⁴⁹

Theo Farrell has also pointed to the problems of wastage in U.S. arms acquisition programs, pointing to the development of sophisticated weapons that were eventually abandoned because of bureaucratic self-interest, thereby generating, and later, exaggerating the need for such weapon. In turn, exaggerated threat perceptions leads to the setting of unnecessary and costly performance requirements, a process that the author described as “gold-plating.”⁵⁰ The resulting wastage, Farrell charges, falls on the taxpayers.

Insofar as the problem of ‘iron triangles’ is concerned, Third World countries can generally be excluded from this problem, since its indigenous arms industries have not achieved the level of sophistication that mirrors developed countries. However, this is far from assuming that there are no flaws in the military acquisition processes in developing countries. Rather, the problem of “iron triangles” is more of a non-issue, since the level of sophistication in its defence industries is generally low, and still highly dependent upon technological transfers and licensed production of weapons from core states.

Keith Krause on the other hand, looked at arms production on an inter-state level and argues that because of the uneven distribution of economic, social and technological capabilities, “differences exist in states’ abilities to produce arms and arms transfers are then a logical result of the quest to acquire modern means of warfare.”⁵¹ In other words,

⁴⁹ Raymond Vernon, *Iron Triangle and Revolving Doors: Cases in U.S. Foreign Economic Policymaking*, (NY: Praeger, 1991), pp. 55-82.

⁵⁰ Theo Farrell, “Waste in Weapons Acquisition: How the American Do It All Wrong,” *Contemporary Security Policy*, Vol. 16, No. 2, (August 1995), p. 196.

⁵¹ Keith Krause, *Arms and the State: Patterns of Military Production and Trade*, (Cambridge: Cambridge University Press 1992), p. 16.

Krause argues that because of the neorealist condition of seeking security and self-help in an international system, states that are not able to produce armaments will have to import them. In short, he argues that there are three motive forces in the global arms transfer system, namely the pursuit of wealth, the pursuit of victory in war, and the pursuit of power.⁵²

Krause's work indirectly relates to the issue of weapons acquisition in the Third World. He draws attention to the differences between first, second and third-tier arms producers, positing that To highlight the differences between states, Krause illustrates the discrepancies in technology between "Technology I" and "Technology IV" levels, referring to the individual state's ability to operate and maintain the weapons (Technology I) or to create new weapons (Technology IV).⁵³ Because states vary in their arms manufacturing ability, the author argues that:

"First-tier statesm being relatively insensitive to the economic factors under the rubric of the pursuit of wealth, and relatively insulated from the pursuit of victory in war by technological dominance and size, will concentrate on the pursuit of power in their arms export. Second-tier states, driven to follow the technological lead, will be driven by the pursuit of wealth. Third-tier states, being both technologically inferior and vulnerable, will be driven by the pursuit of victory in war (or to phrase it more benignly, the pursuit of security).⁵⁴

Third-tier arms producers are generally Third-world states that have developed some manufacturing capabilities, but the author posits that there are three key defining characteristics that set them apart from the first and second-tier producers: first, they can only produce weapons at a level of sophistication far below the existing technological frontier, second, the sophisticated weapons that they are able to produce are restricted to only one or two systems, and thirdly, they remain dependent upon imports of critical

⁵² Ibid., pp. 97-98.

⁵³ Ibid., pp. 18-26.

⁵⁴ Keith Krause, *Arms and the State: Patterns of Military Production and Trade*, p. 98.

sophisticated subsystems and little or no transfer of the knowledge required to go beyond the simple reproduction or copying of the weapon(s).⁵⁵ Additionally, Krause argues that recipient states are at the bottom of the hierarchy, and are thus, unable to move beyond “Technology I” level, to acquire skills needed to reproduce or copy modern military technology, and this itself reflects the more profound economic, political and socio-cultural inequalities in the international system.⁵⁶

Krause’s work provides an interesting contrast to Eyre and Suchman’s argument. Insofar as arms acquisitions in developing states are concerned, third-tier arms producers are still dependent upon first-tier states for imports of sophisticated weaponry. In contrast to Eyre and Suchman however, Krause argues that apart from prestige involved in acquiring sophisticated arms from the developed countries, third-tier states may also be trying to advance their own technological know-how by incorporating technological transfers as a part of weapons procurement. In other words, developing states (those who have an indigenous arms industry) are trying to push themselves into the second-tier position by acquiring advanced weaponry from First-World states.

Military Strategy and the State

Military strategies play a direct role in shaping a state’s weapons acquisitions. Barry Posen first drew attention to this when he compared the differences between how organization theory and the balance-of-power theory explained the sources of military doctrines. Posen argues from the organization theory point-of-view that states generally

⁵⁵ Ibid., p. 153.

⁵⁶ Ibid., p. 204.

prefer offensive scenarios because it reduces uncertainty in wartime, and at the same time, denies the adversary his standard scenario.⁵⁷ Similarly, he posits that there is poor civilian-soldier integration because of organizational determinism, by which he explains, will occur because of functional specialization between soldiers and civilians. As a result, soldiers will withhold important military information from the civilian, and the latter, lacking adequate understanding of military matters, will exacerbate political-military integration.⁵⁸

Doctrinal innovation too, will be introduced by civilians than soldiers, as Posen argues. “Because of the process of institutionalization, which gives most members of an organization a stake in the way things are, doctrinal innovation will only rarely be sponsored by the organization itself.”⁵⁹ In other words, what Posen suggests (through the lenses of organization theory) is that there will be a strong degree of institutionalization within organizations, and the military is no different in that sense. Barry Buzan also alluded this fact, in the context of arms acquisition arguing that:

“organizations like the armed services develop fairly fixed views of their missions and the mainstream weapons systems they prefer. These views are shaped as much by national historical experience, by the traditions of the individual services, and by the interests of organizational survival, as by considerations of what the opponent is doing. Service views play a major role in which systems get built or bought.”⁶⁰

Thus, Posen asserts that the balance-of-power theory better explains military doctrine changes, because militaries are more amenable to changes (whether doctrine or

⁵⁷ Barry Posen, *The Sources of Military Doctrine: France, Britain and Germany Between the World Wars*, (London, Ithaca: Cornell University Press, 1984) p. 58.

⁵⁸ *Ibid.*, p. 58.

⁵⁹ *Ibid.*, p. 59.

⁶⁰ Barry Buzan, Eric Herring, *The Arms Dynamics in World Politics*, (Boulder, London: Lynne Rienner, 1998), p. 109.

innovation) in times of external crisis to the state; i.e. there has to be an external stimulus to bring about doctrinal changes in a state's military strategy.⁶¹

Theo Farrell and Terry Terriff have countered Posen's assertions, arguing that militaries do make major changes in their strategy in terms of "whom and how they fight."⁶² By military change, they define it as a change in goals, actual strategies and/or structure of a military organization.⁶³ Thus, the authors advocate that military change occurs in three areas: cultural norms, politics and strategy, and new technology. For example, Emily Goldman and Theo Farrell show how militaries are shaped by transnational cultural norms shared by military organizations; and in turn, how the process of military emulation results in changes within military communities, leading to the "emulator identifying itself with the emulated."⁶⁴ Farrell and Terriff also point to the role of technology in shaping military changes, arguing that there has to be more attention given to this source of change, and disputes Posen's assertion that militaries are not amenable to new technology unless it has been tested in battle:

"Technological determinism acribes a much greater role to technology in shaping military changes than that suggested by military conservatism. Sometimes change by military organizations will follow the development of new technologies – promoted by scientists, supported by powerful social networks and unexpected or even unwelcomed by the military in question. On other occasions, militaries may seek new technologies in order to change made necessary by some cultural, strategic or political development."⁶⁵

Indeed, William Owens argues that it is not rigidity in military culture that prevents it from adopting changes, but rather the problem on integrating new technology into the existing arsenal, and more importantly, force structure. Describing it in the

⁶¹ Barry Posen, *The Sources of Military Doctrine*, p. 80.

⁶² Theo Farrell, Terry Terriff, "The Sources of Military Change," in Theo Farrell, Terry Terriff (eds.) *The Sources of Military Change: Culture, Politics, Technology*, (Boulder, London: Lynne Rienner, 2002), p. 4.

⁶³ *Ibid.*, p. 5.

⁶⁴ *Ibid.*, p. 9, pp. 41-90.

⁶⁵ Theo Farrell, Terry Terriff, "The Sources of Military Change," p. 14.

context of the U.S. military, Owens posits that the problem is not one of technological change, but rather, whose technological change (referring to the various research and development project groups in the navy) should the service adopt. As a result, factions exist with each service, advocating different technological advancements to pursue.⁶⁶

Chris Demchak has also contributed to the debate regarding technology driving military innovation by positing that there is a structure involved in how states emulate the stronger power in developing their own militaries. He argues that the U.S. military model, through structuration, has diffused largely to the world's military organizations, "not based on survival of the fittest (most efficient or most effective given the state's political, economic, and security environment), but rather on what is necessary for militaries to see themselves – and to be regarded by other militaries – as legitimate."⁶⁷ In short, the author argues that the world's militaries, especially those of the Third World, will attempt to adopt the U.S. model of possessing a technologically advanced military, even though local conditions (economic, political, strategic) may not be the same as the U.S.

Demchak attributes this to the "institutional isomorphism" that exists within organizations, in which they develop their own version of bureaucratic rationality. The process in which institutional isomorphism occurs can take one of three forms: a) external changes that forces the organization itself to make the necessary changes to keep up; b) the mimicking of increasingly standard responses to provide viable solutions, thus

⁶⁶ William A. Owens, "Creating a U.S. Military Revolution," in Theo Farrell, Terry Terriff (eds.) *The Sources of Military Change: Culture, Politics, Technology*, (Boulder, London: Lynne Rienner, 2002), pp. 213-215.

⁶⁷ Chris Demchak, "Creating the Enemy: Global Diffusion of the Information Technology-Based Military Model," in Emily O. Goldman, Leslie C. Eliason (eds.) *The Diffusion of Military Technology and Ideas*, (Stanford: Stanford University Press, 2003), p. 312.

expending less resources and time in developing one, and c) consensus from within the organization among professionally-trained bureaucrats that shape the structure and direction of the organization.⁶⁸ In relation to the U.S. military model, Demchak posits that evolution in the world's militaries will attempt to adapt the U.S., and this will result in a process where emulation first takes place. Second, "autopoiesis" results, when "actors in a system make dispersed random changes that automatically result in the same actors having to deal with a new reality emerging directly from their own unwitting constructions."⁶⁹ Lastly, adaptation will follow, as militaries that have adopted the U.S. model will make changes to suit its local conditions.⁷⁰

Insofar as there is a strong influence of the U.S. military in shaping other states' (especially developing countries), the author assumes that military modernization occurs at a relatively equal pace between states. This is not entirely true; states may wish to emulate the U.S. military model, but disparate economic resources will prevent states from gaining full RMA-type capabilities like the U.S. Indeed, some states may not adopt the U.S. model at all, and that it is better to utilize its comparative advantage (such as the high availability of manpower) than to pursue the goal of developing a technologically-advanced military.

The examination of arms acquisition from the domestic level exhibits a variety of theories that seek to explain states' motivations in the process. Technology, cultural norms, the division of first, second and third-tier arms producers and recipient states, military doctrines and the influence of emulation among militaries provides a richer

⁶⁸ Chris Demchak, "Creating the Enemy," p. 334.

⁶⁹ Ibid., p. 340.

⁷⁰ Ibid., p. 342.

alternative explanation to the phenomenon of rapid arms accumulation in the Third World than that of a system-wide analysis of arms racing.

Conclusion

Arms race literature in the recent past has focused on the Anglo-German naval build-up and the Soviet-U.S. strategic race during the Cold War. Within these two arms racing periods, there has been a substantial amount of literature that sought to examine arms races from qualitative and quantitative aspects. However, many of these works tended towards a Western-Euro-centric conception of what constitutes an arms race. The wealth of arms race theories linking racing behaviour to war occurrence or militarized interstate disputes thus explains little of regional races.

In contrast to systemic-level explanations, domestic level explanations tend to provide a clearer understanding to the issue of regional arms acquisition. Here we see a higher degree of explanatory power, since it concentrates on groupings of states or individual states, as opposed to a system-wide analysis. Because the regional arms phenomenon cannot be properly termed an arms race, it would be prudent for us to situate the investigation of Third World weapons proliferation from a state-level analytical perspective and examine the motivations behind acquisitions through an examination of its processes.

Chapter 2 - Arms Acquisition and Doctrine: A Theoretical Framework

Introduction

Arms racing have generally been studied through ‘macro’ lenses with little attention paid to domestic factors involved. Because the dynamics of arms races tend to focus on the state-level, either bilateral or multilateral, domestic factors as arguments for arms races have been scarce. Past studies have looked at the ‘arms-industrial complex’ and how the role of arms manufacturers actually drive arms races; i.e. supply-side arguments. On the other hand, little attention has been given to the analysis of organizational behaviour of the military and its links to the civilian government, and consequently, how arms procurement decisions are produced.

This study attempts to answer the question. Instead of examining arms racing characteristics and the norms in Third-World arms acquisitions, it focuses on how military doctrines, civil-military relations, and inter-service rivalry (if any) will ultimately affect the acquisition outcome. In other words, the aim of this thesis is to observe the result of procurement processes in three plausible environments: a) a military-dominated process; b) a civilian-dominated process; and c) a compromised civil-military process.

To make this argument, we will employ Barry Posen’s work, which has focused on military doctrines of Britain, France, and Germany in the inter-war period.¹ He compares both organizational theory and balance-of-power theory, and argues that the

¹ Barry Posen, *The Sources of Military Doctrine*, (London, Ithaca: Cornell University Press, 1984).

latter has more explanatory power regarding military doctrines.² I consider Posen's work on military doctrines highly relevant in this study on arms acquisition processes, because defence/military doctrines will shape procurement decisions. Secondly, the author's work on the effect of civilian intervention into military doctrines closely mirrors the one of the main theme in this thesis; that is, the effect of civilian intervention/control over military procurement matters... "civilian intervention into military doctrine is likely to be the primary cause of political-military integration of grand strategy, simply because civilians alone have the interest and the authority to reconcile political ends with military means and *set priorities among services according to some rational calculus.*"³ (Italics added) Because "priorities among services" can be taken to mean several factors from the emphasis on naval pre-emptive strategies to the formation of an army rapid deployment force, I have inferred from this in relation to the general issue of arms acquisition.

Because this study is concerned with the acquisition process, its will begin with an overview of a hypothesized relationship between three independent variables: *civil-military relationship*, *defence requirement*, and *inter-service rivalry*. I have included *defence budget* as a conditional variable because state finances ultimately influence military procurement. The links between the abovementioned independent variables and conditional variables will produce the *procurement outcome* (dependent variable).

Because this study is to observe the impact of military-dominated, civilian-dominated,

² Posen argues that organization theory is stagnant in its examination of military doctrines, as it shows a tendency for states' military doctrines to be offensive, disintegrated, and stagnant because of the character of military organizations and by their functional separation from political decision-makers. Conversely, he asserts that the balance-of-power theory is more flexible, as it predicts different outcomes, depending on the state's situation. See Posen, p. 80, pp. 220-244.

³ *Ibid.*, p. 58

and compromised outcomes, the dependent variable is reduced to simply observing the outcomes in these three settings.

Theoretical Overview: Civil-military Relationship

To understand the wider arms dynamics, we must first examine the states' military procurement processes. Since the purpose of acquiring arms is multi-causal and varied, it begs the question; what drives procurement strategies of states? We may first begin by investigating the civil-military balance in which key decisions are made, and how interactions between civil and military officials influence the procurement process. In turn, the effect of such policies made by the government determine the type and overall cost of the hardware that the military receives. In this respect, there may exist a gap between what the military wants and what it actually receives. The 'wish list' that military officials have, may not be necessarily be one that the government may agree to, and vice versa. Civilian policymakers may acquire weapons for prestige, and/or to show resolve or deterrence to potential adversaries, irrespective of the military's choices or ability to operate such platforms. Similarly, the need to maintain domestic legitimacy may also prompt civilians to intervene more in military procurement issues to reaffirm its control the general populace.

The balance between the civilian and soldier's perspective is one that is subject to organizational interests and differing visions of the country's foreign policy. Barry Posen argues that 'organizational determinism' will prevail in states during times of relative peace and as such, there will be 'gaps' between civilian and military leaderships, leading

to misunderstandings or miscommunication.⁴ By 'organizational determinism,' Posen refers to the tendency for bureaucracies to be rigid in their functions⁵ and over time, its practices become institutionalized. From this argument, let us infer the following assumptions on civil-military balance; the civilian is concerned about achieving foreign policy objectives without or with little resort to military means, while the military views the conduct of foreign policy through military means. In other words, the civilian leadership is more concerned about *means*, and on the other hand, the military is about *ends*. Nevertheless, the militaries generally remain subordinate to the civilian authority (unless it's a military regime that is in power), although the degree of civilian control over its armed forces varies. Military organizations however, will always attempt to assert its independence from higher authority. Posen explains why:

Those with formal authority over the organization are a cause of uncertainty. Organizations struggle for *independence* from legitimate authority, fearful that capricious, uninformed exercise of that authority will upset the delicate balance of internal structure and routine. To preserve their autonomy, organizations use political strategies such as the maintenance of alternative suppliers, the pursuit of prestige, or the pursuit of power over those on whom they are dependent.⁶

In short, the military will attempt to assert its autonomy in arms procurement issues that it regards as its jurisdiction, while on the other hand, civilian policymakers may intervene for political and/or economic reasons. When both foreign and defence policy-making processes are coordinated, the outcome would be a condition of coherent national security decision-making whereby both parties are able to compromise on what

⁴ Posen, *The Sources of Military Doctrine*, p. 58, 80.

⁵ This is much like Graham Allison's 'Model II' where he describes bureaucracies as being fixed on employing SOPs. See Graham Allison T., Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (Reading, MA: Longman, 1999), pp. 143-158.

⁶ Posen, *The Sources of Military Doctrine*, p. 45.

is the best policy to pursue, regarding national security.⁷ As a result, the concept of an ideal civil-military relationship is one in which *both civilians and soldiers are able to agree on how to reconcile both means and ends.*

Weapons Requirements

The second variable represents the *defence requirement of the military.* The acquisition process usually begins with a review of the overall strategic picture, and the identification of threats to the state, which the military's existing arsenal is unable to meet.⁸ A second factor that changes weapons requirements is the gradual shift in doctrine as a consequence of technological development. Third, civilian intervention into military doctrine will also affect requirement outcomes. As Posen asserts, the military would typically resent civilian intervention and doctrinal innovation into what it regards as its area of specialization, because it does not want its stakes to decrease. However, it is more amenable to changes when there is a national crisis, such as an external threat.⁹ In other word, Posen suggests that unless new technology has been combat-tested, the military remains conservative in its doctrine, thereby stifling innovation. Similarly, Barry Buzan argues that because of 'inertia' common to governmental agencies, there is a desire in "big bureaucracies for continuity in their affairs."¹⁰ The other plausible scenario is that organizations innovate and integrate doctrines and technology under external pressures,

⁷ Ravinder Pal Singh, "Comparative Analysis," in Ravinder Pal Singh (ed.) *Arms Procurement Decision Making Volume I: China, India, Israel, Japan, South Korea and Thailand*, (SIPRI: Oxford University Press, 1998), p. 243.

⁸ Theo Farrell, "Waste in Weapons Acquisition: How the Americans Do It Wrong," *Contemporary Security Policy*, Vol. 16, No. 2, (August 1995), p. 193.

⁹ Barry Posen, *The Sources of Military Doctrine*, p. 59.

¹⁰ Barry Buzan, *An Introduction to Strategic Studies: Military Technology and International Relations*, (London: Macmillan/International Institute of Strategic Studies, 1987), p. 100.

i.e. there is a threat in the international system. In other words, the author affirms that the balance-of-power theory would be more suited to explaining doctrinal changes in crisis or threat scenarios.

Posen's arguments regarding technological innovation and doctrinal shifts are questionable, however. One might argue that the military may be a conservative organization, and therefore resistant to change. Nonetheless, organizations would create a stimulus from within to change when under pressure, if anything, to justify its existence and importance to the state. Therefore, it would opt for standard scenarios that would reduce uncertainty in military planning, i.e. offensive doctrines. Posen argues that because of the incentive to dominate and create preferred outcomes, militaries tend towards offensive doctrine.¹¹ Similarly, militaries dislike defence or deterrent-oriented strategies because of their inability to predict outcomes and the high level of uncertainty involved. They will therefore opt for offensive or conventional warfare doctrines (mid-intensity warfare), unless geography, technology or circumstances strongly favour defence, deterrence, or counter-insurgency warfare (low-intensity warfare). The state's weapons requirements will therefore reflect such doctrines, with an emphasis on mobility, firepower, and gaining credible pre-emptive capabilities.

In short, the military would draw up its own requirements with respect to the overall strategic scenario and identification of threats, whether external or domestic. Militaries will also resent civilian intervention in defence planning in times of relative peace, but are more amenable to changes in times of crises. Conventional/offensive doctrines are preferred by all militaries since it brings about a higher degree of certainty, although small states are more likely to opt for deterrent doctrines because of their

¹¹ Barry Posen, *The Sources of Military Doctrine*, p. 58.

limited capabilities. Weapons requirements will reflect such doctrines, with an emphasis on mobility, firepower and pre-emptive capabilities. In other words, conventional or offensive warfare is seen as a 'higher' form of warfare by militaries.

Interservice Rivalry

The military is a big organization compared to the rest of its civilian counterparts. Militaries in most states are generally divided into 3 core services, namely, the air force, army, and navy. Interservice rivalry is a common problem among the world's militaries, and especially more so in the developing world. This is because there is usually a 'senior' among the services (usually the army) that was formed prior to the other services with a hierarchical structure that evolves over time, and it has the dominant voice in determining the leadership of the state's military, and in this case, over procurement matters; for example, if the army was the dominant service, the chief-of-defence is more likely than not, a senior army officer, and weapons procurement would usually give the army the first priority in fulfilling its requests. A second factor that accounts for interservice rivalry is the degree of political connectedness to the civilian leadership. The dominant service will more likely guard its status as the pre-eminent service in the eyes of the civilians (who will tend to regard it as the most important service) while at the same time prevent the other services from being contenders for the role. In short, interservice rivalry will affect weapons acquisition because the respective services will fight for a larger portion of the defence budget while at the same time justifying its acquisition needs to civilians by attempting to enlarge its role in the country's national security. In other words, each

respective service will attempt to promote its importance to the country by coming up with strategies that emphasize its role as the primary defender of the nation's interests.

Defence Budget

The defence budget is the main factor that will condition the outcome, i.e. weapons procurement. First, the state's *defence budget* can actually constrain the military's procurement choices. Budget limitations or a strong civilian government with control over the defence budget may prevent the state's armed forces from fulfilling its requests for new hardware as derived from the weapons requirements; in other words, some states may only gain partial offensive capabilities (interspersed with defence/deterrent capabilities) because they are unable to sustain the high costs associated with offensive operations. On the other hand, if the government has a skewed civil-military balance favouring the military, or has the military in power, the overall national budget may tend towards giving the military higher priority over economic development and/or building and improvement of state infrastructure, which in the long-term, impedes economic growth in the state.¹² Like all other governmental departments, the armed forces usually have to fight for their share of budget allocation. The setting of the yearly defence budget however, is dependent upon policymakers both in the civilian, and in the military, i.e. which party has more influence. This leads to the question of who actually controls the 'purse strings.' Therefore, the influence of either civilian or military officials in arms acquisition processes can be further examined by looking at the overall control or influence over the defence budget.

¹² G.T. Harris, "Economic Aspects of Military Expenditure in Developing Countries: A Survey Article," *Contemporary Southeast Asia*, Vol. 10, No. 1, (June 1988), pp. 82-99.

The types of arms that the military wants may also condition the eventual purchase. Armed forces would typically announce the requirement for certain types of weaponry that it deems necessary to counter a foreign or domestic threat to the state in the defence planning stage. Specifically, the types of arms that the armed forces want are more likely than not, third or fourth-generation weapons that allow stand-off engagements, engagements beyond-visual-range (BVR), provides C³I capabilities, have enhanced force projection capabilities, are force multipliers, and lastly, are rapidly deployable in the least amount of time, and require the least amount of personnel.¹³ Such hardware tends to be 'big-ticket' items such as surface warships, submarines, fighter combat aircraft, radars, rocket artillery and the like.

First, because of the high-cost of these weapons, the military may exaggerate threats posed to the state, so as to maximize its share of the national budget; "the pressure exists from the military to pursue every technological option, and hence for more and better arms."¹⁴ Second, militaries may also engage in 'boxing;' by this I mean the deliberate acquisition of hardware, which is kept in storage due to a lack of skilled expertise to maintain the equipment. This is typically carried out when the organization has to spend its allotted share of the budget so as to prevent budget reductions in the following fiscal year. Third, it may also signal that it has to keep up with its neighbouring states' military so as not be left behind technologically. Lastly, budget maximization by the military may also be due in part to corruption within the military itself. This is more likely to happen when there is a lack of civilian oversight.

¹³ John Sislin and David Mussington came up with a good typology of what constitutes 3rd and 4th generation weapons. See John Sislin, David Mussington, "Destabilizing Arms Acquisitions," *Jane's Intelligence Review*, Vol. 7, No. 2, (February 1995), p. 88.

¹⁴ Marek Thee, *Military Technology, Military Strategy and the Arms Race*, (London: The United Nations University and Croom Helm, 1986), pp. 49-50.

In short, because budget constraints will translate into procurement constraints, the military may have to modify its 'wish list' in order to fulfil some of its demands; subsequently, not all states will achieve full conventional warfare capabilities. Defence budgets may be inflated to accommodate the military's request for sophisticated equipment, especially when the organization is able to satisfactorily demonstrate a clear and present threat to the state's security and that its present arsenal is obsolete, and therefore incapable of coping with changes in its strategic environment. Similarly, the budget may also be inflated when military officials dominate military budgeting. The defence budget allotment depends greatly therefore on whether the civilian or soldier dominates the budget.

Procurement Outcomes

The intertwining of these factors mentioned will invariably affect *procurement outcomes*. The effects of civil-military balance, weapons requirements, civil-military balance and financial constraints (if any), will produce varying outcomes in procurement processes. First, the arms acquired may not reflect the demands of the military, but rather, reflects political and/ or budgetary considerations on the part of the civilian policymakers. In such a scenario, the armed forces may also be further hamstrung by interservice rivalry as a consequence of fighting over the division of the defence budget. Further, weapons procured may not be ideally suited to the needs of the military, since it is heavily saddled by civilian policymakers carrying out foreign policy goals different from the military's vision of foreign policy; as a result, civilian policy-making takes precedence over military requirements, therefore adding to a lack of coherence in defence

planning.¹⁵ Consequently, arms acquisition in this outcome will result in gaps between what the military requires and what the civilian government allows the military to purchase, i.e. a gap between *needs* and *procurements*.

A second outcome is that while the armed services remain under civilian control, the influence of ex-military officials in defence budgetary planning ensures that the military has an important stake in the overall national budget and that its weapons requirements are satisfactorily met, although they are still subordinate to the civilian policymaker. In other words, defence officials are able to work with the civilian policymakers, because informal links between both groups are already in place. Nevertheless, this does not necessarily imply that the military has a dominant share of the national budget. Rather, it demonstrates that the organization has a voice in defence budget setting, and that they usually get the hardware it wants, conditional upon three factors: a) that the military is able to sufficiently demonstrate a threat or threats that its present arsenal cannot meet. b) That its demands for acquiring certain weapons are not outlandishly expensive and does not pose a high political and security risk to neighbouring states (such as acquiring weapons of mass destruction), c) and that there are some technological transfers to be gained from acquiring such weapons, i.e. technology that can be applied to civilian economic sectors. In short, with the inclusion of former military officials in government, the military, while under the control of civilian authorities, has an important voice in the arms acquisition process. There is however, still a need for the justification of a particular weapon purchase by civilian policymakers.¹⁶

¹⁵ Ravinder Pal Singh, "Comparative Analysis," in *Arms Procurement Decision Making Volume II: Chile, Greece, Malaysia, Poland, South Africa and Taiwan*. SIPRI: Oxford University Press, 2000, p. 242.

¹⁶ By this, I refer only to conventional weapons that can have potentially destabilizing effects. See John Sislín, David Mussington, "Destabilizing Arms Acquisitions," pp.88-89.

This may be demonstrated by the need for the military to come up with a coherent defence requirement in order to make its case for acquiring new weapons. In such cases, there may be a lack of inter-service rivalry, since defence planning requires all three services to work together. Thus, a *balanced procurement* process is one where the both the civilian and soldier can concur on the hardware to be purchased that will fit in with the overall defence strategy of the state.

The last outcome would be that the government is controlled by the military, or that a military government in charge, and defence policymakers tend to be former (or serving) senior military officials that have taken up ministerial posts in the government. In this case, there may a much heavier emphasis placed by senior policymakers to enhance the capability of its armed services. This typically reflects the need to maintain domestic control over the population, i.e. internal security. A second possibility is that the government in power fears an external security threat to its rule. Under such circumstances, military governments will tend to emphasize the upgrading of its military. The military's procurement plans, subject to the available national budget, are usually given first priority. Since both government and the military are directly linked to each other, there may tend to be a lack of due process in the acquisition process. Under such circumstances, budget maximization and 'boxing' will occur. Consequently, gaps may also occur when the military does not possess sufficient logistical, maintenance, and operational capabilities to sustain such hardware purchases; there will be a gap between *wants* and *employability*.

However, despite the 'free rein' given to the armed services by the government, there may exist little inter-service rivalry, if the national budget would cater to the needs

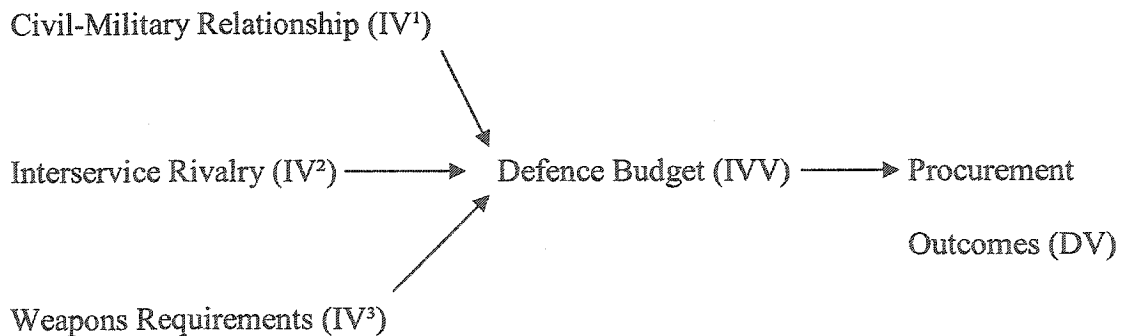
of the military first. Rather, there may be careful planning (but not necessarily coherent) by the services' senior officials to decide what types of weapons to acquire. On the other hand, military governments do not necessarily spend more on arms than their civilian counterparts.¹⁷ The acquiring of weapons by the armed services in a militarized state or a state dominated by the military may be seen more as an accumulation of power by a) exerting control over society, as well as b) maintaining a credible level of deterrence against external threats. Therein lies the possibility that acquisition process will be heavily geared towards accumulation of arms without gathering necessary expertise to operate and maintain such weaponry. Therefore weapons acquisition is directed towards gaining prestige than utility.

Thus, the differing outcomes in arms acquisition have to be seen from the process in which weapons are procured. As identified, the *civil-military balance* and weapons *requirements* will affect changes in final procurements; higher civilian intervention may result in politicizing of the procurement process. On the other hand, strong military influence may allow the organization too much 'leeway' in procurement planning, and there may be a lack of public accountability because there is little civilian oversight to the process. Weapons requirements too, alter final procurements; militaries typically prefer conventional warfare/offensive doctrines because it allows them to request for more funding, and is a higher form of warfare. But states will differ in their ability to acquire full conventional capabilities for a myriad of factors, although size of the defence budget is the determining factor.

¹⁷ Brad Bullock and Glenn Firebaugh, "Guns or Butter. The Effect of Militarization on Economic and Social Development in the Third World," *Journal of Political and Military Sociology* 18, No.2 (Winter 1990), 231-266.

Interservice rivalry is the third factor that will affect procurement. Because the services are fighting over a finite amount of national economic resources dedicated to defence, no service would wish to be sidelined in its contribution to the country's national security. As a result, the services will come to conflict over determining whose strategy (emphasizing their service in the primary defence role) is the better defence policy choice.

Ultimately, the *defence budget* determines final procurement. In other words, civil-military relations (with regard to procurement planning), interservice rivalry, and weapons requirements are both tempered by funding availability. The defence budget itself is subjected to the various factors discussed earlier, such as the tendency to budget-maximize, 'boxing,' and whether the civilian or soldier has greater political clout in determining the defence budget. This ultimately produces the varied outcomes of the acquisition process. To sum up, I have added a diagram for clarity on my discussion.



IV: Independent Variable

IVV: Intervening Variable

DV: Dependent Variable

Indicators

Decision-making processes in weapons acquisition differ in each state as a result of differing political systems. Consequently, most theoretical models of arms acquisition processes do not adequately take into account civil-military relations in decision-making. Thus, an indicator for *civil-military relations* is the *dominance of civilian/military influence in defence-related matters*. By employing this measure, we will look at the overall history of the country's armed forces and its role in the formation of the state; whether it played a pivotal role in the formation of the state (and thus, its dominance in government), or if it has been historically subordinated to civilian authority. Specifically, we wish to measure the strength of civilian and military policymakers in the acquisition process; does the military or its civilian counterparts have more influence in making procurement decision? If the former is higher than the latter, then we may assume that the armed forces dominate procurement decisions, therefore influencing the choice of weaponry purchased. On the other hand, should civilian policymaker dictate procurement decisions, we may presume that arms purchasing decisions are subjected to wider political decisions outside the scope of the military.

A second measure of civil-military relations is to examine whether or not a state has a *history of coups or military rule*. Coup-prone civilian governments are more likely than not, more sympathetic to the needs of the military, since the latter will dominate governmental affairs. As such, the procurement process would weigh heavily towards the wants of the armed forces, and senior military policymakers make procurement decisions almost exclusively, with little or no consultation from the civilian side. On the other hand, if there is little or no past history of coups/military rule in a state, we may assume

that the military is not politicized, and that procurement decisions involve civilian policymakers, albeit to varying degrees of participation.

Interservice rivalry will evidently influence a state's arms procurement programs. A clear measure of whether a service is dominant in the overall defence of the state is to examine the *dominance of a particular service in domestic politics*. This is done by examining the historical role of the armed service's direct and/or indirect participation in politics (if any). Concomitantly, if the analysis reveals a hierarchy among the services, we can conclude that there is the existence of interservice rivalry for the reasons stated earlier. If a particular service dominates domestic politics or is on the top of the hierarchy, we should correspondingly observe that arms acquisitions decision-making will favour the dominant service.

Weapons requirements are the product of strategic planning and awareness of military strategists. Consequently, procurement requests may take place should weapons requirements change. To test for such changes, we may use *stated doctrine changes in national defence* as our indicator. By this, I refer to the change in the overall defence orientation of the armed services; it may range from a shift of emphasis from counter-insurgency to conventional warfare. Or it could mean an emphasis towards modernizing the military to a higher technological standing by keeping up (or attempting to keep up) with the Revolution in Military Affairs (RMA). Doctrinal transformations will inevitably alter weapons requirements. Such sources can be inferred from a country's defence White Paper, stated defence policies and programs, and lastly, ministerial statements regarding the changing role of its armed forces.

Weapons requirements also change in relation to changing strategic environments. Military planners would assess threats, whether domestic or external, and determine what is required for the armed forces to properly deal with such threats. Thus, a second indicator for weapons requirements is the *stated assessment of threats*. Such threats would determine the forecast for future military procurements. In other words, *doctrine changes will perceivably lead to new weapons requirements*. For example, a state could be involved in dealing with domestic violence in the past, but once it has been dealt with, the priority of threat may shift. This may mean a change from internal security to securing its borders against a neighbouring state. Conversely, a state could be more used to dealing with external security issues, and has had to shift its focus towards internal security after hostilities have ended or have reached an insignificant level, i.e. a peace or truce has been reached.

The *defence budget* stipulates the level of spending that the arms forces can incur, and is a fundamental factor in whether or not a state acquires new weapons, and if they do, how many do they acquire. The defence budget in most states is subjected to civil scrutiny with defence officials having a voice in the setting of it. However, the degree in which military spending reflects civilian or military dominance in acquisition matters is hard to measure. Nevertheless, we may use the *overall percentage of defence spending* in relation to the state's Gross National Product (GNP). This indicator is designed to measure fluctuations in defence expenditure, if any, over a ten-year period, which is the timeline of this study. Nonetheless, any economic changes may affect defence spending levels. Thus, if the overall defence spending grows, there are two possible indications; first, that the state experience economic growth, enabling it to increase its defence

spending levels. Second, if military expenditures growth despite a stable or declining economy, it would signify that either a) the armed services have gained more influence over procurement decision-making; or b) that the state is under military rule or has direct military involvement in policy-making.

A second related indicator we may use is the *level of military spending in relation to the national budget*. This differs from the former in that it looks at the actual expenditure incurred, out of its proportioned share of the national budget. Growing defence spending may signify several things. First, there is shift in doctrine, requiring new hardware; second, there may be a force modernization process (usually concomitant with doctrine changes but not exclusively so); third, there may be a growing threat, either internal or external, that requires resources; lastly, there is an economic growth in the state, allowing for defence expenditures to rise.

Procurement outcomes are the result of the convergence of the three independent variables (civil-military relations, weapons requirements, interservice rivalry) and the intervening variable (defence budget), thus producing the three hypothesized scenarios; *military-dominated acquisitions, civilian-dominated acquisitions, and compromised outcomes*. Nevertheless, because the military are the primary users of such acquisitions, we have to ask ourselves if the armed forces do get what they want. And if they do, how much? And how capable is the organization in maintaining and employing it? To test for such factors, I will employ three indicators to determine which of the three hypothesized outcomes produce an optimal outcome in terms of contributing to the state's national security: *operational levels, integration issues, and gaps between stated doctrine and equipment received/ordered*. The first indicator aims to test for the integration of

procurements in the state's military. This may range from an overt display to actual employment in a conflict, where such a weapon or weapons has had a decisive advantage over its opponents. Overt display of the weapon(s) on the other hand, may signal that the acquisition was carried out more for 'prestige' factors than actual employment.

Therefore, a state may simply purchase new weaponry to keep up with its neighbours so as to avoid the loss of political credibility. This also signals that civilian policymakers may have acquired the weapons for political purposes, and not out of prudence.

Integration issues aims to test whether new weapons are within or beyond the capability of the armed forces to operate and maintain. As such, this indicator serves to find out if the new acquisition(s) has made a noticeable difference in the capability of the recipient service(s). It further seeks to test whether the military is able to maintain and operate it. For example, a state may purchase advanced combat aircraft, but is unable to keep it operational for long, due to logistical issues or the lack of technical knowledge to maintain it.

Lastly, the third indicator tests for the differences between the military's stated weapons requirements and the eventual procurement made or received. If there are differences, then it may represent a disconnection between civilian and military policymakers, assuming all else equal. Similarly, if the obtained weapons are what the military requested for, then it may indicate that a) there is strong military influence in the budgetary and/or procurement process, or b) that the government is already under military rule, or is prone to military coups (therefore letting the military have its way).

Case Studies

I have selected three states in Southeast Asia (Singapore, Malaysia and Thailand) for my case studies because its fits into Posen's criteria of 'relative peace' (for organizational theory) and that these states are undergoing defence modernization programs. Second, the selected cases demonstrate a variance on procurement outcomes, thereby providing clear dissimilarity to make my assertions. Further, because of the debate in the recent years over the fears of a 'Southeast Asian arms race,' I have deliberately selected these states in the quest to provide answers to some questions: which of the three independent variables (weapons requirements, interservice rivalry, civil-military relations) play a larger part in determining arms purchases in these states? In other words, is the drive to acquire newer and better hardware internally or externally-driven, or both? What outcomes will be produced when political bargaining takes place between the soldier and civilian? Are domestic determinants of arms procurement heavily driven by 'supply-side' pressures as some scholars have argued?¹⁸ In other words, is the government really working as a unitary whole when it comes to arms procurement?

We should expect to see that when the civilian government and the military are able to rationally agree on both defence and foreign policy-making, a coherent national security policy would emerge, such as the pursuance of an offensive-conventional warfare doctrine. In turn, weapons requirements would reflect the military's needs in order to carry out the espoused doctrine. However, defence budget limitations (if any) may prevent some states from gaining such capabilities.

¹⁸ See Chapter 2 for a clearer discussion on the issue of supply-side pressures driving arms procurement.

Conversely, when organizational determinism occurs (as it should, according to Posen), civil-military relations would be tricky at best, and there will be differences in how the military and government view foreign and defence policies. A lack of coherence in national security planning will happen as a consequence, and therefore, weapons requirements may not be realized, especially when defence budgeting involves a high level of civilian intervention. On the other hand, if the military is able to influence defence budget setting because of its dominance in government, it may result in wastage and corruption, and procurements will reflect such problems.

The purpose of this theoretical framework discussed is to shed new light on the issue of arms acquisitions in the Third World. I have attempted to engage in the issue on arms acquisitions by looking at a variety of causes have been largely ignored in the literature. Should the case studies produce the hypothesized effects and outcomes, arms race theorists may well re-examine domestic determinants of Third World arms acquisition once more.

Chapter 3 - Singapore

Overview

Defence planning and procurement policies in Singapore exhibit uniquely strong cohesiveness between the civilian and military policymakers. Because of the relatively young age of the island-republic, the military was built from scratch by the government, and it did not have a sense of 'entitlement' in governance or nation-building. As a result, civil-military relations are exceptionally strong, with no particular service dominating the government. Consequently, there is little, if any, inter-service rivalry (since all three services were built from scratch around the same time) and Singapore's military remains apolitical and very much under civilian control.

Since its separation from Malaysia in 1965, Singapore has built a credible defence force, which is regarded presently as the most technologically advanced in Southeast Asia. The humble beginnings of the Singapore Armed Forces (SAF) belie its present-day status however; two infantry battalions, a coastal patrol vessel, and virtually no air force, was what the island-state inherited from Malaysia, following its acrimonious separation. As a result, this has resulted in a "survivalist mentality" in its early foreign policy objectives.¹

The goal of national survival has contributed greatly to the cohesion between civilian and military policymakers alike. Further, the limited size and geography of the state gives it little option but to adopt pre-emptive, offensive warfare doctrines in its

¹ N. Ganesan, "Singapore's Foreign Policy Terrain," *Asian Affairs*, Vol. 19, No. 12, (Summer, 1992), p. 75.

defence planning.² Rapid economic growth has also helped the SAF expand, as its growing annual defence budgets have allowed it to acquire state-of-the-art weaponry from Western countries (most notably, the U.S.) and grow its domestic defence industries from infancy to its present status as the regional leader in defence products. The SAF's procurement strategy is also pragmatic in the sense that the government is able to meet their needs, and at the same time, the acquired hardware has fitted well into its pre-emptive offensive doctrine, indeed, the SAF has been touted as the most operationally-ready military in Southeast Asia.³ Although its procurement strategy is also guided by foreign policy considerations, for example, whether the introduction of a sophisticated piece of hardware (for example, F-16 combat aircraft) might raise regional tensions especially among its neighbours; there is nonetheless, a balance in its civil-military decision-making processes, as evidenced by its consistency in defence planning and procurement.

The SAF Today

By the early 1990s, the Singapore Armed Forces have evolved into a mature armed force capable of carrying limited pre-emptive attacks as envisioned in its original doctrine. With changes in technology, the island-republic has sought to remain at the forefront of military technological and doctrinal transformations. Because of its small population, there has been a strong emphasis on 'force multiplier' weapons by reducing

² Bernard Loo, "Geography and Strategic Stability," *Journal of Strategic Studies*, Vol. 26, Issue, 1, (March 2003), pp. 166-167.

³ Joon Nam Mak, "Armed But Ready?: ASEAN Conventional Warfare Capabilities," *Harvard International Review*, Vol. 16, No. 2, (Spring 1994), p. 22.

manpower requirements for every conceivable weapon systems in its arsenal to a minimum, while increasing the firepower of such platforms.⁴ Furthermore, the small population size meant that conscription had to be implemented at the outset. Following the completion of two years or two and a-half years of full-time military training, the draftees would remain in the reserves for the next 13 years, therefore fulfilling the SAF's order of battle.⁵ The first draftees (or National Servicemen) were drafted in 1967, and by the early 1970s had passed into reservist units.⁶ This continuous cycle of conscription and mandatory reservist training help ensure that the Singapore's military operational capabilities are constantly met.

Despite the lack of manpower and the constraints inherent in a largely conscript-based military, regional observers have noted that the SAF is one of the most competent militaries in the region; in both the technological and operational sense.⁷ There is a noticeable lack of inter-service rivalry, and the level of cooperation among the three services are such that the Singapore Armed Forces are able to conduct combined operations on a level that is second to none in the region.⁸ However, the SAF has not been exposed to the "acid test of war,"⁹ apart from having participated in some United Nations peacekeeping operations. Nonetheless, its competency in operating sophisticated weaponry, especially third-generation combat aircraft such as the F-16 C/Ds, AH-64D

⁴ David Boey, "Singapore: A Fragile Nation Toughens Up," *Jane's Intelligence Review*, Vol. 8, No. 7, (July 1996), p. 317.

⁵ Tim Huxley, *Defending the Lion City: The Armed Forces of Singapore*, (NSW: Allen & Unwin, 2000), pp. 13-14.

⁶ *Ibid*, p. 14.

⁷ The SAF has already begun investing and experimenting with battlefield digitization like its American allies, and its Command, Control, Communications, Intelligence (C³I) is far ahead of its neighbours. See David Saw, "Defence in Singapore – Confronting a Changing Environment," *Asian Military Review*, Vol. 10, Issue 1, (February/ March 2002), p. 63.

⁸ Joon Nam Mak, "Armed But Ready?" p. 22, See also, Paul Dibb, "Defence Force Modernization in Asia: Towards 2000 and Beyond," *Contemporary Southeast Asia*, Vol. 18, No. 4, (March 1997), p. 358.

⁹ J.N. Mak "Armed But Ready?", p. 22.

Longbow attack helicopters, upgraded Sjöormen submarines, and eventually Lafayette-class 'stealth' frigates,¹⁰ and its strong 'maintenance culture' makes up for its lack of experience in a real conflict.

Indeed, Huxley asserted that should bilateral relations between Singapore and Malaysia reach the point of conflict, the SAF is capable of conducting effective land, sea and air strikes against its adversary's key military installations and be able to secure water supplies in Johore, which extends some 80 kilometres into Malaysian territory.¹¹ Such 'blitzkrieg' types of operations typify the kind of platforms and doctrine which the SAF acquires and practices; an all-arms mobile warfare with air¹² and naval power being the decisive factors, while possessing a strong armoured thrust on the ground (The SAF possesses 350 AMX-13 SM1 tanks, the second largest inventory of tanks in the region). Its power-projection and amphibious assets are telling of its capability to carry out such offensive operation on the Malaysian Peninsula.¹³ However, such a conflict would also lead to the collapse of ASEAN, and bring regional tensions to a higher level than previously reached during the Cold War, when Vietnam invaded Cambodia in 1979. It

¹⁰ This would give the Republic of Singapore's navy (RSN) a distinct offensive blue-water capability, and will be the first state to acquire such a capability. See Mark Farrer, "An Instant Capability? Singapore Buys A Submarine Squadron," *Asia-Pacific Defence Reporter*, Vol. XXIV, No. 2, (February/March 1998), p. 8; Asia-Pacific Defence Reporter, "Singapore Orders La Fayette Frigates," *Asia-Pacific Defence Reporter*, Vol. XXVI, No. 3. (April/May 2000).

¹¹ Tim Huxley, *Defending the Lion City*, pp. 58-60. See also, Tim Huxley, "Singapore and Malaysia: A Precarious Balance?" *Pacific Review*, Vol. 4, No. 3 (1991), p. 208.

¹² Alan Stephens, "A Regional Air Power Calculus," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 6, (October/November, 1999), p. 15.

¹³ Singapore's four Endurance-class Landing Ship Tanks are capable of carrying 350 troops, 18 MBTs and assorted vehicles, and 4 LCVPs. In addition, its air force currently possess 10 CH-47D Chinook medium-lift helicopters which are capable of carrying 35 combat troops or 1 Light-Strike Vehicle (LSV) each. See Ian Bostock, "Asia's Amphibious Capabilities Assessed," *Jane's Intelligence Review*, Vol. 12, No. 10, (October 2000), pp. 45-46; International Institute of Strategic Studies, *The Military Balance 2004-2005*, (IISS, Oxford: Oxford University Press, 2004), p. 188; Prasan K. Sengupta, "Republic of Singapore Navy Today," *Asian Defence Journal*, May 1999, p. 18. See also, Andrew T.H. Tan, "Singapore's Defence: Capabilities, Trends and Implication," *Contemporary Southeast Asia*, Vol. 21, No. 3, (December 1999), where the author discusses at length the evolution of the SAF to its present-day status.

will further damage the economies of both states, especially Singapore, which is highly dependent on foreign trade. It is thus, a 'doomsday' scenario that the island-republic would rather avoid.

The island-state's defence industries, (known as Singapore Technologies or ST for short), have contributed much to the development of its armed forces. Singapore's defence industries' early beginnings was typical of most developing states where its national leadership attempted to experiment with indigenous arms and ammunition manufacturing, in a broad two pronged hope that it would kick-start its other industries and introduce new technologies while gaining expertise at the same time; and easing the defence burden through indigenisation.¹⁴ From its humble beginnings, the island-state has managed to create a highly sophisticated defence industry as evidenced by its indigenous designs and production of armoured vehicles, self-propelled artillery, landing ship tanks (LST), and aircraft upgrade packages for its A-4 Skyhawk combat aircraft among other projects.¹⁵ Furthermore, Singapore Technologies, in close collaboration with the SAF, have been working on joint projects on newer doctrines and technologies of warfare. Paul Dibb posits that the Revolution in Military Affairs (RMA) is largely missing in Southeast Asian militaries with the exception of Singapore, which have managed, to some degree of success, carry out RMA-type innovations and doctrines because of its strategic vulnerability and small population:

The RMA's key elements are the ability to detect, identify and track enemy platforms and missiles accurately. For medium-sized power that cannot afford to lose large numbers of platforms in combat, this quality is clearly a valuable force multiplier. Moreover, in low-level engagements the ability to

¹⁴ Ron Matthews, "Singapore's Defence-Industrial 'Model,'" *Asia-Pacific Defence Reporter*, Vol. XXV, No. 3, (April/May 1999), p. 24.

¹⁵ See Tim Huxley, *Defending the Lion City*, pp. 172-195; Ron Matthews, "Singapore Buys Longbows and Grows Its Defence Industry," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 7, (December 1999), pp. 20-21.

discriminate between friend and foe and also to avoid collateral damage to civilian structure is important. In the heavily populated areas of Asia or in the dense maritime traffic plying much of the region, the RMA's attributes of accuracy and correct identification would be valuable politically...at present, moving down the RMA path is not a high priority in many regional countries – with Australia, Japan, Singapore, and perhaps Taiwan the exceptions. Elsewhere, priority is being given to modernising existing forces, at least for the near term.¹⁶

Consequently, one may argue that Singapore's defence industries serves a variety of functions apart from supplying hardware to its military; first, the ability to harness new defence technology and integrate it in its existing ORBAT, its indigenous production, upgrading and maintenance capabilities are valuable political tools of deterrence, indicating its potential to rapidly recover from a conventional first-strike on its military forces (since it can be replenished rapidly). The defence industry also has 'swaggering' potential for civilian policymakers, especially when it comes to parading indigenous platforms, such as the Bionix Infantry Fighting Vehicle, or the FH-2000 155mm long-range howitzer.

In short, the SAF has evolved into a formidable military in a short span of time. Due to a lack of insurgency problems that plague many other countries in the region, the SAF has solely concentrated its doctrine on dealing with external threats. Secondly, because of the lack of strategic depth, Singapore's military doctrine, and consequently, its weaponry, tend towards taking the offensive against any potential adversary. Thirdly, because of its small population base, therefore imposing constraints on available military manpower, the SAF, together with the local defence industries, has focused on acquiring or indigenously producing force multiplier platforms that require lesser manpower, but

¹⁶ Paul Dibb, "The Revolution in Military Affairs and Asian Security," *Survival*, Vol. 39, No. 4, (Winter 1997-98), pp. 96-97.

yet retain the same or higher lethality as older weaponry.¹⁷ Last, there is a distinct lack of inter-service rivalry; combined exercises and operations between the services are on a level unattainable by its neighbours' militaries. By the mid-1990s, the SAF had already improved its overall infrastructure, based on the 'SAF 2000' concept, stressing combined arms operations.¹⁸ However, while Singapore's defence planning and foreign policies are seen as a part of the 'Total Defence' concept,¹⁹ defence planning has its own dynamics and logic. Observers have noted that "the acquisition of military power in Singapore is sometimes pursued with a fervour which is disconcerting to Singapore's neighbours."²⁰

Defence Policy Decision-making

The separation from Malaysia in 1965 left Singapore with little military inheritance. Coupled with Great Britain's subsequent withdrawal in the early 1970s, and the conspicuous lack of a military tradition, the island-state had to build a military from scratch. From the outset, the ruling People's Action Party (PAP) government has maintained a strong grip on power in the state by overseeing various policies. Thus, defence policy-making is no exception to the rule.

The control over the SAF is not without merits however. Continuity in defence planning is reflected in the growth of the island-state's military from infancy to a mature fighting force today. As earlier mentioned, because there is a lack of military tradition in

¹⁷ Ron Matthews, "Singapore's Defence-Industrial 'Model,'" p. 23.

¹⁸ Tim Huxley. *Insecurity in the ASEAN Region*, Royal United Services Institute for Defence Studies (RUSI) Whitehall Paper No. 23, (London: RUSI, 1993), p. 59.

¹⁹ The 'Total Defence' concept is centred on the concepts of Economic Defence, Social Defence, Psychological Defence, Military Defence, and Civil Defence. See Andrew T.H. Tan, "Singapore's Defence: Capabilities, Trends and Implication," pp.452-455.

²⁰ Joon-Nam Mak, *ASEAN Defence Reorientation: 1975-1992*, Canberra Papers on Strategy and Defence, No. 103, (Canberra: Australian National University, 1993), p. 104.

Singapore (since its defence was left to the British) the military leadership was created under civilian authority. In the early post-independence Singapore, decision-making process under the 'Team' comprising of the Prime Minister, the Defence Minister and Foreign Affairs Minister tended to dominate defence policy-making. However, there is a formal structure comprising of the PAP's Central Executive Committee, the Cabinet and the Defence Council.²¹

Therefore, in theory, the Defence Council (which comprises of the defence minister, his permanent secretary and senior SAF officers) was set up to discuss military matters and policies in a formal context. But given the urgency of building a military capability at the time, many defence decisions were taken on an ad hoc basis by the Prime Minister and the 'Team', which sought expert military advice from senior SAF officers before presenting it to the Defence Council and Cabinet for approval.²²

The island-state's small size (632 square kilometres) and its heavy reliance for external sources of water and food supplies obviates the possibility of protracted conflict on its territory, as evidenced by its experiences in World War Two. Its clear vulnerability is further heightened by its fear of being caught in any regional conflict, because of its small size, strategic location and open economy. Such geopolitical factors have shaped the SAF in its defence doctrines. From the outset, the military has been focused solely on dealing with external threats to its security since the internal security threat (pro-communist and communalists) has been largely been quashed as a result of improving economic conditions and the small size of the island-state simply afforded little, if any,

²¹ Tim Huxley, *Defending the Lion City*, p. 74.

²² *Ibid*, p. 74.

sanctuary to insurgents for long.²³ The government has also taken a typical realist conception of self-help with regard to defence, rationalizing that no external assistance could be expected if its armed forces and citizenry do not demonstrate the resolve and ability to defend itself.²⁴ Consequently, its early strategy evolved from the “poisonous shrimp” analogy (small, but indigestible by predators)²⁵ indicating a ‘siege mentality,’ to one of pre-emptive strikes against its opponents. The gradual transformation runs concomitant with the evolution of its military capabilities, which has increasingly stressed the importance of mobility. More notably, the SAF’s defence planning has arguably focused on regional external threats, i.e. Malaysia and Indonesia.

The bitter separation of Singapore from Malaysia in 1965 has resulted in what Tim Huxley has described as a bilateral relationship where bilateral spats have frequently been “reflected in the military sphere” and that “Singapore’s defence policy...evinces an overriding concern with the deterrence of Malaysia.”²⁶ As evidenced by bilateral spats over political and territorial issues such as the Herzog crisis and the Pedra Branca dispute in the 1980s (with the latter issue continuing to present-day). A repeated deterioration of relationship in the mid-1990s occurred owing to a variety of disputes over territorial, sovereignty and economic cooperation issues (which was further exacerbated by the economic crisis in 1998 that afflicted Malaysia badly). Thus, the bilateral relationship between Singapore and Malaysia have waxed and waned at various times.²⁷ Analysts have further noted that there is an ‘action-reaction’ phenomenon with regards to defence

²³ Tim Huxley, *Defending the Lion City*, p. 15.

²⁴ *Ibid*, p. 56.

²⁵ *Ibid*, p. 56.

²⁶ Tim Huxley, “Singapore and Malaysia” p. 204.

²⁷ Tim Huxley, *Defending the Lion City*, pp. 44-50. See also, Andrew Tan, “Intra-ASEAN Tensions,” *Royal Institute of International Affairs Discussion Paper No. 84*, (London: Chameleon Press, 2000), pp. 8-9.

spending and weapons acquisition, with both states acquiring weapons that are implicitly aimed at deterring each other's military capabilities.²⁸

Bilateral relations with Indonesia on the other hand, have been of a more stable nature. In the aftermath of the Indonesian 'Konfrontasi' though, there was a natural realignment between the three states with Indonesia and Malaysia against Singapore.²⁹ Naturally, Singapore's 'siege mentality' was justified during this unstable period. This uneven relationship reached its high point in 1991 when the largest combined Indonesian-Malaysian bilateral military exercise to date, took place in Johore on Singapore's National Day, with the dropping of paratroops (codenamed Total Wipeout).³⁰ Singapore responded in kind by having its armed forces go on full alert and carrying out a large-scale military mobilization that included an armoured brigade, to deliver a political message of deterrence to its neighbours.³¹ However, relations between the two Malay states have deteriorated over time, as disputes manifested over a range of issues ranging from large-scale illegal Indonesian immigration into Malaysia, clashes of economic interests, serious interpersonal differences between the two leaders, and the apparent attraction of Singapore as a reliable trading partner and financial service centre for Indonesia's military and bureaucratic elites.³²

²⁸ Micool Brooke, "Fortress Singapore: A Key Player in Security," *Asia-Pacific Defence Reporter*, Vol. 27, No. 1, (Feb. 2001), p. 64, 66. See also, Derek da Cunha, "Renewed Military Buildups Post-Asian Crisis: The Effect on Two Key Southeast Asia Bilateral Military Balances," *International Politics and Security Issues No. 3*, (Singapore: Institute of Southeast Asian Studies, 2001), pp. 10-14.

²⁹ Tim Huxley, "Singapore and Malaysia," p. 208.

³⁰ Tim Huxley, *Defending the Lion City*, p. 46.

³¹ Tim Huxley, David Boey, "Singapore's Army-Boosting Capabilities," *Jane's Intelligence Review*, Vol. 8, No. 4, (April 1996), pp. 175-176

³² Tim Huxley, "Singapore and Malaysia," p. 209. See also N. Ganesan, "Bilateral Tensions in Post-Cold War ASEAN," *Pacific Strategic Papers, No. 9*, (Singapore: Institute of Southeast Asian Studies, 1999), p. 31.

The new strategic partnership between Indonesia and Singapore in the early 1990s signalled a *détente*, giving way to closer defence ties between the two states. Military exercises in all three services, coupled with joint development and ownership of an air weapons range in Siabu, Sumatra, considerably reduced the initial animosity between two states.³³ Consequently, the ‘Indonesian threat’ has become secondary to Singapore’s defence calculus, while the ‘Malaysian threat’ remains a primary concern.

The SAF offensive doctrine has evolved from passive defence of its territory (the ‘poisonous shrimp’ strategy) to one where it is capable (at least in theory) of mounting an all-arms operations against its neighbours through amphibious assaults, which is armour-intensive, and well supported by advanced strike aircraft and naval surface vessels. Its military doctrine reflects Israeli roots, borne out of its early beginnings when Israeli Defence Forces (IDF) helped establish the city-state’s armed forces. The SAF’s doctrine, based on credible deterrence, emphasizes the need for conventional ‘first-strike’ capability, in view of the country’s geopolitical situation, which some observers have described as a “Chinese nut in a Malay nutcracker,”³⁴ referring to the triangular relationship between Singapore and its two Malay-dominant neighbours: Indonesia and Malaysia.

In the latter years as the SAF grew, and the earlier insecurity had dissipated, defence decision-making became bureaucratized as the military moved beyond basic ‘survival’ goals to attaining higher levels of professionalism. Huxley posits that while the decision-making process is relatively opaque as compared to Western militaries, the SAF

³³ This was attributed in a large part to the leadership change in Indonesia in the aftermath of the *Konfrontasi*, where Sukarno was ousted from power, and Suharto replaced him as the President of Indonesia. See Tim Huxley, “Singapore and Malaysia,” p. 209.

³⁴ Bilveer Singh, *The Vulnerability of Small States Revisited: A Study of Singapore’s Post-Cold War Foreign Policy*, (Yogyakarta: Gadjah Mada University Press, 1999), p. 18.

employs Operational Analysis (OA), in diverse areas such as military operations, combat analysis, logistic support, resource planning, finance, manpower, and systems acquisition; this application of OA, a quantitative management technique, has allowed the SAF to come up with military contingency plans to respond to a variety of possible threats or crises and has also influenced major shifts in the overall structure of the organization, leading to the SAF 2000 concept (designed to guide the upgrading of its capabilities) in the 1990s.³⁵ Despite the application of OA however, defence policy-making still maintains a strong level of civilian oversight in its planning and formulation.

By the time political leadership changed hands to the newer generation of leaders in the mid-1980s, the cabinet position of defence minister had been divided among two or three other ministers in a deputized role. However, the younger generation of PAP leaders also contain a significant number of former SAF officers, mainly those that were awarded the SAF Overseas Scholarship Scheme.³⁶ As a result, the traditional method of having defence matters decided by civilian policymakers in consultation with senior military officials has become blurry, as former soldiers become politicians.³⁷

Defence Budget

Singapore's defence budget is among the highest in the region, when measured as a percentage of its Gross Domestic Product (GDP). The official peg on military spending

³⁵ Tim Huxley, *Defending the Lion City*, pp. 75-76.

³⁶ Derek da Cunha, "Sociological Aspects of the Singapore Armed Forces," *Armed Forces & Society*, Vol. 25, No. 3, (Spring 1999), p. 466-468.

³⁷ Tim Huxley, *Defending the Lion City*, p. 77. Huxley discusses at length about how for SAF officers, especially Lee Hsien Loong had played a pivotal role in ensuring that the government understands the needs of the military and vice versa.

set by civilian policymakers allow SAF's defence spending up to a point of 6 percent of the country's GDP. Because of the rapid economic growth over the past 20 years, the SAF's budget has concomitantly increased with GDP growth. When measured in constant 1995 US dollars, Singapore's military expenditure shows an incremental trend, from 1985 to 2002.³⁸ Even during the 1998 Asian economic crisis, which badly afflicted other states in the region, thereby forcing a drastic cutback in military spending, Singapore increased its spending to surpass all other Southeast Asian states.³⁹ The relative increase in spending was justified by Singapore's then-defence minister who stated that the island-republic must continue to "commit resources to defence 'in good times and bad' in order to maintain the confidence of its citizens and of foreign investors."⁴⁰

Indeed, the government's commitment to defence spending has been observed by many in the region. Its dramatic spending increments from the early 1990s were achieved while the ratio of defence expenditure to GNP remained around a steady 4 percent. At nearly US\$ 1,331 per capita for defence expenditure, the SAF is arguably, the biggest spender in Southeast Asia.⁴¹ Apart from weapons acquisition, the SAF also sustains its present force levels, overseas training exercises, and various other defence-related activities on its allocated budget and has impressively been able to do so to many

³⁸ Panitan Wattanayagorn, Desmond Ball, "A Regional Arms Race?" *Journal of Strategic Studies*, Vol. 18, No. 3, (September 1995), p. 160.

³⁹ Frank Umbach, "Financial Crisis Slows But Fails to Halt East Asian Arms Race – Part One," *Jane's Intelligence Review*, Vol. 10, No. 8, (August 1998), p. 27.

⁴⁰ Speech by Dr. Tony Tan Keng Yam, Deputy Prime Minister and Minister for Defence, 7 January 1998, *Media Releases*, MINDEF Internet Services.

⁴¹ Ron Matthews, "Singapore Buys Longbows And Grows Its Defence Industry," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 7, (December 1999), p. 20; David Saw, "Singapore – Managing The Defence Burden," *Asian Military Review*, Vol. 11, Issue 8, (December 2003/January 2004), pp. 30-32.

regional observers.⁴² Some reasons for the maintenance of the SAF's budget is largely due to its economic growth, allowing for bigger budgets. Furthermore, Singapore's policymakers are aware that its geographical vulnerability remains despite its economic successes, and that it cannot afford to be complacent in defence matters. Nonetheless, the like-mindedness of politicians and soldiers in the overall defence policy-making (no doubt aided by former SAF officers-turned-politicians) ensures that defence spending is given a strong priority in the national budget.

Procurement Strategy

The SAF's procurement policy is one guided by pragmatism. While the military remains subordinated to civilian authority, there is a fairly cohesive approach by both military and civilians towards defence-related issues. As much as two-thirds of the organization's budget goes into procurement and infrastructural development. This is no doubt guided by the inclusion of former military officers into public service and cabinet positions in particular. Former military personnel likewise, also hold key positions in the government-owned defence industries. Nonetheless, the SAF remains under civilian political control, and procurement policies are likewise, decided in parliament in close consultation with senior SAF officers.

While there may be subtle influence regarding indigenously produced platforms (because of linkages between former SAF officers-turned-politicians and CEOs of ST,

⁴² Tim Huxley, Joon-Nam Mak and Paul Dibb are some of the many Southeast Asian 'watchers' that have asserted that the SAF is the most operationally-ready military in Southeast Asia. See Tim Huxley, *Defending the Lion City*, J.N. Mak "Armed But Ready?", and Paul Dibb "Defence Force Modernization in Asia."

also former officers), it is not the norm. For example, the SAF has in the past, rejected the locally-produced SAR 80 assault rifle and its latter model, the SR-88 rifle as replacements for its licensed-produced M-16 rifles (in service as the standard-issue rifle) because of reliability issues; it only begun fielding the latter model (SAR-21) in the last two years,⁴³ demonstrating that indigenous defence products are not necessarily accepted by the SAF if such platforms do not meet its weapons requirements.

The SAF's defence procurement process begins in the Ministry of Defence's (MINDEF) Defence Technology Group (DTG), which oversees overall procurement in the SAF. Within the DTG, there are four other sub-divisions, comprising of the Defence Material Organization (DMO), which manages most of the procurements; the Command, Control, Communications, Computer and Intelligence Systems Organization (CSO) which handles specific C³I procurement projects; the Land and Estates organization (LEO), which manages the SAF's infrastructure, and the Defence Procurement Division (DPD) which prepares Invitations to Tender (ITT) and Invitations to Quote (ITQ) for potential suppliers.⁴⁴ The tendering process is guided by MINDEF's "Life Cycle Management," which stresses the reliability and maintainability of the military's purchases.

The tendering process itself has a series of checks and balances, although it remains opaque to the citizenry at large. These check and balances prevent undue influence from various elements in the government and military, while at the same time basing the procurement(s) on rational decision-making and minimizing the potential for

⁴³ Tim Huxley, *Defending the Lion City*, p. 189.

⁴⁴ *Ibid*, p. 175.

corruption.⁴⁵ The SAF's defence procurement process can be described in five distinct stages: First, an Equipment Master Plan is drawn up, based on consultation between the DTG, the various service Chiefs and the Chief of Defence, and its individual planning staff. The plan is a five-year plan of acquisition priorities that identifies the SAF's operational needs.⁴⁶ The second phase is the Requirement Definition stage, where the DMO or CSO draws up a Statement of Need, indicating threat definition, availability of funding, and an assessment of available equipment. The third stage begins with the setting up of an Acquisition Management Team (AMT) that will decide on the most cost-effective way of fulfilling the military's requirement, either through indigenisation or importing of the weapon platform; this is also the stage where the final approval is sought from the MINDEF Deputy Secretary (Technology), and more valuable or politically sensitive contracts (such as fighter combat aircraft, corvettes or submarines) are referred to the Permanent Secretary (Defence Development), and the Cabinet.⁴⁷ Potential suppliers too, know that they stand a better chance at cinching a contract (especially valuable 'big-ticket' items such as combat aircraft, radars, 'stealth' technology and the like) if they enter into MINDEF's 'Industrial Cooperation Programs' aimed at transferring technological know-how and/or providing long-term overseas training facilities (especially for aircraft and ship procurements).⁴⁸

The fourth stage is the introduction of the equipment into the individual service, together with the building of logistic support, operational testing, and transferring the responsibility of maintenance (Life Cycle Management) to the recipient service. Lastly,

⁴⁵ Ibid, p. 175.

⁴⁶ Ibid, p. 176.

⁴⁷ Tim Huxley, *Defending the Lion City*, p. 177.

⁴⁸ Ibid, p. 176.

the final stage is a post-hoc review of the equipment in service after a few years in service, both to gather feedback, and to also note if there is a need for upgrading or replacement.⁴⁹ Thus, there is a systemic process in which acquisitions are made in the SAF.

Conclusion

In sum, the SAF has evolved over time from a small handful of soldiers following 1965 to the current force level and sophistication it has achieved. By the mid-1980s, the SAF was able to maintain a sufficient deterrent force, and looked towards modernizing its military. The rise in military spending and the concomitant technological edge over its neighbours from the late 1980s to the present-day is a testament to the organization's commitment to remain at the forefront of military superiority in the region, and deterring potential adversaries.

Because of a distinct lack of military tradition in Singapore, the military, like its civilian counterparts is very much a young organization. This effectively allowed the ruling government to denote the SAF's responsibilities and keep it depoliticised (there is no history of coups Singapore); thus, civil-military relations are generally excellent. Interservice rivalry too, is muted as there is no single service, as no one service has a dominant political voice in domestic politics, and arms procurement issues.

The geographic vulnerability of the island-state, coupled with regional instability has undoubtedly influenced civilian and military policymakers alike, to create a credible military deterrence as soon as possible following the separation from Malaysia. Its

⁴⁹ Ibid, p.177.

military doctrine from the outset has focused on 'forward defence' where offensive, conventional warfare capabilities are stressed, because of the lack of strategic depth. A second factor has been Singapore's small population base, which has led the SAF to emphasize the role of technology in fighting wars because of its limited manpower availability.

This rapidity has also led to civilian micro-management in its earlier procurement policies; it displayed a propensity towards *force creation* than with *force preservation*. Nevertheless, there is no obvious resentment by the SAF over civilian intervention in its doctrine and planning. Although one could argue that Malaysia and Indonesia are potential external threats to Singapore (hence, its pre-emptive defence posture), it is a sweeping generalization to assume it as such. Rather, the SAF's defence policy and procurements has to be seen through the macro-view of maintaining its regional status quo through cohesive and proactive foreign and defence policies. Nevertheless, the island-state's pre-emptive defence posture permits the SAF to direct any conflict outside its borders, so as to safeguard its economic survival, and at the same time, create strategic depth, which it badly lacks.⁵⁰

The SAF's procurement policy is characterized by different levels of bureaucracy. The system of checks and balances in its tendering system is designed to ensure that there is a minimum level of individual influence in the process. The evolution of the system has gone from direct management of the defence minister and the prime minister to contingency planning between the civilian and military. Once a potential crisis or threat has been identified and clearly defined, the services would have to request for the

⁵⁰ Mark Farrer, "The Poison Shrimp Matures," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 7, (December 1999), p. 16.

stipulated weapon(s) that would meet the threat, through the ministry itself and if needed, will be debated in the cabinet and parliament. The SAF also enjoys an unparalleled priority in defence spending, and it is among the biggest spenders in the Asia-Pacific region. Despite its 'deep pockets,' there is no evidence of 'boxing,' perhaps owing in part to the depoliticised nature of procurement process, and that senior officers are regularly rotated to new postings so as to ensure that they do not become 'entrenched' within a department of the military. Similarly, the organization does not spend the full six percent of the country's GDP, even though it is entitled to do so under the defence-spending cap. Thus, the SAF's procurement outcomes exhibit signs of a compromised outcome; there is little evidence if any, of integration problems of new platforms in the organization's three services and operational levels are significantly higher than that of its regional counterparts. Lastly, there is also no evidence of any reported differences between the military's stated weapons requirements and the eventual procurements made or received.

In sum, Posen's assertion that organizational determinism would exist in peacetime militaries finds little application to Singapore's case. The SAF much remains under civilian control and authority. However, because of geopolitical and economic factors, security has remained an important priority for Singapore's civilian policymakers, thus creating the like-mindedness between soldier and civilian. Because of the importance of its role, the SAF tends to be accorded a substantial share of the national budget. Similarly, the offensive nature of its armed forces and doctrine is a necessity borne out of geo-political circumstances, despite Posen's argument that small states would seek deterrent doctrines. Nevertheless, the SAF is demonstrably more proficient at conventional/offensive doctrines than its regional neighbours. There is a lack of

corruption in its weapons acquisition processes, and the SAF has been more successful than its regional counterparts at integrating new equipment into its services. In the final analysis, we must also bear in mind that Singapore's case is unique, and it remains to be seen whether it is the norm or exception.

Chapter 4 - Malaysia

Overview

The Malaysian case provides an interesting comparison to Singapore. Its weapons requirements have changed over time as the regional strategic situation changes. The Malaysian Armed Forces (MAF) demonstrate subordination to the civilian government, to the point where its acquisition process becomes more political than objective in its requirements, i.e. civilians heavily influence the arms acquisition process. While both the military and civilian policymakers agree on the shift in MAF's doctrine from counter-insurgency to conventional warfare, the means to achieving it has been disparate. As a result, civil-military relations are relatively unequal, with civilians exercising more control over defence matters. Further, there is interservice rivalry between the army, which holds a prominent position at the top of the hierarchy (thus more 'connected' to civilian policymakers), and navy and air force at the lower rungs.

Malaysia's weapons requirements exhibit a shift from counterinsurgency to conventional warfare doctrine occurring as a result of the military pushing for changes. But it is only the navy and air force that are pushing for changes so as to gain a more prominent voice in acquisition preferences. Both the navy and air force's push for changes conveniently dovetailed changes in the regional strategic picture. With the end of the communist insurgency and the feared Vietnamese invasion which did not materialize, the emphasis moved towards protecting Malaysia's littoral interests, especially in East Malaysia and its claims to a part of the Spratly Island chain. The Sino-Vietnamese naval clash in 1988 added further impetus to the MAF to focus more attention on securing its

maritime claims.¹ Malaysia's defence budget too, is a constraining factor in much of its procurement history. For example many of the weapons ordered under the Memorandum of Understanding with United Kingdom (MoU) in 1988 were ultimately cancelled or pushed to the Fourth or Fifth Malaysia Plans because of cost overruns. Consequently, budget limitations continued to hinder the MAF's proposed transformation towards attaining a conventional warfare capability.

The MAF Today

The MAF's modernization process which took on a pattern of start-stop acquisitions, resumed in the early 1990s. The end of the Cold War and the subsequent 'new world disorder' that followed in Bosnia and Somalia saw the army being thrust into peacekeeping and peace enforcement roles under United Nations (UN) auspices, since it connected well with Prime Minister Mahathir Mohamed's foreign policy objectives of making Malaysia more visible in world affairs. This gave the army the rationale for purchasing new armoured personnel carriers, medium tanks, and assorted artillery pieces, in view of its conventional orientation.² In regaining its importance among the three services, the army also "made the need for a balanced, all-arms force a rallying cry,"³ putting emphasis on rapid response, flexible options for any contingencies,

¹ Mark G. Rolls, *The 'Arms Dynamic' in South-East Asia During the Second Cold War*, (Aldershot: Ashgate Publishing Limited, 2002), p. 70.

² Joon-Nam Mak, *ASEAN Defence Reorientation 1975-1992: The Dynamics of Modernisation and Structural Change*, *Canberra Papers on Strategy and Defence No. 103*, (Canberra: Strategic and Defence Studies Centre, 1993) p. 134.

³ Joon-Nam Mak, "The Modernization of the Malaysian Armed Forces," *Contemporary Southeast Asia*, Vol. 19, No. 1, (June 1997), p. 43

and combined-arms operations.⁴ Secondly, the end of the Cold War also brought about the resurfacing of bilateral disputes between Malaysia and its neighbours.⁵ While the disputes have been handled on a bilateral basis, the intensity of such disputes have necessitated the MAF's rush to modernize its armed forces in order to maintain a credible deterrence, especially with regard to the geographically smaller, but better-equipped Singapore. Indeed, Tim Huxley has characterized that the MAF's acquisitions from the 1990s onwards as 'counter-acquisitions' to Singapore's hardware purchases; for example, the F/A-18D purchase, which is superior to Singapore's F-16 fleet.⁶

A third factor that has influenced the MAF's modernization process has been the 'Russian influence.' At a time when Western defence industries are facing increasingly bleak economic woes, the Russian arms industries have carved a niche market in Asia. The MAF taking advantage of the bargain-basement prices and flexible payment policies offered by the Russians, procured 18 MIG-29 Fulcrums in 1993, stunning many observers by its choice given that Malaysia has traditionally been the domain of Western arms suppliers. Joon-Nam Mak argues that:

"Washington does not release top-line, state-of-the-art hardware and software to foreign buyers of U.S. defence equipment. This is especially the case with nations not regarded as particularly staunch or close U.S. allies. On the other hand, because of Russia's economic tailspin today, Moscow is prepared to sell

⁴ Ibid., p. 44.

⁵ See Andrew T.H. Tan, *Intra-ASEAN Tensions, The Royal Institute of International Affairs Discussion Paper No. 84*, (London: RIIA, 2000); Dzirhan Mahadzir, "Malaysia At Odds With Her Neighbours," *Asia-Pacific Defence Reporter 1999 Annual Reference Edition*, Vol. XXV, No. 1, (1999), pp. 25-26; N. Ganesan, "Bilateral Tensions in Post-Cold War ASEAN," *Pacific Strategic Papers, No. 9*, (Singapore: Institute of Southeast Asian Studies, 1999), pp. 23-48; Abdul Razak Abdullah Baginda, "Malaysia's Security Perceptions of the 1990s," *Asia-Pacific Defence Reporter*, Vol. XXII, No. 1/2 (January/February 1996), pp. 22-23.

⁶ Tim Huxley, "The ASEAN States' Defence Policies," p. 142; see also, Alan Stephens, "At The Crossroads: The Royal Malaysian Air Force," *Asia-Pacific Defence Reporter*, Vol. XXIII, No. 7, (December 1997/January 1998), p. 7, and Derek da Cunha, "Renewed Military Buildups Post-Asian Crisis: The Effect on Two Key Southeast Asia Bilateral Military Balances," *International Politics and Security Issues No. 3*, (Singapore: Institute of Southeast Asian Studies, 2001), pp. 10-14.

its latest top-line equipment to anyone with the cash to spare in the post-Cold War era.”⁷

Thus, the Russian entry into the Southeast Asian ‘arms bazaar’ has undoubtedly widened Malaysia’s (and many other Asian states) acquisition choices. With Western arms prices generally higher than the Russians,⁸ general unwillingness among Western suppliers (especially the U.S.) to release top-of-the-line weaponry coupled with flexible payment options, Russian defence suppliers have undoubtedly influenced Malaysia’s procurement choices.

The Asian economic crisis however, interrupted the MAF’s planned acquisitions badly in the latter half of the 1990s. The defence budget was slashed by 10 percent, and with its depreciating currency, the total defence expenditure was cut by about 21 percent.⁹ Many planned acquisitions were pushed to the 8th Malaysia Plan (2001-2005). However, Malaysia’s economy recovered slightly by 2000, and its defence spending has been restored and even increased, to make up for the extended modernization plans that were placed on hold because of the economic crisis. Indeed, the MAF submitted a request for a defence budget of US\$1.79 billion under the 8th Malaysia Plan.¹⁰ For example, by the end of 2002, the army was set to acquire 48 PT-91 M Main Battle Tanks and assorted support vehicles (Poland), 211 Armoured Carrier Vehicles ‘Adnan’ (Turkey), man-

⁷ Joon-Nam Mak, “Malaysia’s MiG Shock,” *Asia-Pacific Defence Reporter*, Vol. XX, No. 2/3 (August/September 1993), p. 9.

⁸ Malaysia paid an estimated USD\$550 million for 18 MIG-29s, with the rest of the payment in counter-trade agreement (palm oil). Western analysts have observed that it paid the similar amount for just 8 F/A-18Ds from the U.S. See Michael Richardson, “Russian Arms Sales Trigger Asian Tension,” *Asia-Pacific Defence Reporter*, Vol. XXI, No. 6/7 (March/April 1995), p. 48; Stephen Blank, “Playing with Fire: Russian Sales in Asia,” *Jane’s Intelligence Review*, Vol. 9, No. 4, (April 1997), pp. 174-175; Andrew Hull, David Markov, “Trends In The Arms Market – Part 1,” *Jane’s Intelligence Review*, Vol. 9, No. 4, (April 1997), pp. 188-189.

⁹ Frank Umbach, “Financial Crisis Slows But Fails to Halt East Asian Arms Race – Part One,” *Jane’s Intelligence Review*, Vol. 10, No. 8 (August 1998), p. 25

¹⁰ Isaak Zulkarnaen, “The Malaysian Armed Forces: Gaining New – But Long Overdue Capabilities,” *Asian Defence Journal*, (September 2003), p. 6.

portable () Iгла SAMs (Russia), Anza Mk2 MANPADS (Pakistan); in addition to the 18 Astros II MLRS (Brazil), 22 155 G-5 artillery guns (South Africa) which were ordered prior to the crisis.¹¹

Additionally, the RMAF is slated to receive 18 Sukhoi Su-30s, a fourth-generation multi-role combat aircraft from Russian at reportedly 900 million, which again is partially financed by counter-trade and offset agreements.¹² The RMN has also benefited from funding restoration, with new coastal patrol vessels (Germany), Lekiu-class frigates (Britain), submarines (France), ASW helicopters (Britain) and new naval bases being constructed.¹³

The MAF therefore upgraded its conventional warfare capabilities throughout the 1990s, although interrupted in its procurement schedule in 1998 owing to the financial crisis. However, this begs the question: is the MAF able to handle the logistics, maintenance, and serviceability of such a varied mix of weapons from varied Eastern and Western sources? Further, questions have been raised on how the Malaysian government is able to fund so many acquisitions at one time, even though there are offset and counter-trade agreements involved in some of the deals. Thirdly, manpower shortages have begun to plague the MAF (because of its voluntary basis), and more acutely in the army, where

¹¹ Isaak Zulkarnaen, "MAF Adapting to New Concepts and Technologies," *Asian Defence Journal*, (September 2004), p. 17; Isaak Zulkarnaen and Kelvin Chew, "Market Moves for Main Battle Tanks," *Asian Defence Journal*, (July/August 2003), p.26; Gary Klintworth, "Regional Defense Budgets Down, Russian Arms Selling Well," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 8 (January 2000), p. 23.

¹² Adlan Lutfi Abas, "New Combat Assets for the RMAF," *Asian Defence Journal*, (June 2003), pp. 9-10; Gordon Bendall, "Malaysia's Air Power Capabilities to Soar With Su-30MK/Super Hornet Purchases," *Asia-Pacific Defence Reporter*, Vol. 29, No. 1 (February 2003), pp. 26-27; International Institute of Strategic Studies, "Southeast Asian Fighter Purchases: Regional Tensions Highlighted," *Strategic Comments, International Institute of Strategic Studies (IISS)*, Vol. 9, Issue 6, (August 2003) p. 2.

¹³ See Isaak Zulkarnaen, "The Malaysian Armed Forces: Gaining New – But Long Overdue Capabilities," pp. 7-8; David Lague, "We All Live for Another Submarine," *Far Eastern Economic Review (FEER)*, Vol. 165, No. 32, (15 August 2002), p. 14; Naval Forces, "The Royal Malaysian Navy – Today and Tomorrow," *Naval Force Special Issue*, (2001), pp. 14-40.

many of the younger generation are seeking better-paying jobs in the private sector; often enough, these are also the skilled manpower that the MAF requires to upkeep its new acquisitions and carry the MAF forward to the next generation.¹⁴ With regard to the weapons purchases from several sources, the MAF has had to cope with a logistical nightmare of maintaining armoured vehicles, tanks, combat aircraft and many other new platforms (not so much of an issue for the navy however) from Western, Eastern bloc, and other smaller arms supplier states such as Brazil and South Korea.¹⁵ Because the defence budget also covers logistics and maintenance, the MAF continues to face challenges in attempting to integrate its new acquisitions with its changing doctrine, let alone retain enough trained personnel, and at the same time, keep its new hardware operational.

In short, the MAF has attained some impressive conventional capabilities that exhibit the organization's shift towards offensive/conventional warfare doctrine in its defence planning. However, the rush to acquire such platforms raise doubts as it has left the MAF unable to fully manage the integration and associated logistical and maintenance issues that come with it. While the MAF's force modernization is superficially impressive, observers have questioned the organization and especially, the individual services' capabilities to retain such acquisitions at operational capacity.

¹⁴ Dzirhan Mahadzir, "Malaysia's Army: Problems and Prospects," *Asia-Pacific Defence Reporter*, Vol. XXVI, No. 3, (April/May 2000), pp. 14-15; Dana S. Dillon, "Contemporary Security Challenges in Southeast Asia," *Parameters, U.S. Army War College Quarterly*, (Spring 1997), pp. 126-128.

¹⁵ Dzirhan Mahadzir, "Malaysia's Army: Problems and Prospects," p. 14. See also Joon-Nam Mak "Armed But Ready?: ASEAN Conventional Warfare Capabilities," *Harvard International Review*, Vol. 16, No. 2, (Spring 1994), p. 22; Dzirhan Mahadzir "Problems for Malaysia's Air Force in 1999," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 2, (February/March 1999), pp. 35-36; Dzirhan Mahadzir "Malaysian Su-30s Will Complicate Logistics," *Asia-Pacific Defence Reporter*, Vol. 29, No. 6 (September 2003), p.49; Dana S. Dillon, "Contemporary Security Challenges in Southeast Asia," *Parameters, U.S. Army War College Quarterly*, (Spring 1997), pp. 126-128; Strategic Comments, "Southeast Asian Fighter Purchases: Regional Tensions Highlighted," p. 2.

Defence Policy Decision-making

Malaysia's independence in 1957 took place in the midst of a communist insurgency. The Anglo-Malayan Agreement on External Defence and Mutual Assistance (AMDA) negotiated towards 1957 gave the fledgling state some time to establish its own military forces that could deal with the insurgency.¹⁶ Consequently, because the internal threat superseded external security, the MAF's focus was more on counter-insurgency (CIW) than developing conventional warfare doctrine. Joon-Nam Mak reasons that:

Kuala Lumpur had little need to address the issue of conventional, external defence, since the Emergency required land-based counter-insurgency forces above anything else. 'Emergency-induced growth' meant that a CIW strategy dominated the heart of the Malaysian armed forces (MAF) which developed into an unbalanced force with an infantry-biased structure. Although the Emergency was officially by 1960, remnants of the CPM lingered on along the Malaysian-Thai border until 1989 and helped sustain the CIW profile of the MAF for more than 30 years.¹⁷

Two other events led to the MAF's realization that its CIW doctrine is inadequate to secure the country's borders: first, the Vietnamese Communist victory in 1975 and the subsequent invasion of Cambodia in 1978. Secondly, the territorial dispute with Philippines over Sabah in 1968, which the government had to request help from the British to counter Filipino air power in the event of a conflict.¹⁸ These watershed events led to a re-examination of the country's defence policies. However, while changes to

¹⁶ David Hawkins, *The Defence of Malaysia and Singapore from AMDA to ANZUK*, (The Royal United Services Institute, London, 1972), p. 14.

¹⁷ Joon-Nam Mak, *ASEAN Defence Reorientation 1975-1992*, p. 123.

¹⁸ *Ibid*, pp. 125-126. See also, Andrew T.H. Tan, *Intra-ASEAN Tensions*, pp. 26-29.

Malaysia's defence policies emanated from within the military, it was only a specific service (the navy) that wanted the shift to conventional warfare.

By late 1970s to the early 80's, the MAF began focusing on conventional warfare, as the communist insurgency ceased to be a credible threat. The new MAF defence policy therefore gave emphasis to 'defensive defence' comprising of deterrence, forward deterrence, and total defence.¹⁹ This change required the organization of a credible military with conventional warfare capabilities. In conjunction with the diminishing internal security problems, and conventional warfare orientation, the MAF enjoyed substantial increases in defence spending. But funding issues and other problems led to a phase of consolidation from 1984 till the early 1990s.²⁰ As hypothesized earlier, even though militaries would opt for conventional warfare doctrines so as to seek more defence funding, budget limitations will prevent some states from attaining full offensive capabilities. Similarly, the transformation of the MAF from a counterinsurgency role to one of conventional warfare is still incomplete. Interservice rivalry in the MAF however, has contributed directly to the shift to gaining conventional warfare capabilities. Joon-Nam Mak argues that the Malaysian Army had been contented in its counterinsurgency role, until the Royal Malaysian Navy (RMN) and to a lesser extent, the Royal Malaysian Air Force (RMAF) began clamoring for bigger cuts of the defence budget, after its 'Armed Forces Special Expansion Plan' (or PERISTA as it is known) was terminated

¹⁹ See Dagmar Hellmann-Rajanayagam, "Malaysia," in *Arms Procurement Decision Making Volume II: Chile, Greece, Malaysia, Poland, South Africa and Taiwan*, ed. Ravinder Pal Singh, (SIPRI: Oxford University Press, 2000), pp. 72-73.

²⁰ Tim Huxley, "The ASEAN States' Defence Policies: Influences and Outcomes," *Contemporary Security Policy*, Vol. 15, No. 2, (August 1994), p. 143.

when the Vietnam 'scare' proved to be unfounded and economic recession happened.²¹

Nevertheless, while both the navy and air force received new equipment, the army's 'shopping spree' was more substantial than the other two services during the 1980s.

By the late 1980s, the communist insurgency had effectively ended with the signing of a truce in December 1989. There was renewed emphasis on attaining conventional capabilities. The RMN and RMAF gained prominence during this period, as the overall defence doctrine fully transformed from counterinsurgency warfare to one of deterrence and forward defence.²² Because of Malaysia's maritime claims, its economic and political interests in East Malaysia and territorial and political disputes with its neighbours (especially Singapore),²³ the RMN's needs were brought to the limelight. Similarly, the RMAF's operational needs were at the forefront of the second acquisition phase in the 1990s. The signing of Malaysia Memorandum of Understanding (MoU) with Britain in 1988 brought about a substantial boost to defence spending, independent of the Fifth Malaysia Plan (1986-1990); up to £ 1 billion worth of military hardware from British defence industry.²⁴ This was a belated modernization process that was terminated in 1984 because of economic woes. By this time, the MAF was badly in need of modern equipment, especially with regard to neighbouring Singapore; the emphasis on creating a credible air defence system came with the realization that the island-republic's air force is

²¹ Malaysia, like most other regional states, were worried that there would be an overland invasion by Vietnamese forces after it invaded Cambodia in 1978. See Joon-Nam, Mak. "The Modernization of the Malaysian Armed Forces," p. 34.

²² Joon-Nam, Mak. "The Modernization of the Malaysian Armed Forces," p. 37.

²³ In Sabah especially, because of territorial issues with Philippines, which claimed the state as a part of its overall territory. See J.N. Mak, *ASEAN Defence Reorientation 1975-1992*, p. 126; Andrew T.H. Tan, *Intra-ASEAN Tensions, The Royal Institute of International Affairs Discussion Paper No. 84*, (London: RIIA, 2000), pp. 26-30.

²⁴ Joon-Nam Mak, "The Modernization of the Malaysian Armed Forces," p. 39.

able to destroy Malaysia's air force and command facilities within the first few hours of any conflict between both states.²⁵

With the emphasis on maritime and air defence, the army gained little from the MoU. What little equipment it acquired was paid from funds that were left over from the Fifth Malaysia Plan.²⁶ This signified a drop in the army's importance as the foremost defender of the state, since littoral threats, especially the need to secure its Sea Lanes of Communication (SLOC) between East and West Malaysia necessitated the expansion and modernization of the navy and air force.

This strategic reassessment resulted in the downgrading of the army's procurement priorities, which fought back with the planned formation of the Rapid Deployment Force in order to remain relevant in the new strategic era. Furthermore, RDF has obvious utility in intervening militarily in East Malaysia, should secessionist tendencies threaten a split with West Malaysia, thus tying in with the concept of forward defence.²⁷ The RDF is currently at battalion strength, although there were plans to expand it to division size by 2000, but the 1997 economic crisis has led to many acquisitions being cancelled.

Thus, the PERISTA programme instituted in 1978 was a dramatic attempt to turn the MAF from a COIN-based military to a conventional force based on a forward defence strategy. The individual services' ranks grew rapidly and weapon platforms acquired during this short period were substantial in numbers.²⁸ However, the rapidity of attaining conventional capabilities within a short period of time was extremely expensive. Coupled

²⁵ Tim Huxley, "Singapore and Malaysia: A Precarious Balance?," *Pacific Review*, Vol. 4, No. 3 (1991), p. 208, 212.

²⁶ *Ibid.*, p. 40

²⁷ Joon-Nam Mak, *ASEAN Defence Reorientation 1975-1992*, pp. 132-133.

²⁸ *Ibid.*, pp. 128-129.

with Malaysia's recession in 1982 and the dwindling threat of a Vietnamese invasion, many projects were shelved to a later date, and the MAF opted for a deterrent doctrine instead of its earlier plans to have forward deterrence capabilities.²⁹

By the late 1980s to the early 1990s, the MAF's force modernization process remained incomplete as a result of the termination of PERISTA. Littoral issues became paramount for the federal government during this period, as Malaysia has unresolved territorial disputes with virtually every ASEAN member. Furthermore, the earlier PERISTA program did not adequately equip the RMN and RMAF with sufficient naval vessels and aircraft to protect its resource-rich (but disputed) claims. Once again, the central government placed emphasis on building up naval and air assets (aided by both services' promotion of its importance in protecting maritime claims); a move resented by the army, which saw their prominence diminish (hence the concept of the RDF, which was developed by the army to remain relevant to the central government).

Therefore, the evolution and development of MAF's defence policies typically demonstrate government intervention into its doctrine. However, the push for change also came from within the military, albeit from the navy and to a lesser degree, the air force.³⁰ Nevertheless, one may also discern a degree of inter-service rivalry involved in the push for doctrinal changes. Because the government ultimately holds the 'purse strings,' inter-service rivalry will naturally happen as each service attempts to stay relevant to the defence needs of the state; the MAF is no exception. Consequently, the MAF's defence policies exhibit high civilian control and weapons acquisitions tend towards fulfilling short-term goals of civilian policymakers, and lack clear direction on its overall strategy.

²⁹ Ibid, p. 131.

³⁰ Joon-Nam Mak, "The Modernization of the Malaysian Armed Forces," p. 34.

As will be shown later, the MAF's defence budget and procurements also demonstrate a high level of civilian intervention.

Defence Budget

The MAF's defence budget is subject to civilian control like most democratic ASEAN states. Unlike Singapore however, the military does not have a peg imposed on its expenditure. Its budget is subject to cuts or increases depending on the economic situation. Secondly, Malaysia's national budget, including defence spending, falls under a system of 5-year plan allocations (or Malaysia Plan). As earlier illustrated, the PERISTA program was cancelled and many of its projects were postponed to a later date because of Malaysia's recession from 1983 till late 1980s. With an improvement in the economy in the early 1980s throughout the 1990s, until the financial crisis, the federal government began to reinvest in military spending. Nevertheless, most of the spending was for projects that were earlier shelved during the PERISTA program.³¹ Prime Minister Mahathir Mohamed's 1991 announcement of an extra RM\$8.4 billion dollars to be spent on top of the M\$4.5 billion over the 6th Malaysia Plan (1991-1995) represented a 230 percent increase from the previous 5th Malaysia Plan, indicating a marked improvement in its national economy to allow for defence spending to be made a national priority again.³²

However, this inconsistency in defence spending has had some repercussions. For example, because of the continuation of previous projects left over from the PERISTA

³¹ Joon-Nam Mak, *ASEAN Defence Reorientation 1975-1992*, p. 132.

³² *Ibid*, p. 132.

program in addition to new acquisitions made prior to the economic crisis, the MAF's defence expenditure in 2001 was at US\$12.6 billion, which is above its allocated amount of US\$1.9 billion.³³ Most of its procurement spending however, is spread over to the current 8th Malaysia Plan (2001-2005). Deficit spending on defence however, is not new to the government. Dzirhan Mahadzir cites a U.S. Bureau of Commerce report issued in the 1990s, stating that "the government, on its own admission, borrowed heavily from the Seventh Malaysia Plan (1996-2000) to finance defence procurement under the Sixth Malaysia Plan (1991-1995)."³⁴ Mahadzir further posits that deficit spending is likely to cut into the 8th Malaysia Plan's budget to make up for defence spending under the 7th Malaysia Plan.

Nevertheless, the federal government has attempted to reduce its capital outflow by having acquisition payments made both 'in cash and in kind.' For example, the recent PT-91M MBT purchase from Poland will be partly financed by 30 percent direct offset through training and technology transfers, and a further 30 percent indirect transfer through commodities such as palm oil and rubber, both to be spread over the next 9 years into the 9th Malaysia Plan.³⁵ While Malaysia's defence budget is a modest US\$2.4 billion in 2003,³⁶ the Ministry of Defence (MoD) still had to request for additional funding as a consequence of its spending spree in the same year.³⁷

³³ International Institute of Strategic Studies, *The Military Balance 2003-2004*, (IISS, Oxford: Oxford University Press, 2003), p. 300.

³⁴ Dzirhan Mahadzir, "Malaysia's Defence Spending Big But Far From Clear," *Asia-Pacific Defence Reporter*, Vol. 29, No. 4 (June 2003), p. 52. See also, David Saw, Olivia W. Ingraham, "Langkawi – Malaysia Follows The Acquisition Path," *Asian Military Review*, Vol. 11, Issue 10, (November 2003), p. 31.

³⁵ Isaak Zulkarnaen and Kelvin Chew, "Market Moves for Main Battle Tanks in the Region," p. 26.

³⁶ *The Military Balance 2004-2005*, p. 324.

³⁷ Dzirhan Mahadzir, "Malaysia's Defence Spending Big But Far From Clear," p. 53.

The MAF's budget in short, is highly dependent upon government policymakers, thus leading to ebbs and flows in its funding throughout much of the period. Because of its budget irregularity, many acquisitions and projects have been pushed over to subsequent Malaysia Plans and have resulted in deficit spending to make up for funding shortfalls. Under Prime Minister Abdullah Ahmad Badawi's leadership however, there appears to be some measure of fiscal restraint. "Malaysia has declared an intention to achieve a balanced budget by 2006 and as part of that commitment, the defence budget was reduced from RM9.1bn in 2003 to RM8.5bn in 2004."³⁸

Procurement Strategy

The MAF's procurement planning begins with each service preparing a list of capability requirements, which is then submitted to the Armed Forces Headquarters. The MAF then consolidates these into what is known as a Perspective Plan during a Joint Chiefs of the Armed Forces Committee (JCAFC) meeting before it goes to the Development Division of the Ministry of Defence (MoD), which will further examine and integrate the plans before handing it over to the Development Committee; as a standard procedure, the Development Division examines the Perspective Plans based on guidelines established by the EPU (in turn, a part of the Prime Minister's Office).³⁹ Defence issues may therefore not be the main focus; rather, economic and development concerns take precedence over the needs of the military.

³⁸ *The Military Balance 2004-2005*, p. 321.

³⁹ Dagmar Hellmann-Rajanayagam, "Malaysia," p. 77.

The EPU will further check the plan for affordability and feasibility and will set a budget cap. The MoD then receives the EPU's recommendations and passes it through the same stages again. After its recommendations are accepted, it will go to the National Development Council (NDU) whose main role is the planning of capital outlay and functions under the Chief Secretary to the Cabinet. Subsequently, the plans are presented to the Cabinet and later, the Parliament. The Cabinet does not directly get involved with arms procurement decisions; it simply passes the annual budget with the planned acquisitions included.⁴⁰

The acquisition process itself can be divided into seven stages. (1) General Staff Requirements (GSR) are for off-the-shelf items which are non-capital in nature, and therefore easier to process and acquire. (2) The second stage involve capital items that are made to order: A specification committee (each service has its own) from the requesting service tests the viability of the proposed acquisition. (3) The deputy heads of each service then coordinate and passes the recommendations to the Procurement Division of the MoD which is mandated to handle purchases up to RM5 million only; higher amounts are subjected to approval from the Treasury. (4) A technical evaluation committee is set up and carries out evaluation of the planned purchase through field tests, suitability of equipment in terms of specifications, user requirements, life-cycle costs, local content, infrastructure and logistical requirements.⁴¹

By the fifth stage, the Procurement Division decides on the method of procurement either through open tender, restricted tender, or direct negotiation (negotiated tender). As equipment becomes more specialized, and suppliers providing

⁴⁰ Ibid., p. 77.

⁴¹ Dagmar Hellmann-Rajanayagam, "Malaysia," pp. 78-79.

such specialized items are fewer, negotiated tender is employed. This is especially for big-ticket purchases such as combat aircraft or submarines. The sixth stage is tender evaluation, where the Procurement Division (MoD) or the Treasury forms a committee comprising of technical representatives from the services, the Defence Science and Technology Centre (DSTC) and the Information Technology Division. A financial committee is also set up to evaluate the financial merits of the planned purchase, such as potential industrial offsets, modes of payment (counter trade, commodities, capital), and payment schedule.⁴² Finally, the Tender Board, led by the Secretary General of the MoD and comprising various members of the Armed Force Headquarters, the services, the Treasury and the deputy Secretary-General for Development, considers the tender and either reject or accept it, or call for a re-tender. However, the Treasury can veto recommendations made by the Tender Board.⁴³

Malaysia's arms procurement process is significantly bureaucratized, with overwhelming power placed in the hands of civilian policymakers. It is therefore little wonder that the MAF's arms purchases are made not solely with utility in mind, but based largely on political considerations. There is strong civilian oversight at nearly every stage of the procurement process, and civilian policymakers hold the 'veto power' in which it can unilaterally terminate procurement decisions.

Malaysia's defence policies are strongly linked to foreign policies, and it is of little surprise that civilian policymakers employ foreign policy, albeit in a wider framework, in which arms procurement decisions are made. Therefore, foreign policy is often seen as the prerogative of the Prime Minister and the ruling United Malay National

⁴² Ibid., pp. 79-80.

⁴³ Dagmar Hellmann-Rajanayagam, "Malaysia," p. 80.

Organization (UMNO), instead of the Foreign Ministry; the former usually keeps the military informed about its foreign policy initiatives by involving senior military leaders in official delegations, although not in foreign policy decision-making.⁴⁴

As such, arms procurement decisions are part of a wider foreign policy decision, and have little to do with fulfilling military utility or practicality. Dagmar Hellmann-Rajanayagam explains:

Political and economic considerations, including technology transfer, outweigh purely technical or military considerations where defence procurement is concerned. Procurement takes place within the framework of the foreign and development policies of the state as a whole. The Economic Planning Unit (EPU) and the Treasury (the finance ministry) have the final say in procurement matters – something that is resented by the military. Political agencies take decisions on the basis of considerations other than military...for instance, when the MIG-29S was purchased from Russia in 1995, although it was considered a good aircraft, there were apprehensions as to its maintainability and sustainability and criticism of the quality of Russian training for an air force used to Western equipment, *but the recommendations of the armed forces were overruled in the final stages of decision making and a politically motivated deal with Russia was pushed instead.*⁴⁵ (Italics added)

Apart from the strong political overtone in arms procurement, there is also a substantial level of cronyism and imitation involved as well. Although it is not as prevalent, political connections do help in a big way in securing defence contracts in Malaysia.⁴⁶

In sum, the MAF's procurement process is heavily dictated by civilian policymakers. The various stages of acquisition, beginning with the individual services' requisitions, to the evaluation and final procurement typically demonstrate strong civilian dominance in the process. Because foreign policy considerations and the existence of

⁴⁴ Ibid, p. 74.

⁴⁵ Ibid, p. 75; Michael Richardson, "Playing the Russian Card," *Asia-Pacific Defence Reporter 1994 Annual Reference Edition*, Vol. XX, No. 6/7, (December 1993/January 1994), p. 24.

⁴⁶ For example, Malaysia's recent Scorpene submarine deal with France highlighted the importance of getting politically well-connected middlemen to secure defence contracts. See S. Jayasankaran, "Wanna Buy A Sub?," *Far Eastern Economic Review*, Vol. 165, No. 32, (August 15, 2002), pp. 16-17.

cronyism are factored into the procurement process, there is thus, an inevitable gap between what the military deems suitable for its requirements and what the civilian government buys.

Conclusion

Malaysia's case demonstrates strong organizational determinism in its civil-military relations; because of the overwhelming control that the civilian holds over the military and defence-related matters, the latter is subordinated to an unequal degree in foreign policy decision-making. UMNO's domestic legitimacy in Malaysia remains unchallenged, and concomitantly, the military, because of its British origins, has no political aspirations, as evidenced by the absence of coups in the country's history. Furthermore, the loyalty of the military is kept by the appointment of key senior officers for their loyalty to the party as much as their leadership abilities.⁴⁷ Interservice rivalry is clearly evident in the MAF; while subordinate to the civilian government, the army clearly dominates the 'pecking order' because of its historical role in successfully ending the communist insurgency within the state. As a result it ensures that its views are the first to be heard by civilian policymakers, although the navy and air force have challenged its pre-eminent position in the recent decade.

The MAF's doctrine began to change when the threat of the communist insurgency resulted in a shift towards acquiring conventional warfare capabilities with an emphasis on forward defence and deterrence. As a result, its weapons requirements

⁴⁷ Ravinder Pal Singh, "Comparative Analysis," in Ravinder Pal Singh (ed), *Arms Procurement Decision Making Volume II: Chile, Greece, Malaysia, Poland, South Africa and Taiwan*, (SIPRI: Oxford University Press, 2000), pp. 239-240.

shifted as well, emphasizing the acquisition of conventional warfare capabilities. However, its existing force structure and arsenal in the 1970s were inadequate to deal with conventional threats. Moreover, it was a service within the military (the RMN) that wanted a shift in doctrine, since the dwindling communist threat did not warrant the traditional emphasis on counter-insurgency warfare by the army. As such, civilian intervention into the MAF's doctrine was out of pragmatism; to protect its resource-rich territories and to be able to maintain a credible external defence posture. Organizational determinism also exists in the MAF; however, instead of an inter-organization conflict (civilian and the military) over military doctrines as hypothesized, it is more of an intra-organization conflict, where one service (RMN) attempts to alter the power and influence that the army enjoyed. Therefore, inter-service rivalry was part of doctrinal changes as each service attempts to remain relevant to the country's defence policy. The army came up with the RDF concept so as to regain a share of the defence budget, which has been disproportionately directed towards the navy and air force since the late 1980s. Therefore, the military in this case, did not act in unison in their preference for offensive doctrines; only did the threat of losing its pre-eminent position force the army to push for the RDF concept.

As posited in the theory, the defence budget plays a big role in determining the military posture a country can afford to adopt. Malaysia's defence budget is subjected to strong civilian oversight, and there is no stipulated cap on defence expenditure. Instead, the MAF's acquisitions depend on the availability of funds from the state's 5-year economic plans, and is withheld or slashed periodically, depending on the performance of the country's economy. The clearest example is seen in the PERISTA program; despite

doctrinal changes, the PERISTA modernization program still fell short in transforming the MAF into a conventional war-fighting capable military. Consequently, the concept of forward deterrence had to be postponed and Malaysia had to settle for a deterrent capability well into the 1990s. While strong civilian control over the defence budget prevents 'boxing' from occurring, it created in Malaysia's case, an inconsistent pattern of acquisition instead. The 2003 purchases for example has led to overspending that will eventually cut into the 9th Malaysia Plan. Furthermore, while the weapons acquired are typically sophisticated in nature, questions have been raised on the MAF's maintenance and logistical capability to deal with a multitude of weapon platforms from both East and Western-bloc suppliers.⁴⁸

The acquisition process clearly demonstrates civilian control over its decision-making. Further, one might also argue that the recent procurements, especially in the last two years, were acquired not only because of its utility value, but also its 'prestige' value to civilian policymakers. For example, the MAF's purchase of 18 Su-30s in 2003 puts the country at the forefront of the 'combat aircraft acquisition' competition in the region by being the first ASEAN country to possess a fourth-generation fighter aircraft; a point not easily dismissed by Malaysia's neighbours.

In the final analysis, Malaysia's defence acquisitions exhibit civilian dominance over the process. There is strong disparity between its military's needs and the actual procurements made. Political considerations take precedence over military utility and feasibility behind its weapons acquisitions. While the acquisitions are not inherently bad

⁴⁸ Joon Nam Mak, "Armed But Ready?: ASEAN Conventional Warfare Capabilities," *Harvard International Review*, Vol. 16, No. 2, (Spring 1994), p. 22. See also, Paul Dibb, "Defence Force Modernization in Asia: Towards 2000 and Beyond," *Contemporary Southeast Asia*, Vol. 18, No. 4, (March 1997), p. 358.

choices, the fact remains that the purchasing decisions are made independent (or even irregardless) of the military's input into the matter, makes its procurement choices far from ideal. While strong civilian intervention in procurement policies, prevents 'boxing' and overt corruption by soldiers from occurring, the MAF on the other hand, still faces shortfalls in its planned acquisition lists.

Chapter 5 - Thailand

Overview

Thailand's case illustrates strong organizational determinacy in its acquisition processes. The country's civil-military relations have leaned strongly towards the military in the past, and its impact is still felt today although the post-1992 coup saw the removal of the Royal Thai Armed Forces (RTAF) from politics. This is largely due to its historically pivotal role in shaping the country, and thus, leading to its claim in national politics. The Thai army (RTA) especially, has been the dominant service and had been actively involved in domestic politics since the 1932 coup. Military acquisitions therefore, have remained exclusively in the RTAF's domain. While the RTAF's acquisitions and doctrinal changes have largely been responses to external threats, there is little evidence to show that the military was amenable to changes during these periods, and that the procurement strategy was balanced. The military tended to dominate the procurement process, and its penchant for technologically-advanced weaponry did not link well with its maintenance and logistical capabilities.

Since the 1992 coup however, the army was forced out of direct political involvement, also saw the concomitant rise of the Thai navy's (RTN) influence, although it has shunned direct political participation like its army counterpart. Furthermore, civilian policymakers now have greater oversight in military procurement issues, and the military as a whole has been held more accountable for its expenditures. The 1997 financial crisis also curtailed much of the RTAF's acquisitions, and many acquisition projects cancelled or delayed as the defence budget was dramatically reduced and

channelled to other pressing economic needs. But disorganized acquisitions in the past have left the RTAF with many complications as to how to maintain its hardware and fit it into its conventional warfare doctrine. Consequently, the Thai military's equipment modernization drive remains incomplete.

The RTAF Today

In the immediate aftermath of the 1992 coup and the subsequent regime change, the RTAF's acquisition programs remain largely untouched. However, the traditional inter-service rivalry between the army and the navy resulted in the latter service emerging as the 'victor' in the eyes of the people. The army was discredited for its role in suppressing the student demonstrators, and consequently lost much of its political footing in the government. The navy on the other hand, was lauded for its non-participation (for the most part) and its defence of the constitution. As a result, defence procurement weigh heavily towards equipping the navy and air force above the army. Above all, the navy gained prominence in the political vacuum left by the army and is touted to be the next most influential policymaker in Thai politics.¹

With the end of the Vietnamese threat on the northern frontier, the RTAF has had to refocus its attention towards securing its borders with Myanmar. Myanmar has been Thailand's historical animosity from the time of the Chakri dynasty, there continues to exist an uneasy co-existence between the two states. The porousness of its borders is such

¹ Eric Heginbotham, "The Rise and Fall of Navies in East Asia: Military Organizations, Domestic Politics and Grand Strategy," *International Security*, Vol. 27, No. 2 (Fall 2002), p. 110.

that only 59 kilometres of it properly demarcated along out of some 2,400 kilometres.² Thirdly, the massive flow of drugs from Myanmar has been a source of contention between the two states. Fighting between Burmese forces, tribal Karen guerrillas and various warlord armies (especially Khun Sa's Mong Tai Army) spilled over to Thailand's borders in the mid-1990s. Because of the difficult terrain, Burmese forces have frequently crossed over to Thailand's borders in its efforts to outflank guerrilla forces causing the RTA to respond with force to repel the incursion and occasional artillery exchanges between both states' military forces were common.³ Burmese and Thai forces have also clashed in the recent years (the most recent was in February 2001) and even in the Andaman Sea where Burmese and Thai warships have exchanged gunfire.⁴ However, Khun Sa's negotiated settlement with the Burmese regime has led to lower levels of conflict. But the third source of tension, i.e. drug trafficking, remains unresolved.

The Burmese government's proxy army, the United Wa State Army is the main producer of amphetamines that have found its way into Thailand, adding to the government's problem in stemming drug trafficking.⁵ As a result, the two states have deployed large numbers of military forces in the northwestern area – a mountainous region for the most part. The RTAF especially, has increasingly beefed up its security

² Derek da Cunha, "Renewed Military Buildups Post-Asian Crisis: The Effect on Two Key Southeast Asia Bilateral Military Balances," *International Politics and Security Issues No. 3*, (Singapore: Institute of Southeast Asian Studies, 2001), p. 7. For more details on the Thai-Burmese areas of dispute, see Maung Aung Myoe, "Neither Friend nor Foe: Myanmar's Relations With Thailand Since 1988," *Institute of Defence and Strategic Studies (IDSS) Monograph No. 1*, ((IDSS: Singapore, 2002), pp. 96-123.

³ N. Ganesan, "Bilateral Tensions in Post-Cold War ASEAN," *Pacific Strategic Papers, No. 9*, (Singapore: Institute of Southeast Asian Studies, 1999), p. 20.

⁴ Mark Farrer, "The Royal Thai Navy: Progress or Stagnation?," *Asia-Pacific Defence Reporter*, Vol. XXV, No. 5 (August/September 1999), p. 12; International Institute of Strategic Studies (IISS), *Strategic Survey 2003/4*, (IISS: Oxford University Press, 2004), p. 264; Andrew T.H. Tan, *Intra-ASEAN Tensions, The Royal Institute of International Affairs Discussion Paper No. 84*, (London: RIIA, 2000), p. 43.

⁵ Anthony Davis, "Thailand Tackles Border Security," *Jane's Intelligence Review*, Vol. 12, No. 3, (March 2000), p. 30.

forces over the years along the northwestern border and has stepped up surveillance in the quest to end “the scourge of narcotics presently visited on Thailand.”⁶

The new external threat has given the RTAF the basis in its request for more modern arms to deter the possible Burmese threat. For example, the TAF requested and received advanced AMRAAM missiles from the U.S. for its F-16s upon the Burmese air force’s receipt of 10 MIG-29s from Russia.⁷ The Burmese military (or *Tatmadaw*) has been steadily building up its conventional capabilities since 1988 when it deposed the civilian government and established military rule over the country. Thus, there exist interactive arms acquisitions between both states.⁸

The RTAF remains committed to developing a conventional force, and especially, developing better organization, logistics and maintenance ‘culture’ within the organization; much of this is due to the painful lessons of Ban Rom Khlaio in the late 1980s where Thai forces sustained heavy casualties in large part due to the lack of coordination between the services (army and air force), and the lack of logistical support, resulting in equipment failures and a lack of spares for vehicles, especially tanks.⁹ While the RTAF had no illusions of maintaining parity against the Vietnamese forces pitted against them, it had hoped that technology would at least deter the threat since a full-scale mid-intensity conflict would “stretch its forces’ operational capabilities (already limited

⁶ Ibid., p. 34.

⁷ “U.S. nod for Thailand to buy advanced air-to-air missile,” *The Straits Times*, 18 July 2001, p. A6.

⁸ The intensity of arms acquisition by both states still do not qualify as an arms race, although the acquisition of ‘breakthrough’ capabilities by one country (usually Burma), has resulted in counter acquisitions by the other party in an attempt to maintain parity. See Derek da Cunha, “Renewed Military Buildups Post-Asian Crisis: The Effect on Two Key Southeast Asia Bilateral Military Balances,” pp. 8-10.

⁹ Tim Huxley, “The ASEAN States’ Defence Policies: Influences and Outcomes,” in Colin McInnes and Mark G. Rolls (eds.), *Post-Cold War Security Issues In The Asia-Pacific Region*, (London: Frank Cass, 1994), p. 149.

by lack of spares and ammunition) and cause unacceptable casualties.”¹⁰ To the extent that it cannot hope to match its adversary’s force levels, the RTAF’s procurement strategy of the time was to build up its capability to deter Vietnamese border incursions, and failing that, the capability to repulse limited incursions.

As earlier mentioned, the RTAF force modernization program has focused on maritime threats from the late 1980s onwards. Following 1992, greater attention was given towards strengthening its littoral defences by giving priority to the navy and air force. Part of this bias, as mentioned earlier, was politically driven, because of the navy’s stance during the 1992 coup. A second part is the reduction of hostilities in Cambodia after 1993, following the Vietnamese withdrawal and the subsequent elections that saw Cambodia become a newly-independent state again. A third factor concerns the refocusing of threat assessment from the Thai-Cambodian border to the northeast Thai-Burmese border. Although the RTAF may not be numerically superior to its Burmese counterpart, its technological superiority (it is hoped) will act as a deterrent against the *Tatmadaw*, which are ‘newcomers’ in developing conventional warfare capabilities. The financial crisis however, has effectively put a halt to the RTAF’s acquisition programs. Consequently, its planned modernization programs remain incomplete, such as the development of RTN’s ‘blue-water capability,’ and the intended purchase of 8 F/A-18D Hornets, which were eventually cancelled or indefinitely shelved.¹¹

The RTAF today exhibits continuity and change in its overall structure. While it still maintains an externally-oriented strategic outlook, its equipment obsolescence

¹⁰ Mark G. Rolls, *The ‘Arms Dynamic’ in South-East Asia During the Second Cold War*, (Aldershot: Ashgate Publishing Limited, 2002), p. 24

¹¹ Frank Umbach, “Financial Crisis Slows But Fails to Halt East Asian Arms Race – Part One,” *Jane’s Intelligence Review*, Vol. 10, No. 8, p. 25.

hinders its efforts to fully develop a conventional warfare-capable force. Much has been done since 1992, to make the Thai military 'lean and trim,' such as the planned reduction in manpower, affecting the army particularly, indicating that the country does not foresee a major threat emanating from Vietnam, and also for domestic reasons, as successive post-1992 governments have reduced the military's prestige and political power (especially the army).¹² Furthermore, the emphasis towards maritime security suggests a new outlook in the RTAF's strategic thinking; securing access to natural resources and SLOCs in the Gulf of Thailand and the Andaman Sea. This new orientation however, may also be influenced by the most of the ASEAN member states who have modernized or are in the process of modernizing their naval capabilities, hence, the need to 'look good' in the region. It remains to be seen however, in the post-financial crisis period, how the RTAF will fare in its modernization programs.

Defence Policy Decision-making

Thailand's security policy before 1992 was almost exclusively decided by army officials in the civilian government. As a result, the army's dominant political role has helped develop the RTAF since 1932. Although the 1992 demonstrations forced the army out of direct political involvement, it remains an important political force in the country. Former military officers appointed to the senate now give the RTAF a voice in politics, obviating the necessity of coups to implement changes.¹³ Since the coup however, there

¹² Mark G. Rolls, "Thailand's Defence Programme," in Colin McInnes and Mark G. Rolls (eds.), *Post-Cold War Security Issues In The Asia-Pacific Region*, (London: Frank Cass, 1994), p. 106.

¹³ Micool Brooke, Wassana Nanuam, "The Military in Thailand," *Asian Defence Journal*, (July 1996), p. 6.

has been growing civilian control over defence matters, which was once regarded as an exclusive domain to the military.

The king of Thailand, King Bhumiphol, is regarded as the Ultimate Commander of the RTAF, although it is a ceremonial role than one with direct political power. But the king has been known to intervene in times of national crises, and had done so during the 1992 coup. In the command structure of the RTAF, the prime minister answers to the king, while the defence minister reports to the prime minister.¹⁴ Below the defence minister is the supreme commander of the RTAF who is the link between the military and the civilian government; the supreme commander in turn, is responsible for the commanders-in-chief for all three services of the RTAF.¹⁵ In times of national crisis, the prime minister will be advised by the National Security Council, of which he is the chairman; other members of the council include the deputy prime minister, defence, foreign affairs, interior, transport, and finance ministers, in addition to the three commanders-in-chief.¹⁶ While the overall control of the RTAF lies with the prime minister, the defence minister is the one that will coordinate security policies with other various government departments concerned. Further, the positions of commanders-in-chief are usually 'springboards' to cabinet or senate positions.¹⁷

Defence policy-making remains an opaque process to the public, although there have been efforts to properly define the role of the RTAF. Subsequently, the Thai Ministry of Defence (MoD) published its first defence White Paper in 1994. While the emphasis of the White Paper was on arms procurement, the roles of the RTAF were also

¹⁴ Ibid, p. 12.

¹⁵ Micool Brooke, Wassana Nanuam, "The Military in Thailand," p. 12.

¹⁶ Ibid., p. 12.

¹⁷ Ibid., p. 12.

laid out, albeit loosely defined. The White Paper posited that the country's national interests are: (a) the maintenance of the state with independence, sovereignty and territorial integrity; (b) the happiness and well-being of the people; (c) the growth and advancement of the nation as a whole, both in social and economic terms, through the provision and maintenance of an administrative system that benefits the people; and (d) maintaining its honour and prestige in the international community.¹⁸ In addition, Thailand's new security strategy (first introduced to the parliament in 1995) in the post-Cold War period has focused on the development and promotion of the armed force so that "they have the capability to fulfil its duties with prestige and honour, with the protection of the people's interests as its priority."¹⁹ The new strategy also signalled a move towards providing the military with appropriate support through the provision of personnel, doctrine, technology and equipment for modern conventional warfare, and promoting military research and development, so that the organization can be self-sufficient.²⁰ Lastly, the strategy also called on the RTAF to further develop and strengthen its offensive capabilities through improvement of its mobility and overall command and control.

The RTAF remains an important actor in Thai politics. Since the coup however, the country has enjoyed an unprecedented period of democracy. The military was removed from direct involvement in politics, and there have been moves towards a more inclusive and balanced civil-military position on defence policy-making. Arms acquisitions, a key issue in the RTAF's defence policies are now more closely scrutinized

¹⁸ Thai Ministry of Defence, *The Defence of Thailand 1994* (Supreme Command Headquarters: Bangkok, 1994), pp. 18-19.

¹⁹ Micoool Brooke, Wassana Nanuam, "The Military in Thailand," p. 14.

²⁰ *Ibid.*, p. 14.

by civilian politicians, although the process of decision-making still has a long way to go before achieving a balance comfortable to both civilian and soldier alike. However, the current Prime Minister, Thaksin Shinawatra, has dominated the political scene with a strong mandate from the population, thus continuing the democratic trend in the country.²¹ This has helped prevent the military from getting involved in politics again. Nonetheless, the attainment of civil-military parity with regard to defence matters in Thailand still has a long way to go.

Defence Budget

The defence budget in Thailand as a percentage of its GDP has changed over time. In the early 1980s, it was unsurprising to find the Ministry of Defence having the largest budget of all ministries, accounting for 18 percent of total government expenditure. Over the years however, the military budget has been reduced in ranking, although it remains in the top three ranks of the highest spending ministry. Notwithstanding its ranking, the defence budget remains around 2 percent of the country's GDP until 1997.²² A major reason for this is the high economic growth rates in Thailand and its surrounding neighbours around the mid-1980s onwards, therefore absorbing the impact of the defence budget. The RTAF's defence expenditure itself hovered around USD\$ 2.4 billion annually, with the exception of 1997, when it hit USD\$4.38 billion (due in part to the aircraft carrier purchase, just before the financial

²¹ David Saw, "Defence Programmes in Thailand – A New Dawn Approaches?" *Asian Military Review*, Vol. 11, Issue 8, (December/January 2003-2004), p. 26.

²² Panitan Wattanayagorn, "Thailand," in Ravinder Pal Singh (ed) *Arms Procurement Decision Making Volume I: China, India, Israel, Japan, South Korea and Thailand*, (SIPRI: Oxford University Press, 1998), pp. 228-229.

crisis).²³ Thailand therefore, was the second-highest spender in the Southeast Asian region after Singapore.

The RTAF, prior to 1992 had almost complete control over the budget, and was not thoroughly held accountable for its expenditure. Like most developing countries' military, the defence budget is set artificially higher than actually required. This gives the RTAF a lot of flexibility in spending, as some military expenditure can be hidden elsewhere.²⁴ Post-1992 saw little changes, but overall fiscal constraints began to have its effect on military spending. Even before the financial crisis, civilian policymakers in mid-1996 warned of a ballooning budget deficit and subsequently froze defence spending at 1995 levels; this led to the cancellation of the submarine and satellite procurements.²⁵ When the crisis struck Thailand, its defence budget was further slashed, accounting for just 1.5 percent of its GDP in 1998.²⁶ As a result, the services were asked to scale down their weapons purchases, and in some instances, had the weapons contract cancelled, for example, the 1996 order for eight F/A-18D Hornets.²⁷

Subsequent years following the financial crisis saw Thailand rebuilding its economic standing. The defence budget remained at USD\$1.9 billion for 2003 accounting for just 1.3 percent of the GDP,²⁸ which is miniscule, compared to what the RTAF has been previously used to getting. Indeed, apart from the previous purchases made before the financial crisis, there have been few procurements made, apart from

²³ Desmond Ball, "Security Trends in The Asia-Pacific Region: An Emerging Complex Arms Race," *Strategic and Defence Studies Centre (SDSC) Working Paper No. 380*, (Canberra: SDSC, Australian National University, 2003), p. 9.

²⁴ Panitan Wattanayagorn, "Thailand," p. 231.

²⁵ Tim Huxley, Susan Willet, "Arming East Asia," *International Institute of Strategic Studies (IISS) Adelphi Paper 329*, (IISS: Oxford University Press, 1999), p. 16.

²⁶ *Ibid.*, p. 17.

²⁷ Frank Umbach, "Financial Crisis Slows But Fails to Halt East Asian Arms Race – Part One," p. 25.

²⁸ International Institute of Strategic Studies, *The Military Balance 2004-2005*, (IISS: Oxford University Press, 2004), p. 325, 355.

upgrades and spare parts for its existing arsenal.²⁹ The election of Shinawatra on his populist platform has also rendered the military more accountable for its expenditure in this tight fiscal period, and as such, it is difficult to see the Thai military being able to justify any 'big-ticket' expenditure over the next few years.³⁰ In short, the defence budget that the RTAF has been used to receiving has shrunk, and there have been calls to hold the military accountable for its defence spending. The Thai military, now reined in by the civilian government, will face increasing difficulties in arms acquisition in the future without first justifying the need for it.³¹

Procurement Strategy

The arms procurement decision-making process in Thailand can be divided into 5 levels from the bottom up. The first level is the three services; the second level is the Supreme Command Headquarters, the MoD is the third and more important level, the Prime Minister and Cabinet forms the fourth level, and lastly, the Parliament is the fifth level, which is responsible for approving the expenditure of an acquisition through allocations in the annual defence budget.³² We will begin with an examination of the first level.

The acquisition process begin when a military unit or user service puts in an equipment request stating the specification of the equipment and its reasons for wanting it. This request goes to the procurement division of the respective service, who will then draw up a procurement plan, determine the availability of resources and seek approval

²⁹ Ibid., p. 331.

³⁰ David Saw, "The Regional Defence Environment – Spending and Programme Trends," *Asian Military Review*, Vol. 8, Issue 8 (December/January 2000-2001), p. 18.

³¹ Panitan Wattanayagorn, "Thailand," p. 231.

³² Ibid., p. 213.

from the Commander-in-Chief to establish a procurement committee.³³ Once established, the procurement committee evaluates the plan and forward it to the Directorate of Operations with a recommendation; in turn, the directorate will make its own recommendations and advise the Commander-in-Chief accordingly. If the equipment in question is within the service's budget, the latter can approve it immediately. However, equipment that goes beyond the service's annual budget requires approval from the Supreme Command Headquarters.³⁴

At the second level, the Supreme Command Headquarters will evaluate the acquisition proposal according to established regulations, such as logistical supply, but also cabinet decisions and even orders from the prime minister or the MoD; additionally, the procurement plan is evaluated on a five-year plan basis, using the planning, programming and budgeting system.³⁵ The Supreme Command Headquarters will also consult the individual service to set priorities among competing procurement proposals if needed. After that, the proposal is submitted to the Supreme Commander for approval, and once it is approved, it goes to the MoD.

The third stage begins when the MoD receives and evaluates the proposed arms acquisition programs. This is done at the level of the MoD Directorate of Joint Operations, comprising of representatives from the three armed services, who will make recommendations and forward it to the Permanent Secretary of Defence.³⁶ The latter will check to see if the proposal is in line with the ministry's policies and regulations; if so, then the Permanent Secretary submits it to the Minister of Defence for final approval. If

³³ Ibid., p. 214.

³⁴ Panitan Wattanayagorn, "Thailand," p. 214.

³⁵ Ibid, pp. 214-215.

³⁶ Ibid, p. 215.

the proposed procurement is within his budgetary power, he can authorize procurement at this point; if the equipment in question requires additional funding that is outside the parameters of the defence budget, he is required to forward the proposal to the cabinet for consideration.³⁷

Before the defence minister can forward the proposal to the cabinet, he has to seek support from the Bureau of the Budget (BoB), which is under the finance ministry. The BoB will determine if there are sufficient funds for the acquisition and if so, the defence minister then submits it to his cabinet colleagues for evaluation and approval. The BoB forms an important link in the process; without its support, the defence minister will have little chance of pushing it on the cabinet agenda for consideration.³⁸

At the fourth stage, the Prime Minister and other members of the cabinet will make the decision to approve the acquisition. This is done in consultation with representatives from the intelligence services. Because the cabinet still relies heavily on the defence minister regarding security issues, the process may be unfavourably influenced at this stage. Hence, this is where the military's influence comes in, as the intelligence services directors may influence the process; most of these actors are themselves serving military officers.³⁹ However, with the adoption of counter-trade policies in arms purchasing policies, other cabinet ministers have become a part of the once-inclusive process.

The House of Representatives form the last stage of the process. The budget for the equipment acquisition is examined by the Budget Scrutiny Panel, while the Military Affairs Committee may also be consulted with regard to strategic and military issues

³⁷ Ibid, p. 216.

³⁸ Panitan Wattanayagorn, "Thailand," p. 216.

³⁹ Ibid, p. 217.

related to the acquisition proposal. The Military Affairs Committee can also exercise its powers to make the military more accountable, although it is never done in practice, as most of its members are former military officers, hence, the links with the 'old boys club' remain strong. Once the Budget Scrutiny Panel endorses the proposed defence spending, it is submitted to the Parliament for a final reading as part of the annual budget bill. Once the bill is passed, the MoD can proceed with the acquisition of the item for the following fiscal year.⁴⁰ While the Parliament was a 'rubber stamp' for the military's spending in the past, recent years have seen the influence of the House of Representatives growing with regard to defence expenditure. Members of the house have openly questioned the military on issues of transparency, accountability and legitimacy of arms purchases, especially during the annual parliamentary budget debate.⁴¹ This has led to tension between the military and civilian authority alike, but it demonstrates the growing influence of civilian policymakers over the military.

The military's influence in the procurement process is obvious. Nevertheless, what other factors influence the procurement process? Joon-Nam Mak argues that Thailand's arms purchases since 1976 has been very predictable; the RTAF has a penchant for high-technology, sophisticated weaponry as a result of its strong American influence, emphasizing the attainment of conventional warfare capabilities for all three services at the same time.⁴² The predilection for expensive weaponry is attributed to the Thai officer taking on three roles: the professional soldier, whose interest lie in the safeguarding of the country's sovereignty; the bureaucrat, with the interest of expanding

⁴⁰ Panitan Wattanayagorn, "Thailand," p. 218.

⁴¹ Ibid, p. 218.

⁴² Joon-Nam Mak, *ASEAN Defence Reorientation 1975-1992: The Dynamics of Modernisation and Structural Change, Canberra Papers on Strategy and Defence No. 103*, (Canberra: Strategic and Defence Studies Centre, 1993), p. 82.

his/her agency's role and influence while protecting its agenda at the same time; and the highly-politicized soldier, which results in factions being formed in the Thai military, each with its own distinct vested interests and political goals; hence, the promotion of various 'favourite' types and brands of hardware and the corruption involved, in the form of supplier commissions or 'kickbacks.'⁴³

Consequently, the procurement process, being heavily influenced by the military (depending on which is the dominant faction) resulted in haphazard acquisitions. For example, the U.S.-made Cadillac Gage Stingray tank purchase has come under criticism by some policymakers as it has developed hull cracks: The tank has barely passed out of its prototype stages before the RTA contracted the manufacturer to produce 106 of these units.⁴⁴ Conversely, another instance of 'procurement politicization' by civilian policymakers is the purchase of Chinese Type 69s, Type 85 APCs, and six frigates in the early 1980s. The RTN expressed its dissatisfaction over the poor workmanship of the frigates, but the purchase went ahead despite the military's misgivings because it was offered at 'friendship prices' and concomitantly signalled to Vietnam the strength of the Sino-Thai alliance at the height of Vietnam's occupation of Cambodia.⁴⁵ Therefore, Thailand's arms acquisitions go beyond domestic politics; it also has a geopolitical agenda. Nevertheless, the post-1992 period has seen more accountability in the arms procurement process.

⁴³ Sukhumbhand Paribatra, "Thailand: Defence Spending and Threat Perceptions," in Chin Kin Wah (ed.), *Defence Spending in Southeast Asia* (Institute of Southeast Asian Studies, Singapore, 1987), pp. 103-104; Chien-pin Li, "Fear, Greed, or Garage Sale? The Analysis of Military Expenditure in East Asia," *The Pacific Review*, Vol. 10, No. 2 (1997), p. 281.

⁴⁴ Joon-Nam Mak, "Armed But Ready?: ASEAN Conventional Warfare Capabilities," *Harvard International Review*, Vol. 16, No. 2 (Spring 1994), p. 21.

⁴⁵ Joon-Nam Mak, *ASEAN Defence Reorientation 1975-1992*, p. 84.

Thailand's arms procurement process demonstrates the influence of military actors in its bureaucratic process. The existence of military officers, either serving or former officers, inevitably influences the procurement process. Because the military remains a close-knit network of ties and in some instances, family relations,⁴⁶ there is a tendency to look out for one another. Consequently, the acquisitions made demonstrate a gap between needs and actual procurement; the equipment purchased may not ideally meet the requirements stated, but is purchased anyway because of the commissions, deliberate budget inflation (thus having to spend it), social networks, and factional interests involved. The recent years however, have witnessed stronger civilian participation in the procurement process, holding the military more accountable for its expenditure. However, the 'ghosts' of past acquisition habits remain,⁴⁷ and the prospect of attaining healthy civil-military relations in procurement matters remains distant.

Conclusion

Thailand's military procurement strategy differs from Malaysia and Singapore. The RTAF's dominance in both civil-military relations because of its role in the formation of modern Thailand and past history of coups has led to procurement outcomes that are highly dominated by the organization until 1992. The military has had a strong political voice in the government since the 1932 coup d'état toppled Thailand's absolute monarchy and changed it into a constitutional monarchy. This marked the beginning of

⁴⁶ Panitan Wattanayagorn, "Thailand," p. 226.

⁴⁷ For example, the RTA, now hit by cutbacks, has resorted to buying second-hand tanks from Switzerland, even though it is not ideal for Thailand's terrain. See Paul Vauban, "Thailand Considers Swiss Tanks," *Asia-Pacific Defence Reporter*, Vol. 29, No. 6, (September 2003), p. 12.

the RTAF's involvement in politics, and saw the "role of the military shift from implementing national policies to formulating them."⁴⁸ Since then, the RTAF has held a major political voice in the civilian government and more so in military-related matters until 1992. Furthermore, as illustrated, interservice rivalry is strong in Thailand's case, where the army was the dominant service both politically and within the military until 1992. Thus, procurement decisions have disproportionately favoured the army.

Although there is a pattern of similarity, Thailand, like most other ASEAN states, only moved towards acquiring conventional capabilities in the latter part of the 1970s. However, the change in doctrine from counter-insurgency was more pressing an issue for the Thai military than that of Malaysia. Because of the imminent threat posed by Vietnam after the collapse of Saigon in 1975, the Thai military began to orientate its services towards securing its northern border with Cambodia. The threat became more acute in 1978 with the Vietnamese invasion of Cambodia. The buffer between communist Vietnam and Thailand was no longer there, and the latter had to confront the Vietnamese military at its doorstep.⁴⁹

Thailand's internal security had mostly dissipated by the end of the 1970s. The Communist Party of Thailand (CPT) and elements of the Communist Part of Malaya (CPM) on the southern border of Thailand had almost ceased to exist as a credible threat to the government. The RTAF's strategy towards dealing with the insurgency was mainly through political means. Concomitantly, the invasion of Cambodia saw the decline of the CPT as they were expelled from their border bases in the northern frontier.⁵⁰ Subsequently, counter-insurgency threats were dealt with by specialized 'Ranger-type'

⁴⁸ J.N. Mak, *ASEAN Defence Reorientation 1975-1992*, p. 75.

⁴⁹ Mark G. Rolls, *The 'Arms Dynamic' in South-East Asia During the Second Cold War*, pp. 23-31.

⁵⁰ *Ibid.*, p. 99.

units, obviating the need to divert conventional army assets (tanks, APCs, etc) to manage the internal security issue. By this time too, the RTAF was more concerned with external security, as the Vietnamese invasion of Cambodia proved to be the bigger threat. Even with the end of the communist threat in 1992, and Vietnam's subsequent withdrawal from Cambodia, the Thai military continued developing its conventional capabilities. Continuing border tensions with Myanmar for example, have given the military the *raison d'être* for its continuing force modernization program and the continuance of its conventional warfare doctrine.

Military dominance in procurement affairs also corresponded with external threats to the state, thereby creating the need for the military to modernize its arsenal so as to be able to execute conventional warfare and pre-emptive offensive doctrines. Thailand's conventional warfare doctrine is largely due to contentious border and littoral issues. This allowed the military to gain unprecedented influence in defence budget setting and procurement decisions in the past. After 1992 however, Thailand saw a return of civilian authority in defence matters and the RTAF was held accountable to a higher degree for its procurement programs and expenditures than it was previously. The modernization of Thailand's military however, is far from complete, and it remains to be seen if its can effectively employ its conventional warfare capabilities for a sustained period of operation.

Therefore, there is 'disconnection' in Thailand's case, between the civilian and military, with the latter having an overwhelming sense of control over policy decision-making. Unsurprising then, the RTAF's procurement strategy has been almost exclusively dominated by senior military officers alone, with the civilian government

giving its 'stamp of approval' in almost every instance until post-1992, where civilian policymakers have been able to exercise stronger control over the military.

The 1992 coup also marked a change in domestic politics as the military, particularly the Royal Thai Army (RTA), become discredited, and the concomitant ascendancy of the Royal Thai Navy (RTN) and to a lesser degree, the Royal Thai Air Force (TAF). Subsequent years following the '92 coup saw the other two services (especially the navy) gain prominence and 'rewards' from the civilian government for not taking part in the suppression of demonstrators.⁵¹ While directly removed from politics however, the army remains in the background of Thai politics, and hence, the continuing fear by civilian policymakers of its re-entry into politics.

The RTAF's conventional doctrine, as earlier mentioned, was borne out of necessity. It emphasizes forward deterrence and defence, favouring the employment of high-tech sophisticated weaponry, partly as a result of its strong U.S. influence in its development, and also because of the politics that goes on between various factions in the military. As a result, its arms procurement policies lack coherence in its links to the larger strategic picture, and are more a result of various factions getting its way during the acquisition stage, and undoubtedly, the amount of 'kickbacks' or bribes that senior officers get as a result of arms contracts being secured. Thus, the 'prestige factor' in Thailand's case applies largely to the individual factions within the military than to the civilian leadership.

Because procurement outcomes have been dominated by the military, there are problems of integrating new platforms into the services as many of these procurements

⁵¹ The RTN even supported the pro-democracy demonstrators, but it benefited mainly through its non-involvement. See Tim Huxley, "The ASEAN States' Defence Policies: Influences and Outcomes," p. 149; Eric Heginbotham, "The Rise and Fall of Navies in East Asia," pp. 108-110.

lack vital components that prevent optimal utilization of the weapon, and the shortage of skilled manpower to sustain such acquisitions. Indeed, while recent procurements since the mid-1990s have leaned towards offensive weaponry (especially for the navy and air force), its vast mix of equipment (from the U.S. and China particularly) is becoming a maintenance and logistical problem.

Defence budget is a strong intervening variable that has significantly constrained the RTAF's spending in the latter part of the 1990s. The 1998 financial crisis added to the RTAF's acquisition woes, as the civilian government cut back defence funding to divert national funds to cope with the crisis. Indeed, defence spending fell to just 1.3 percent of its GDP in 2002; a far cry of the 1980s when defence expenditure accounted for 4 percent of its GDP.⁵² Fourth-generation weapons such as the F/A-18 Hornets and even the development of space-based surveillance capabilities were cancelled as it became prohibitively expensive, given that the Thai baht fell to just 40 percent of its previous value against the U.S. dollar at the height of the financial crisis.⁵³ Following this period, the RTAF still grapples with a funding shortage, impeding its planned purchases and upgrading of earlier acquisitions made.⁵⁴

In short, Thailand's military has for the most part, focused on external threats to its security. From the late 1970s up till the early 1990s with the conclusion of the Cambodian peace accords, the RTAF had to contend with the threat of an overland

⁵² International Institute of Strategic Studies, *The Military Balance 2003-2004*, and *The Military Balance 2004-2005* (IISS, Oxford: Oxford University Press, 2003, 2004), p. 337, 355.

⁵³ Frank Umbach, "Financial Crisis Slows But Fails to Halt East Asian Arms Race – Part One," p. 25.

⁵⁴ For example, the navy's aircraft carrier CVH *Chakri Naruebet*, which was delivered at the end of 1997 just before the financial crisis struck, remains in port for most of the time as it lacks weapons and sensors to render it fully operational. See Sheldon Simon, "The Economic Crisis and Southeast Asian Security: Changing Priorities," *NBR Analysis*, Vol. 9, No. 5 (December 1998), p.17; Patrick N. Bright, "ASEAN – Naval Forces Overview," *Naval Forces*, Vol. XXII, No. 2, (February 2001), p. 48; Mark Farrer, "The Royal Thai Navy: Progress or Stagnation?," p. 12.

invasion by the Vietnamese from the North and even Laotian military incursions into its territory; its subsequent abysmal performance against these two adversaries demonstrated to senior commanders that there is a pressing need to address the problems of combined arms operations (typical of conventional warfare), communications, and logistical maintenance.⁵⁵ Towards the end of the 1980s to the early 1990s however, the RTN became prominent as the external threat shifted towards the littoral. The RTN thus, is tasked with defending the country's eastern and western coastline; the Gulf of Thailand and the Andaman Seas respectively. Furthermore, the army's fall from political power during the 1992 coup and the navy's concomitant rise because of its defence of civilian rule saw the latter service being given priority in defence spending.

Thailand's defence procurements have, for the most part, been inconsistent in its approach. This is largely due to the military's influence in domestic politics, resulting in haphazard acquisitions that come from a variety of suppliers and do not generally fit in with the espoused doctrine. Observers have also noted that part of the reason for Thailand's military procurement pattern is because of the substantial level of corruption by senior military officials involved in arms deals. Budget maximization by the organization also occurred, especially with the purchase of 'big-ticket' items that are beyond the services' maintenance and employment capacity. Thus, there is a distinct gap between its acquisitions and employment. Lastly, the element also plays a role in Thailand's arms acquisitions, although it is more by the military than by civilian

⁵⁵ The Vietnamese incursions in February 1987 and the subsequent Battle of Ban Rom Klao against Laotian forces during late-1987 till early 1988, resulted in a poor showing by the RTA in its conventional warfare doctrine and equipment; it later became the catalyst for the RTAF's modernization and procurement programs for the much of the 1990s until the Asian financial crisis. See See Tim Huxley, "The ASEAN States' Defence Policies: Influences and Outcomes," p. 149; Joon-Nam Mak, "Military Changes No Cause For Alarm," *Asia-Pacific Defence Reporter Annual Reference Edition*, Vol. XX, No. 6/7 (December 1993/January 1994), p. 25.

policymakers; the RTN's aircraft carrier purchase for example, is arguably more for prestige (blue-water capability) than for littoral defence.

Despite the Vietnamese and Laotian threat, and the latter Burmese threat, the RTAF still dominated defence planning, doctrines and procurements exclusively. The civilian government was relegated to exercising foreign policy objectives independent of the military. Again, this is due to the military's dominance in domestic politics. Nevertheless, the strengthening of civilian authority after 1992 and the 1998 financial crisis has curtailed the large defence budgets and influence that the RTAF previously enjoyed. Due to its earlier haphazard acquisitions however, the Thai military continues to suffer from the same problem as Malaysia; equipment from a multitude of suppliers, and the lack of adequate skills and technical competency to maintain its purchases, and a lack of coherence in defence planning and foreign policy. As a result, the Thai military's defence modernization programs remains unsystematic and incomplete.

Conclusion

This thesis has attempted to demonstrate the links between civilian and soldiers and its effects on arms acquisition in the Third World. I have also looked at two other determinants that will affect arms acquisition; weapons requirements and interservice rivalry. The three independent variables are based largely on Posen's arguments on organization theory. I have deliberately left out his arguments regarding the viability of balance-of-power theory because I wanted to address the issue of civil-military relations in developing countries during times of relative peace. Even so, Posen's assertion that the balance-of-power theory has higher explanatory power (because civil-military relations will be stronger) fails to explain the RTAF's continued dominance in defence-related matters during much of the 1980s when the state faced external threats from Vietnam and Laos.

Posen's argument regarding organizational determinism seem to be demonstrated in two of case studies. Out of the three countries studied, Singapore seemed to be the exception to the thorny issue of civil-military relations. On the other hand, there is a high degree of disconnection in both Malaysia and Thailand between the civilians and soldiers, although the latter has gradually closed the gap in the last decade since the 1992 coup. However, differences between how the civilian policymakers and senior military personnel view defence and foreign policies continue to hamper arms procurement processes in the two countries. In Malaysia, civilian policymakers make the final procurement decision, which is partly based on the need to show off such acquisitions to potential adversaries or even neighbouring countries, i.e. the issue of prestige is a primary

issue for the country's policymakers. As hypothesized in civilian-dominated outcomes, the government's need to demonstrate its military capability may not take into account its armed forces' preferences or even ability to operate such weaponry.

Again, Singapore is the exception to the case because of geo-political circumstances and the 'survivalist' mentality that influenced and ultimately shaped the island-state's political leadership. Thus, there has been a strong emphasis on creating a credible defence force and the SAF has benefited from the attention they have received. Further, the island-state has created a technologically competent and well-equipped military, and the organization has been able to demonstrate its operational capabilities to potential adversaries, thus making deterrence credible.

On the other hand, Thailand's case demonstrates the opposite; because the military was politically-dominant in the past, previous acquisitions showed the RTAF's penchant for high-end military hardware, which were both costly and in some instances, unnecessary or unsuitable for its weapons requirements. Thus, Thailand's procurement outcomes fit the hypothesized effects of military-dominated acquisition outcomes. Because of the prestige and the 'kickbacks' involved in such acquisitions, such sales have proceeded without much thought given to the larger picture. As a result, much of the RTAF's hardware is in need of maintenance and overhauling, in which it sorely lacks. Furthermore, the RTAF's combined-arms conventional warfare doctrine remains far from being fulfilled. In short, the RTAF case highlights the problem of acquisition; it is one thing to purchase a particular weapon, but it is another matter altogether to provide ample logistical and maintenance support to sustain it, otherwise the weapon's life cycle rapidly shortens.

Weapons requirements in all three states indicate that there is a preference for offensive, conventional warfare doctrines. However, Posen's assertion that small states are more likely to prefer deterrent doctrines does not seem to apply to Singapore. Rather, his assertion that states will opt for offensive doctrines when war appears to involve high collateral damage would apply instead. Indeed, the argument can be made that because a small state is geographically vulnerable in the event of an external attack since it lacks strategic depth, it has to adopt pre-emptive offensive doctrines, and necessarily develop its military capabilities to carry out such doctrines, so as to take the war away from its own territory. Weapons requirements however, only demonstrate the military's preferred doctrine in all three cases. The means to achieve it, and the results produced have varied significantly in each state. Both Malaysia and Thailand's defence acquisition programs which is aimed at realizing its offensive/conventional warfare doctrines remain far from being fulfilled.

Similarly, even within the military itself, inter-service rivalry has contributed largely to the change in strategy and subsequently, preferences in acquisition. As argued, interservice rivalry will affect procurement when the dominant service has a strong political voice in government and/or when there is an existence of a hierarchy between the services whereby the dominant service will seek to ensure that it remains important to the country's national security. In protecting its position, the service will attempt to undermine the credibility of the other branches in the military while at the same time making certain that civilian policymakers will only adhere its views or advice. As seen, the Malaysian army was the predominant service until the communist insurgency was no longer a credible threat; this gave rise to securing Malaysia's borders, i.e. littoral defence,

in which the navy and air force were given higher priority instead. Similarly, the Thai army was the predominant service and wielded political influence until 1992. As a consequence of its role in suppressing pro-democracy protestors, the service lost credibility and subsequently, its favoured status among the three services. Both Malaysia and Thailand's cases point to the importance of having civilian policymaker oversee the process of appointments for the head of the state's military to ensure that no single service becomes entrenched in a position of dominance.

Defence budget clearly influences arms acquisitions in all three cases. Without the adequate funds to obtain new weaponry, there is only so much that civil-military relations, coherent national security framework or the lack of interservice rivalry as influencing factors can accomplish. Secondly, budget sufficiency is also an important factor in determining the state's military readiness and whether or not its defence doctrines can be fully implemented. Malaysia's plans for a conventional warfare-capable military had to be postponed several times due to economic constraints. Thailand's military procurements have been steadily reduced, as civilian policymakers demand more accountability as to how acquisition funds are spent. On the other hand, Singapore's booming economy has allowed the SAF to retain its high spending levels, although it remains to be seen if it can be sustained in the future.

I have asserted that compromised procurement outcomes would usually produce a coherent national security framework. As earlier stated, organizational determinism creates acquisition 'gaps' between what the military needs and what the civilian allows the military to purchase. Malaysia's case underscores the problem of high civilian control over its acquisitions, i.e. civilian dominated outcomes. The country's procurement

policy is largely dominated by civilian policymakers, who see defence acquisitions as part of foreign policy objectives. As a result, the MAF's modernization program has experienced a series of starts and stops over a period of time. Conversely, the Thai case demonstrates the problem of military dominance in procurement matters; this resulted in gaps between what it acquired and the level of logistical and maintenance support it can actually provide. Also, budget maximization is evident, as well as corruption in the acquisition process. However, it must be noted that the current RTAF procurement strategy has more checks and balances by the civilian government. But 'whirlwind acquisitions' in the past continues to plague the RTAF's operational status to this day. Indeed, the Thai military faces the prospect of having an expensive multinational military junkyard, should its maintenance and logistical levels continue to decline.

Balancing Acquisitions and Security

The issue of arms procurement and its direct link on improving a state's security remains. Although this thesis sought to analyze arms procurement strategies within states, it inevitably links to the larger issue of conventional weapons proliferation in the Third World. Weapons are rarely a sufficient trigger for crisis; but the context in which acquisitions occur may be discomfoting to a country's neighbours. John Sislin and David Mussington identified four factors that can be arms acquisitions can be destabilizing: political conditions, military balance, proximity, and military doctrine.¹ While weapons upgrading or purchases remain the right of the sovereign states, we have

¹ John Sislin, David Mussington, "Destabilizing Arms Acquisition," *Jane's Intelligence Review*, Vol. 7, No. 2, (February 1995), p. 89.

to understand the context in which such acquisitions are taking place. For Malaysia's case, its armed forces are receiving upgrades after a decade of neglect and change in doctrine from counter-insurgency to external defence. Thailand's security perceptions have been traditionally geared towards confronting external threats, and similarly, Singapore's defence perceptions have been externally-oriented.

To the extent that arms acquisition takes place in these three states, one has to ask: does such acquisitions (in combination with its offensive doctrines) have a potentially destabilizing effect on relations between these states and their potential adversaries? Singapore's pre-emptive strategy is implicitly aimed at deterring a possible hostile Malaysian takeover by striking first, while Thailand maintains a credible force at the border with Myanmar to prevent further border incursions by the *Tatmadaw*, and the RMAF needs to upgrade its defence force and secure its littoral and overland claims. Nevertheless, in the absence of (or a reduction of) an 'offshore balancer,' presence, i.e. a major power that can balance against any potential adversaries, the many reasons for force modernization through arms acquisition by these states can be considered prudent.² At the same time however, such acquisitions can be potentially destabilizing, given a sufficient geo-political or military 'trigger' that would lead to conflict outbreaks.³

Despite the arms build-up however, these states still maintain friendly bilateral relations with each other, although occasional diplomatic spates (and border clashes, for the Thai-Burmese case) occur from time to time. One may also note that the Thailand's acquisitions have had little or no impact on the military balance between the kingdom and

² Derek da Cunha, "The Need for Weapons Upgrading in Southeast Asia: Present and Future," *International Politics and Security Issues No. 1*, Institute of Southeast Asian Studies (ISEAS) Working Papers (Singapore: ISEAS, March 1996), p. 14.

³ Julian Schofield, "War and Punishment: The Implications of Arms Purchases in Maritime Southeast Asia," *Journal of Strategic Studies*, Vol. 21, No. 2, (June 1998), p. 100.

Myanmar, while both Malaysia and Singapore's acquisitions have raised the military capabilities exponentially in both states, where interactive acquisitions (acquisitions that have been met with counter-acquisitions) takes place.⁴ Notwithstanding the qualitative and quantitative increments between Malaysia and Singapore, the motivations behind these acquisitions, while different from one another, do not sufficiently justify labelling it as an arms race. It does however, raise the issue of arms acquisition whether or not such acquisitions are warranted in an era where there has been no major conflict in the region.⁵

Motivations behind acquisitions thus, are important factors in examining arms acquisition processes. I have tried to provide a different perspective as to why arms acquisitions take place in some states in the absence of outright conflict, by examining domestic determinants of civil-military relations, weapons requirements, interservice rivalry and defence budget in producing procurement outcomes. The results have shown that there is more than just a simple direct correlation between a state's arms procurement and propensity to conflict. Domestic variables also influence acquisitions, especially when either the civilian or the military are dominant actors; or even when a particular service is the dominant actor. In such contexts, arms acquisitions may reflect a show of power or dominance *within* the governmental organization and state, rather than reaction to an external stimulus.⁶

Secondly, organizations themselves are not the unitary actor that most arms race theorists assume them to be. Departments within the organization have a tendency to

⁴ For a rough idea of each state's military composition, see *The Military Balance 2004-2005*, pp. 181-192.

⁵ Bates Gill, "Defining Legitimate and Unwarranted Military Acquisitions in South-East Asia," in Bates Gill, Joon-Nam Mak (eds.) *Arms, Transparency and Security in South-East Asia, SIPRI Research Report No. 13*, (Oxford: Oxford University Press, 1997), pp. 63-78; Richard A. Bitzinger, 'The Asia-Pacific Arms Market: Emerging Capabilities, Emerging Concerns', *Asia-Pacific Center for Security Studies*, Vol. 3, No. 2, (March 2004), p. 4.

⁶ Joon-Nam Mak, "Trust and Confidence Needed," *Asia-Pacific Defence Reporter 1995 Annual Reference Edition*, Vol. XXI, No. 6/7, (December 1994/January 1995), p. 22.

develop their own subculture; this happens more so *within* the military, *between* the services, and *within* each service.⁷ Hence, Posen's argument that militaries prefer offensive doctrines tends to overlook *intra-organizational* determinism; not all militaries want offensive doctrines, and specifically, not every service want offensive/conventional doctrines, as seen in the MAF example.

In the final analysis, key governmental decision-makers have to take into account the domestic factors driving arms acquisitions. Motivations and underlying conditions (such as military preparedness) vary from state to state, and as such, an increase in arms (whether qualitative or quantitative) should not be immediately interpreted as a challenge to the established military status quo. On the other hand, there is also much-needed transparency in arms procurement exercises, as it will greatly reduce uncertainty between states and hence, lower the propensity of starting an arms race or conflict.

⁷ Elizabeth Kier, *Imagining War: French and British Military Doctrine Between the Wars*, (Princeton: Princeton University Press, 1997), pp. 142-143.

BIBLIOGRAPHY

Books and Book Chapters, Monographs

- Acharya, Amitav. *An Arms Race in Post-Cold War Southeast Asia? Prospects for Control*, Pacific Strategic Papers, No. 8. (Singapore: Institute of Southeast Asian Studies, 1994).
- Allison, Graham T. and Philip Zelikow. *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (Reading, MA: Longman, 1999).
- Ball, Desmond. *Security Trends in The Asia-Pacific Region: An Emerging Complex Arms Race*, Strategic and Defence Studies Centre Working Paper No. 380 (Canberra: SDSC, Australian National University, 2003).
- Buzan, Barry. *An Introduction to Strategic Studies: Military Technology and International Relations* (London: Macmillan, 1987).
- Buzan, Barry and Eric Herring. *The Arms Dynamics in World Politics* (Boulder/London: Lynne Rienner, 1998).
- Da Cunha, Derek. *The Need for Weapons Upgrading in Southeast Asia: Present and Future*, International Politics and Security Issues No. 1, Institute of Southeast Asian Studies Working Papers (Singapore: ISEAS, March 1996).
- *Renewed Military Buildups Post-Asian Crisis: The Effect on Two Key Bilateral Military Balances*, International Politics and Security Issues No. 1, Institute of Southeast Asian Studies Working Papers (Singapore: ISEAS, December 2001).
- Demchak, Chris. "Creating the Enemy: Global Diffusion of the Information Technology-Based Military Model" in Emily O. Goldman, Leslie C. Eliason (eds.) *The Diffusion of Military Technology and Ideas* (Stanford: Stanford University Press, 2003).
- Eyre, Dana P., Mark C. Suchman. "Status, Norms and the Proliferation of Conventional Weapons: An Institutional Approach," in Peter J. Katzenstein (ed.) *The Culture of National Security: Norms and Identity in World Politics*, (NY: Columbia University Press, 1996).
- Farrell, Theo, Terry Terriff. "The Sources of Military Change" in Theo Farrell, Terry Terriff (eds.) *The Sources of Military Change: Culture, Politics, Technology*. (Boulder, London: Lynne Rienner, 2002).

- Ganesan, N. *Bilateral Tensions in Post-Cold War ASEAN, Institute of Southeast Asian Studies (ISEAS) Pacific Strategic Paper No. 9* (Singapore: ISEAS, 1999).
- Gill, Bates. "Defining Legitimate and Unwarranted Military Acquisitions in South-East Asia" in Bates Gill and Joon-Nam Mak (eds), *Arms, Transparency and Security in South-East Asia, Stockholm International Peace Research Institute (SIPRI) Research Report No. 13* (Oxford: Oxford University Press, 1997).
- Hammond, Grant. *Plowshares into Swords: Arms Races in International Politics, 1840-1991*. (Columbia, SC: University of South Carolina Press, 1993).
- Hawkins, David. *The Defence of Malaysia and Singapore from AMDA to ANZUK* (London: The Royal United Services Institute for Defence Studies (RUSI), 1972).
- Hellmann-Rajanayagam, Dagmar. "Malaysia" in Ravinder Pal Singh (ed.), *Arms Procurement Decision Making Volume II: Chile, Greece, Malaysia, Poland, South Africa and Taiwan*, (SIPRI: Oxford University Press, 2000).
- Huxley, Tim. *Insecurity in the ASEAN Region, Whitehall Paper No. 23* (London: Royal United Services Institute, 1993).
- "The ASEAN States' Defence Policies: Influences and Outcomes" in Colin McInnes and Mark G. Rolls (eds.), *Post-Cold War Security Issues in the Asia-Pacific Region* (Essex: Frank Cass, 1994).
- *Defending the Lion City: The Armed Forces of Singapore* (NSW.: Allen & Unwin, 2000).
- Huxley, Tim and Susan Willet, *Arming East Asia, International Institute of Strategic Studies Adelphi Paper 329* (IISS: Oxford University Press, 1999).
- The International Institute of Strategic Studies (IISS). *The Military Balance 2003-2004*, (IISS: Oxford University Press, 2003).
- *The Military Balance 2004-2005*, (Oxford University Press, IISS, 2004).
- Kier, Elizabeth. *Imagining War: French and British Military Doctrine Between the Wars* (Princeton: Princeton University Press, 1997).
- Krause, Keith. *Arms and the State: Patterns of Military Production and Trade*. (Cambridge: Cambridge University Press 1992).
- Mak, Joon-Nam. *ASEAN Defence Reorientation 1975-1992: The Dynamics of Modernisation and Structural Change, Canberra Papers on Strategy and Defence No. 103* (Canberra: Strategic and Defence Studies Centre, Australian National University, 1993).

- Meconis, Charles A. and Michael D. Wallace. *East Asian Naval Weapons Acquisition in the 1990s: Causes, Consequences, and Responses*. (Westport, CT: Praeger Publishers, 2000).
- Myoe, Maung Aung. *Neither Friend Nor Foe: Myanmar's Relations With Thailand Since 1988, Institute of Defence and Strategic Studies (IDSS) Monograph No. 1* (Singapore: IDSS, 2002).
- Owens, William A. "Creating a U.S. Military Revolution," in Theo Farrell, Terry Terriff (eds.) *The Sources of Military Change: Culture, Politics, Technology* (Boulder, London: Lynne Rienner, 2002).
- Posen, Barry. *The Sources of Military Doctrine: France, Britain and Germany between the World Wars*, (Ithaca and London: Cornell University Press, 1984).
- Richardson, Lewis Fry. *Arms and Insecurity: A Mathematical Study of the Causes and Origins of War*. Nicholas Rashevsky, Ernesto Trucco (eds.) (Pittsburgh: Boxwood Press, 1960).
- Rolls, Mark G. "Thailand's Post-Cold War Security Policy and Defence Programme" in Colin McInnes and Mark G. Rolls (eds.), *Post-Cold War Security Issues in the Asia-Pacific Region* (Essex: Frank Cass, 1994).
- *The 'Arms Dynamic' in South-East Asia During the Second Cold War* (Aldershot: Ashgate, 2002).
- Selin, Shannon. *Asia Pacific Arms Buildup Part One: Scopes, Causes and Problems, Institute of International Relations Working Paper No. 6* (Vancouver: University of British Columbia, November 1994).
- Singh, Bilveer. *The Challenge of Conventional Arms Proliferation in Southeast Asia* (Jakarta: Centre for Strategic and International Studies, 1995).
- *The Vulnerability of Small States Revisited: A Study of Singapore's Post-Cold War Foreign Policy* (Yogyakarta: Gadjah Mada University Press, 1999).
- Singh, Ravinder Pal. "Comparative Analysis" in Ravinder Pal Singh (ed.), *Arms Procurement Decision Making Volume I: China, India, Israel, Japan, South Korea and Thailand* (SIPRI: Oxford University Press, 1998).
- "Comparative Analysis" in Ravinder Pal Singh (ed), *Arms Procurement Decision Making Volume II: Chile, Greece, Malaysia, Poland, South Africa and Taiwan* (SIPRI: Oxford University Press, 2000).
- Paribatra, Sukhumbhand. "Thailand: Defence Spending and Threat Perceptions" in

Chin Kin Wah (ed.), *Defence Spending in Southeast Asia* (Singapore: ISEAS, 1987).

Tan, Andrew. *Intra-ASEAN Tensions, The Royal Institute of International Affairs (RIIA) Discussion Paper 84* (London: Royal Institute of International Affairs, 2000).

----- *Force Modernisation Trends in Southeast Asia, Institute of Defence and Strategic Studies Working Paper Series No. 59* (Singapore: IDSS, January 2004).

Thee, Marek. *Military Technology, Military Strategy and the Arms Race* (London: The United Nations University and Croom Helm, 1986).

Strategic Research Institute, *The Defence of Thailand 1994* (Bangkok: Strategic Defence Institute, National Institute of Defence Studies, 1994).

Vernon, Raymond. *Iron Triangle and Revolving Doors: Cases in U.S. Foreign Economic Policymaking*. (NY: Praeger, 1991).

Wattayanayagorn, Panitan. "Thailand" in Ravinder Pal Singh (ed), *Arms Procurement Decision Making Volume I: China, India, Israel, Japan, South Korea and Thailand* (SIPRI: Oxford University Press 1998).

Articles, Newspapers and Other Material

Abas, Adlan Lutfi. "New Combat Assets for the RMAF", *Asian Defence Journal*, (June 2003), pp. 9-10.

Asia-Pacific Defence Reporter. "Singapore Orders La Fayette Frigates", *Asia-Pacific Defence Reporter*, Vol. XXVI, No. 3 (April/May 2000), pp. 39.

Baginda, Abdul Razak Abdullah. "Malaysia's Security Perceptions of the 1990s", *Asia-Pacific Defence Reporter*, Vol. XXII, No. 1/ 2 (January/February 1996), pp. 22-3.

Bendall, Gordon. "Malaysia's Air Power Capabilities to Soar with SU-30MK/ Super Hornet Purchases", *Asia-Pacific Defence Reporter*, Vol. 29, No. 1 (February 2003), pp. 26-7.

Bitzinger, Richard A. "The Asia-Pacific Arms Market: Emerging Capabilities, Emerging Concerns", *Asia-Pacific Center for Security Studies*, Vol. 3, No. 2 (March 2004), pp. 1-4.

Blank, Stephen. "Playing With Fire: Russian Arms Sales in Asia", *Jane's Intelligence Review*, Vol. 9, No. 4 (April 1997), pp. 174-77.

Bright, Patrick N. "ASEAN – Naval Forces Overview", *Naval Forces*, Vol. XXII, No. 2, (February 2001), pp. 45-9.

Boey, David. "Singapore: A Fragile Nation Toughens Up", *Jane's Intelligence Review*, Vol. 8, No. 7 (July 1996), pp. 316-20.

Bostock, Ian. "Asia's Amphibious Capability Assessed", *Jane's Intelligence Review*, Vol. 12, No. 10 (October 2000), pp. 43-6.

Brooke, Micool and Wassana Nanuam. 'The Military in Thailand', *Asian Defence Journal*, (July 1996), pp. 6-31.

Brooke, Micool. "Fortress Singapore: A Key Player in Security", *Asia-Pacific Defence Reporter*, Vol. 27, No. 1 (February 2001), pp. 64-6.

Bullock, Brad and Glenn Firebaugh, "Guns or Butter. The Effect of Militarization on Economic and Social Development in the Third World", *Journal of Political and Military Sociology* Vol. 18, No.2, (Winter 1990), pp. 231-66.

Caspary, William D.. "Richardson's Model of an Arms Race: Descriptions, Critiques and An Alternative Model", *International Studies Quarterly*, Vol. 2, No. 1, (March 1967), pp. 63-88.

Da Cunha, Derek. "Sociological Aspects of the Singapore Armed Forces", *Armed Forces And Society*, Vol. 25, No. 3 (Spring 1999), pp. 459-75.

Davis, Anthony. "Thailand Tackles Border Security", *Jane's Intelligence Review*, Vol. 12, No. 3 (March 2000), pp. 30-4.

Dibb, Paul. "Defence Force Modernization in Asia: Towards 2000 and Beyond", *Contemporary Southeast Asia*, Vol. 18, No. 4 (March 1997), pp. 347-60.

----- "The Revolution in Military Affairs and Asian Security", *Survival*, Vol. 39, No. 4 (Winter 1997/1998), pp. 93-116.

Dillon, Dana R. "Contemporary Security Challenges in Southeast Asia", *Parameters, U.S. Army War College Quarterly*, (Spring 1997), pp. 119-33.

Farrell, Theo. "Waste in Weapons Acquisition: How the Americans Do It All Wrong", *Contemporary Security Policy*, Vol. 16, No. 2 (August 1995), pp. 192-218.

Farrer, Mark. "An Instant Capability? Singapore Buys A Submarine Squadron", *Asia-Pacific Defence Reporter*, Vol. XXIV, No. 2 (February/March 1998), pp. 8.

----- "The Royal Thai Navy: Progress or Stagnation?", *Asia-Pacific Defence*

- Reporter*, Vol. XXV, No. 5 (August/September 1999), pp. 12.
- "The Poison Shrimp Matures", *Asia-Pacific Defence Reporter*, Vol. XXV, No. 7 (December 1999), pp. 16-7.
- Ganesan, N. "Singapore's Foreign Policy Terrain", *Asian Affairs*, Vol.19, No. 12 (Summer 1992), pp. 67-79.
- Gray, Colin. "The Arms Race Phenomenon", *World Politics*, Vol. 24, No. 1, (October 1971), pp. 39-79.
- "The Urge to Compete: Rationales for Arms Racing", *World Politics*, Vol. 26, No. 2, (January 1974) pp. 206-233.
- "Arms Races and Other Pathetic Fallacies: A Case for Deconstruction", *Review of International Studies* (1996), pp. 323-335.
- Harris, G.T. "Economic Aspects of Military Expenditure in Developing Countries: A Survey Article", *Contemporary Southeast Asia*, Vol. 10, No. 1 (June 1988), pp. 82-102.
- Heginbotham, Eric. "The Fall and Rise of Navies in East Asia: Military Organizations, Domestic Politics, and Grand Strategy", *International Security*, Vol. 27, No. 2 (Fall 2002), pp. 86-125.
- Hone, Thomas C. "Game Theory and Symmetrical Arms Competition: The Dreadnought Race", *Journal of Strategic Studies*, Vol. 7, No. 2 (June 1984), pp. 169-77.
- Hull, Andrew and David Markov. "Trends in the Arms Market – Part 1", *Jane's Intelligence Review*, Vol. 9, No. 4 (April 1997), pp. 187-190.
- Huxley, Tim. "Singapore and Malaysia: A Precarious Balance?", *The Pacific Review*, Vol. 4, No. 3 (1991), pp. 204-213.
- Huxley, Tim and David Boey, "Singapore's Army – Boosting Capabilities", *Jane's Intelligence Review*, Vol. 8, No. 4 (April 1996), pp. 174-80.
- International Institute of Strategic Studies. "Southeast Asian Fighter Purchases: Regional Tensions Highlighted", *Strategic Comments*, Vol. 9, Issue 6 (August 2003), pp. 1-2.
- Jayasankaran, S. "Wanna Buy A Sub?" *Far Eastern Economic Review*, Vol. 165, No. 32 (15 August 2002), pp. 16-7.
- Klintworth, Gary. "Regional Defense Budgets Down, Russian Arms Selling Well",

Asia-Pacific Defence Reporter, Vol. XXV, No. 8 (January 2000), pp. 22-3.

Lague, David. "We All Live for Another Submarine", *Far Eastern Economic Review*, Vol. 165, No. 32 (15 August 2002), pp. 12-4.

Li, Chien-pin. "Fear, Greed, or Garage Sale? The Analysis of Military Expenditure in East Asia", *The Pacific Review*, Vol. 10, No. 2 (1997), pp. 274-88.

Loo, Bernard. "Geography and Strategic Stability", *Journal of Strategic Studies*, Vol. 26, Issue 1 (March 2003), pp. 156-174.

Mahadzir, Dzirhan. "Malaysia At Odds With Her Neighbours", *Asia-Pacific Defence Reporter 1999 Annual Reference Edition*, Vol. XXV, No. 1 (1999), pp. 25-6.

----- "Problems for Malaysia's Air Force in 1999", *Asia-Pacific Defence Reporter*, Vol. XXV, No. 2 (February/March 1999), pp. 35-8.

----- "Malaysia's Army: Problems and Prospects", *Asia-Pacific Defence Reporter*, Vol. XXVI, No. 3 (April/May 2000), pp. 14-5.

----- "Malaysia's Defence Spending Big But Far From Clear", *Asia-Pacific Defence Reporter*, Vol. 29, No. 4 (June 2003), pp. 52-3.

----- "Malaysian Su-30s Will Complicate Logistics", *Asia-Pacific Defence Reporter*, Vol. 29, No. 6 (September 2003), pp. 49.

Mak, Joon-Nam. "Armed But Ready? ASEAN Conventional Warfare Capabilities", *Harvard International Review*, Vol. 16, No. 2 (Spring 1994), pp. 20-4.

----- "Malaysia's MiG Shock", *Asia-Pacific Defence Reporter*, Vol. XX, No. 2/3 (August/September 1993), pp. 9-10.

----- "Military Changes No Cause For Alarm", *Asia-Pacific Defence Reporter 1994 Annual Reference Edition*, Vol. XX, No. 6/7 (December 1993/January 1994), pp. 25-26.

----- "Trust and Confidence Needed", *Asia-Pacific Defence Reporter*, Vol. XXI, No. 6/7 (December 1994/January 1995), pp. 22-4.

----- "The Modernization of the Malaysian Armed Forces", *Contemporary Southeast Asia*, Vol. 19, No. 1, (June 1997), pp. 29-51.

Matthews, Ron. "Singapore's Defence-Industrial Model", *Asia-Pacific Defence Reporter*, Vol. XXV, No. 3 (April/May 1999), pp. 22-4.

- “Singapore Buys Longbows and Grows Its Defence Industry”, *Asia-Pacific Defence Reporter*, Vol. XXV, No. 7 (December 1999), pp. 20-1.
- Morrow, James D. “A Twist of Truth: A Reexamination of the Effects of Arms Races on the Occurrence of War”, *Journal of Conflict Resolution*, Vol. 33, No. 3 (September 1989), pp. 500-29.
- Richardson, Michael. “Playing the Russian Card”, *Asia-Pacific Defence Reporter 1994 Annual Reference Edition*, Vol. XX, No. 6/7 (December 1993/January 1994), pp. 23-4.
- “Russian Arms Sales Trigger Asian Tension”, *Asia-Pacific Defence Reporter*, Vol. XXI, No. 6/7 (March/April 1995), pp. 48.
- Naval Forces. “The Royal Malaysian Navy – Today and Tomorrow”, *Naval Forces Special Issue*, (2001), pp. 14-40.
- Sample, Susan. “Military Buildups, War, and Realpolitik”, *Journal of Conflict Resolution*, Vol. 42 No. 2, (April 1998), pp. 156-175.
- Saw, David. “The Regional Defence Environment – Spending and Programme Trends”, *Asian Military Review*, Vol. 8, Issue 8 (December 2000/January 2001), pp. 15-20.
- “Defence in Singapore – Confronting A Changing Environment”, *Asian Military Review*, Vol. 10, Issue 1 (February/March 2002), pp. 56-63.
- “Defence Programmes in Thailand – A New Dawn Approaches?” *Asian Military Review*, Vol. 11, Issue 8 (December 2003/January 2004), pp. 24-9.
- “Singapore – Managing The Defence Burden”, *Asian Military Review*, Vol. 11, Issue 8 (December 2003/January 2004), pp. 30-2.
- Saw, David and Olivia W. Ingraham. “Langkawi – Malaysia Follows The Acquisition Path”, *Asian Military Review*, Vol. 11, Issue 7 (November 2003), pp. 30-2.
- Schofield, Julian. “War and Punishment: The Implication of Arms Purchases in Maritime Southeast Asia”, *Journal of Strategic Studies*, Vol. 21, No. 2, (June 1998), pp. 75-106.
- Sengupta, Prasun K. “Republic of Singapore Navy Today”, *Asian Defence Journal*, (May 1999), pp. 16-20.
- Simon, Sheldon W. “The Economic Crisis and Southeast Asian Security: Changing Priorities”, *NBR Analysis*, Vol. 9, No. 5 (December 1998), pp. 5-31.

- Speech by Dr. Tony Tan Keng Yam, Deputy Prime Minister and Minister for Defence, *Media Releases*, MINDEF Internet Services, 7 January 1998.
- Sislin, John and David Mussington. "Destabilizing Arms Acquisitions", *Jane's Intelligence Review*, Vol. 7, No. 2 (February 1995), pp. 88-90.
- Stephens, Alan. "At the Crossroads: The Royal Malaysian Air Force", *Asia-Pacific Defence Reporter*, Vol. XXIII, No. 7 (December 1997/January 1998), pp. 6-7.
- "A Regional Air Power Calculus", *Asia-Pacific Defence Reporter*, Vol. XXV, No. 6 (October/November 1999), pp. 14-5.
- Tan, Andrew. "Singapore's Defence: Capabilities, Trends, and Implications", *Contemporary Southeast Asia*, Vol. 21, No. 3 (December 1999), pp. 451-474.
- Umbach, Frank. "Financial Crisis Slows But Fails to Halt East Asian Arms Race – Part One", *Jane's Intelligence Review*, Vol. 10, No. 8 (August 1998), pp. 23-7.
- "U.S. nod for Thailand to buy advanced air-to-air missile", *The Straits Times*, 18 July 2001, p. A6.
- Vauban, Paul. "Thailand Considers Swiss Tanks", *Asia-Pacific Defence Reporter*, Vol. 29, No. 6 (September 2003), pp. 11-2.
- Wallace, Michael D. "Arms Races and Escalation: Some New Evidence", *Journal of Conflict Resolution*, Vol. 23, No. 1 (March 1979), pp. 3-16.
- Ward, Michael D. "Differential Paths to Parity: A Study of the Contemporary Arms Race", *American Political Science Review*, Vol. 7, No. 2 (June 1984), pp. 297-317.
- Wattanayagorn, Panitan and Desmond Ball, "A Regional Arms Race?", *Journal of Strategic Studies*, Vol. 18, No. 3 (September 1995), pp. 147-74.
- Zulkarnaen, Isaak and Kelvin Chew. "Market Moves for Main Battle Tanks in the Region", *Asian Defence Journal*, (July/August 2003), pp. 24-6.
- Zulkarnaen, Isaak. "The Malaysian Armed Forces: Gaining New – But Long Overdue – Capabilities", *Asian Defence Journal*, (September 2003), pp. 4-9.
- "MAF Adapting to New Concepts and Technologies", *Asian Defence Journal*, (September 2004), pp. 16-8.