AUSTRALIAN PREPARATION FOR LOW-LEVEL CONTINGENCIES

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INTRODUCTION

The concept of the core force is a basic thought of current Australian defence policy. Briefly speaking, this concept means maintenance of the relatively small forces in peacetime that would be expanded in case of emergency. Two notions engender this concept: first, there is no identifiable threat of substance; second, there is a need for insurance against uncertainty.[1] There has been strong criticism against this concept, involving mainly the time needed to expand the core force in case of emergency.

According to Babbage's calculation:

> ...in the area of army manpower, it would be necessary to accept that for any scenario requiring the response of an Australian army larger than 150,000 men, between $2\frac{1}{2}$ to 5 years would need to be available from the time of mobilization order to the commencement of hostilities(i.e. defence preparation time would be $2\frac{1}{2}$-5 years). Similarly, it would need to be assumed that for any scenario requiring the response of an Australian army larger than 250,000 men, between 4 and 8 years' defence preparation time would be available. It is important to realize that this defence preparation time would only begin when the government perceived the existence of a specific threat and ordered the full-scale mobilization of Australia's resources in response.[2]

But, "there is little on the threat horizon likely to arouse alarm or consternation among the Australian populace within any foreseeable period of time. Thus it is equally likely that no Australian government will allocate more than 3 per cent of gross

national product annually to defence purposes over that period. This is a very practical constraint or delimitation on the development of force structure."[3]

The Joint Parliamentary Committee on Foreign Affairs and Defence says, "Developing the core force against specific threats or contingencies of threat would risk the unacceptable distortion of that force to meet what could be the wrong threat, in the wrong place and at the wrong time."[4] Even so, there are some broad categories of contingencies which need to be planned for, and require agreed operational plans by the Defence Forces. A defence force based upon unclear strategic thinking might not deal adequately with any contingency. As long as the defence budget is limited, as is inevitable especially in democratic countries in times of peace, priorities should be made clear.

Indeed alarming developments affecting national security or national independence are not foreseen, but a variety of contingencies have been identified, any one or more of which -separately or in combination- could arise within the very short warning time. Therefore preparation is being, or should be, made now.[5]

While almost endless classification of military conflicts has been made by analysts, there would seem to be four basic types: nuclear war, conventional war, minor harassment and insurgency. These types may be intermingled and, on occasion, the boundary lines between the last three becomedecidedly vague.[6] For Australia three categories of threats have come to receive explicit attention in the 1970s. First regional/in stability, second nuclear proliferation, third peacetime and low-level contingencies.[7] Especially, in the 1973 and 1975 Strategic Basis documents, low-level contingencies are the only ones specified as requiring "forces in being"[8]

As Hamilton says:

> It is to this more limited type of contingency that we give priority in deciding the development and readiness of forces in the shorter term. The limited operations involved would require of an adversary less military capability, less preparation time and less powerful motivation than would major conventional attack on Australia. Moreover, it is in relation to this type of situation, as distinct from that of global war or even major attack on Australia, that the need to defend ourselves independently is least in doubt."[9]

As a matter of fact, the only matter with which Australia can deal at present is peacetime and low-level contingencies. On the one hand as both nuclear proliferation and regional instability are big political issues themselves, political adjustment of relationship with related countries and the establishment of national consensus are indispensable for the promotion of suitable attitudes toward these issues. It is likely to require a lot of time to make these adjustments and achieve consensus. On the other hand, the policy toward low-level contingencies itself is relatively feasible and politically less controversial. So it is appropriate to pay priority to this.

However, sight should not be lost of higher-level threat contingencies. Lower-level threats carry within themselves the potential for escalation by either opponent -the aggressor may feel compelled to escalate as a result of frustration of the low-level attack, or the defender may perceive escalation of hostilities as the only way in which to halt it. Therefore, whatever is done

to lessen Australia's vulnerability to low-level contingencies should also contribute, wherever possible, to its capacity to cope with the higher-level contingencies.[10]

The Joint Committee on Foreign Affairs and Defence in referring to low-level contingencies said Australia may be confronted by one or several contingencies of the following situations:

(a) sporadic attacks against key civil facilities and installations (which are sometimes referred to as vital points, as the orderly life of a modern society depends on them) for example, power station, petroleum refineries, water supplypumping stations and computers;

(b) attacks against isolated military facilities;

(c) harassment of our shipping, fishing activities, and offshore exploration and exploitation;

(d) sporadic intrusion into Australia's air space by military aircraft or smugglers;

(e) military support for the illegal exploitation of our offshore resources;

(f) the planned introduction of exotic diseases or the support of illegal migrants or drug-runners;

(g) harassment of our nationals or a threat to their safety in overseas countries including seizure of overseas property and Australian embassies;

(h) external support for dissident elements in, or military pressures against, a regional country the security of which is important to Australia;

(i) covert or overt overseas support for Australian

dissident or minority groups in Australia who might be encouraged to resort to terrorist action;

(j) overseas based terrorist groups using violence or threats of violence in Australia or on an Australian aircraft; and

(k) large-scale but non-violent intrusions into Australia's proposed Exclusive Economic Zone for the purpose of poaching scarce resources.[11].

Among them, (a)-(e) and (h) may develop to intermediate-level threats and the boundary between low-level and intermediate-level is not so clear. As (g) might occur in conditions affecting the sovereignty of foreign countries, Australia should not be involved militarily. Although (f), (i) and (j) belong to the category of crime and (k) is not of a violent nature, all of them may have serious effects on Australia politically, economically or socially.

The Committee has raised five examples of intermediate-level threats, such as:

(a) lodgements on Australian territory that are limited (including in time); the areas that appear to be more vulnerable as targets for limited lodgements would be offshore islands and territories as for example the Cocos Islands, or the Torres Strait Islands, or areas of northern and north-western Australia such as Cape York Peninsula, Arnhem Land, parts of the Kimberley or Pilbara regions and Australian territory in Antarctica;

(b) major raids: targets for this level of threat are more likely to be military bases, key

civil installations and facilities and the joint United States/Australian defence facilities. To be regarded as intermediate level threats, such raids would need to be on a continuing basis, or compromise seize-and-hold operations against major facilities or resource installations;

(c) external aggression against a regional country, the security of which is highly important to Australia; this would apply particularly to states and territories in the Indonesian/Melanesian archipelago and to New Zealand;

(d) blockade of an Australian port or ports including by the relatively economical device of laying mines; and

(e) disruption of our lines of shipping communications, or closure of a strait either in isolation or in the context of Western lines of communications. As Australian trade is important to other powers and is mostly carried in foreign ships, it is difficult to envisage such a contingency occuring except as part of a more general conflict.[12]

(a) and (b) presume an attack by an opponent on Australian soil. As (c) is conducted overseas, Australia might not be able to do anything effective militarily. Both (d) and (e) could involve third countries. Australian ships carry only 3 % of Australia's exports and imports.[13]

For a high-level threat to develop against Australia, for example for an invasion of Australia to occur, a large degree of change would be required in the international political environment.

O'Neill says that at least one of three major changes would be necessary, although not of itself sufficient, before there could be a major threat to Australia:

> a. The superpowers change their attitudes to each other to the point where one or both consider the risk of a serious clash to be acceptable...
>
> b. World class struggle sharpens a great deal while at the same time Australia conducts herself in a manner which is viewed as extremely irresponsible by the less privileged nations...
>
> c. Regional and great power actors acquire both a high degree of military capacity for aggressive action at long range and a high degree of strategic freedom to pursue selfish interests at the expense of others.[14]

If the change required for a high-level threat to Australia were primarily that of hostile perception and/or intentions, a major threat could develop quickly. However, as that change is not only an alteration of perceptions and/or intentions but also requiring a substantial development of military capacity, that threat cannot arise in a short period. As to an intermediate-level threat to Australia, a lesser degree of change is required in the international political environment. A similar argument can be made now. If this change does not need a significant alteration of military capacity but merely a change in perceptions and/or intentions, in some circumstances such a threat could arise very quickly.[15] The same thing is true of a low-level threat to Australia, for which a much lesser degree of change is needed - in fact a change only in perceptions and/or intentions could be enough. A low-level

threat has a much shorter warning time, and the Australian standing force structure should therefore possess an adequate ready-response capacity.[16]

The Committee says, "Generally, the low level contingencies described in this part of the report are those threats which can be dealt with within the peacetime organization and structure of the Defence Force."[17] But the classifications of intermediate and low-level threats are essentially descriptive ones. As stated before, some of the low-level threats could develop to intermediate-level threats relatively easily. Therefore, although there is no sign of a threat to Australia in the foreseeable future, it is desirable for Australia to be able to expand its defence force smoothly in case of emergency.

TECHNOLOGICAL AND INDUSTRIAL CAPACITY

Nowadays the potency of some element of military forces does not depend on one characteristic weapon as was the case in former days, when rifles and then tanks played a significant and dominant role. It depends on a total weapons system. For example, a combination of surveillance, target-acquisition, warheads, guidance and transportation is required for a force to perform successfully. Such systems have been becoming more and more expensive, and therefore most countries can afford only smaller numbers of fewer such systems. Moreover, a large procurement of any particular weapons system or systems may seriously unbalance the defence ability of a nation. The possession of high technology does not of itself guarantee success in a war. The introduction of high-quality weapons into defence forces is often predicated on the belief that they will save manpower.[1] This may be true but is still unforeseen, because the availability of such systems to adversaries raises prospects of high attrition rates, and because a rise in firepower of combat forces imposes heavier burdens of resupply, itself often manpower-intensive. We should not underestimate the logistic costs of high-technology weapons systems.[2]

Because there is a strict limitation on defence budgets, and this limitation cannot be easily eliminated, all defence forces cannot be equipped with high-technology weapons systems. One of the dilemmas facing military planners is to what extent quantity can substitute for quality and vice versa. In some areas expensive increases to achieve greater technical excellence may not only add little to the ability of a weapons system but may actually be counter-productive. Larger numbers of relatively low-performance weapons systems may be more cost-effective than smaller numbers

of high-performance systems, especially in minor harassment and/or insurgency.[3]

Low-level contingencies do not make heavy demands on manpower. That of the current Australian Defence Forces is probably adequate. But it is doubtful whether even such small manpower can all be equipped with high-cost technology, because of the heavy requirement of the Navy and Air Force for expensive advanced technology. The Australian Defence Forces are therefore likely to be two-tiered even in peacetime, the first tier comprising most of the Navy and Air Force, and a relatively small proportion of the Army equipped with advanced high-cost technology, the second tier the majority of the Army equipped with lower level technology in terms of unit cost, though not necessarily in terms of capacity relative to that of an adversary.[4] In fact in the Falklands War most of the weapons used in the ground fighting were not modern high-technology.[5]

Most of the high technology comes from overseas, although through Australian industry participation, some high technology work can be done in Australia.[6] According to Babbage:

> ...it should be noted that those countries that supply high-technology equipments to Australia can also determine, to a degree, the nature of the technologies that are to be available. ... In practice, the transfer of arms to those countries that do not have major defence treaties with the United States has been restricted significantly by the President's initiative. While this particular set of restrictions does not currently apply to Australia, it should be noted that the transfer of many advanced technologies is already being

> heavily constrained. It is not inconceivable that, in some circumstances, the United States may decide that it is in its own interests to restrict the flow of technologies and euqipments further. Alternative supplies might be available for most types of low and medium and some types of high-technology equipment. However, if Australia required access to the most sophisticated and advanced technologies, it is extremely doubtful whether these would be made available, either in normal times of peace or in crisis situations.[7]

Recently US resrictions on the export of high-technologies have been more rigidly enforced, partly because as a precaution against the inflow of high-technologies into the Soviet Union and partly because of US anxiety about the development of competitive high-technology industry of Western European countries and Japan. The possibility of a lots of Australia's present advantageous position in this regard may be used as a lever with which to preserve the present Australia-US alliance.

Then how about local production of low-technology equipment? The interior of Australia and the jungle of PNG pose many problems in mobility, communications, maintenance, and human efficiency because of their particular mixtures of terrains and climates. It is desirable that low-level technology weapons be produced locally, as they should be specifically designed for Australian conditions. However, the current size of the army makes it uneconomical for much equipment to be produced locally,[8] and large scale expansion of the army would clash with budget limitations, not to mention political considerations.

There is room for doubt whether Australia can maintain its present industrial support capacity for national defence, let alone increase it in future, since many sectors of Australian secondary industry are at present declining.[9] For example, a Cabinet-endorsed paper, called 'Defence Policy for Australian Industry', has reported that the capacity of Australia's defence factories and dockyards is ill-matched in important respects with Australia's strategic requirements, and is in need of reform.[10]

If Australian industry is to acquire adequate defence support capability, a major and highly specialized expansion of the country's industrial capacity is essential. However, in the current economic and national political environment, such a development appears unlikely. In recent years, it has in fact become clear that the defence support capacity of Australia's secondary industry has been suffering a relative decline. There are three reasons for this. First, the rapid growth in Australia's mining sector has raised the domestic costs of labour and capital to new heights and, as a consequence, weakened the competitive position of the manufacturing sector. Second, the rapid industrialization in South-East Asia, which has been successful in producing low-technology and high labour-intensive goods, and has commanded a price advantage as Australia's labour costs have continued to rise, is threatening Australia's secondary industry.[11] Third, Australia's small population makes it impossible to develop a large domestic market for its products[12] while its competitive ability in overseas markets has been weakened by the facts stated above.

These tendencies do not appear to be reversible in the short term, if at all, and there may consequently be a further decline in Australia's defence support capacity.

As it stands, enormous improvement in Australia's industrial and technological capacity cannot be envisaged. The ability to develop defence support capacity is constrained by political realities. The growing mining industry, high labour costs, and small population are all factors which contribute to Australia's high standard of living. No government would be likely to risk depressing it in order to prepare for an unlikely war. And where low-level contingencies are concerned, the situation is relatively favourable in that adequate preparations to meet them can be made without significant impact on the standard of living.

LOGISTICS

Supply, though relatively inconspicuous, is a determinant of war. Until the end of the Vietnam War, Australia had been neglecting the national logistic infrastructure and depending upon logistical support provided by its allies. More recently, since the "Defence of Australia" strategy replaced the "Forward Defence" strategy, the appreciation has been developing that the logistic structure is an essential part of military operations and that Australia should provide it for itself.[1]

For example, Langtry and Ball say:

> Modern armoured, mechanised, air-mobile and even infantry divisions in combat require huge tonnages of supplies daily, and providing them in an adverse air and naval environment, over long distances, is likely to be beyond Australia's logistic capacity for a long time to come.[2]

In fact, transportation of Australian forces, conducted mainly by two C-130 squadrons, needed the cooperation of the civil aviation industry even in exercise Kangaroo'83 which rehearsed low-level contingencies. This means uncertainty when facing a higher level threat. For transportation to the North Coast, there is no railway and the only sealed all weather road is the Stuart Highway from Alice Springs to Darwin.

Because of the limited resources available for defence purposes, utilising the existing infrastructures becomes significantly important. Among many infrastructures in public and private sector areas which can be helpful in case of emergency, the aviation industry is the most vital one.[3]

Australia does possess a modern airline fleet, and its

transportation capability is relatively well off for low-level contingencies. First if civil aircraft would carry personnel, RAAF could concentrate upon carrying supplies and equipments. Second, at a low-level contingency, in Northern Australia or perhaps in PNG, there would not be much need for heavy equipment such as tanks or armoured personnel carriers, and weapons up to the power of an anti-tank missile can nowadays be carried by individual soldiers, being not much larger or heavier than a suitcase. Helicopters can fly from the North to PNG directly, and as it takes only two hours each way for an aircraft to fly between Cairns and Port Moresby, each aircraft can make several sorties in one day. Australia's difficulties in transportation would be at least matched by those of an invader; for example in the event of a military conflict Indonesia might have to carry troops and supplies to Irian Jaya by sea and air, and during transit they would be vulnerable to attack by the RAN and RAAF.[4]

Beazley talks about defence support capacity of the aviation industry:

> The Department of Aviation, in supporting the industry, provides an integrated system of aerodromes, navigational aids, surveillance radar and communication facilities, which greatly facilitate the safe and expeditious movement of aircraft. ... Arguably, the most important part of the Aviation Infrastructure is the well-trained, highly qualified and experienced staff that provide, maintain and operate the airlines, and Departmental facilities. ... Those components of the Aviation Infrastructure provide the nation with a significant capacity to supplement our military and civil defence

forces in times of national emergencies.[5]

At least as far as/a low-level threat is concerned, aircraft are preferable to ships. First aircraft are much faster than ships, an important factor in low-level contingencies, where usually both warning time and lead time are short. Second, although an aircraft cannot carry so much at once, the quantity of supply does not have to be very large. Third, ships are more vulnerable to interception than aircraft.

The Department of Aviation has participated in numerous exercises conducted by the Defence Forces. But its main role has been to provide civil and military aircraft with services in order to ensure they could operate safely and promptly in and/or near the exercise area. Kangaroo'83 introduced a new phase. For the first time, the airlines participated in a exercise to carry personnel and equipment to the exercise area in North-West Australia, and the Department of Aviation participated fully in both the planning and operational phases of the exercise. This exercise demonstrates the significant capacity of the airlines to support the Defence Forces in emergency situations.[6] For example:

> ... QANTAS operated two Boeing 747 flights which transported some 780 troops complete with their weapons, between Townsville and Learmonth. TAA operated a further seven flights utilising Airbus A300 and Boeing 727 aircraft, to uplift some 1160 passengers and 32.5 tonnes of equipment.[7]

But these figures are not representative:

> For example in the aftermath of Cyclone Tracy at Darwin, a QANTAS Boeing 747 aircraft, which normally carries a maximum of about 430 people, uplifted

> 680 adults and children. It can therefore be expected, that the smaller aircraft of the domestic fleet would be able to carry corresponding numbers of people in proportion to their size, without exceeding their safe design loads.[8]

The Department of Aviation provides 76 airfields and has licensed/a further 365. 164 of them are equipped with night-landing facilities.[9] Furthermore, there are many farms where aircraft can take off and land, if necessary.[10]

Although the bigger aircraft (Boeing 747 and Airbus) can only use a handful of airports - in the North only Darwin, otherwise only five ones in the capital cities (excepting Hobart and Canberra - here a 747 could land, but could not take off with a load becazse the runway is too short), there are various solutions for this problem. For example, to keep some tanks and tank landing ships at Darwin and fly tank crews up there if needed. Similarly APCs and guns. Most other military equipment will go into a C130 or a 747, 737, DC-9 or Airbus, and this might well be cheaper than buying more aircraft. The US does this. It has a big stockpile of weapons in Europe, and would fly troops there to man them if needed.[11]

In the North and West of Australia, where low-level contingencies might happen if any, mining companies have large defence support capacity for moving earth. They have numerous and various vehicles suitable for road making and maintenance and for airfield construction and repair in times of defence emergency.[12] For example, the COMALCO-Commonwealth Aluminium Corporation Limited-plant, one of several medium sized companies in North Queensland, possesses an inherent capacity for road and airfield construction.[13]

This company has cooperated with the research of the Strategic and Defence Studies Centre of the Australian National University. Of course the Defence Forces would have to provide maximum protection from air attack on these civilian resources, but quick construction of emergency airstrips would make it easier for them to do so.

Accumulation of resources is as important as transportation. The Department of Defence has said that low reserve stocks of ammunition, weapons and spare parts meant that only low-level operations could be supported.[14] But this opinion also implies that Australia has enough reserve stocks for low-level operations.

Oil is a source of energy for propulsion and mobility for defence forces and will retain its important position for a long time to come.[15] Speedy says:

> Nowadays the losing side will be the one which has failed to make effective arrangements for its energy supplies. Nuclear power capabilities will make little or no difference - we are committed in the foreseeable future to liquid fuels.[16]

The 1979 international oil crisis made the Government establish bureaucratic machinery to manage oil supplies in the event of a crisis. In late 1980 Australia took part in a major international exercise conducted by the International Energy Agency. The purpose of this exercise was to test the ability of member countries, oil companies, and the Agency to cope with a world oil crisis. The result of the test was held to indicate that Australia was well prepared.[17] Nevertheless, there is an alternative opinion that that exercise was "just a meeting" and that Australia has an inadequate stockpile.[18]

O'Neill says:

> If wars are conducted at the intense level in future they will be relatively short, and consequently much will depend on what the belligerents have in stock by way of equipment and spare parts at the outset. There will not be time for massive industrial mobilization programmes, and it may well prove difficult to import much. But if a war becomes protracted, it is likely to continue at a low-level of intensity, which will still permit a considerable degree of international economic activity.[19]

Thus, although logistic stocks of all kinds were very rapidly used up on the scale of the Falklands War,[20] Australia may well be said not to be badly prepared for low-level contingencies.

Then how about a potential invader's supply? Here Australia finds itself in a particularly special and advantageous geographical position. The invader's problem is the fact that any assault on Australia has to cross a 200 to 2,000 miles water gap and be contested by Australian maritime strike forces. Therefore any invader has to provide extra resources with which to offset losses at sea, in order to have any prospect of an initially successful landing.[21]

Indeed, ships have become much larger and much faster nowadays. That means an invading force needs for fewer ships than it used to, and makes its transit two to three times as just as in WWII. There are some data on the Falklands War. Britain mobilized about 70 ships altogether to support a ground force of around 5500. 45 of them were merchant ships.[22]It took 18 days for 5th Infantry Brigade to go to the Falklands (they had been brought from UK

to South Georgia in the QEII and transferred there to the "Canberra" to be taken to the Falklands).[23] In the course of the war four warships, one Royal Fleet Auxiliary (RFA) and one merchant ship were lost; and eight other warships and two RFAs suffered varying degrees of damage.[24] But Argentinian forces had no long-range maritime strike capability. Australia has this capability by its Oberon submarines, F-111s and Orion aircraft with Harpoon missiles.[25] Nowadays, the survivability of surface ships has been lessened and the improvement of missiles and means of reconaissance has rendered defence more advantageous.[26] Therefore, attack, landing and supply across the sea has become in general more difficult.

There are few countries which are more defensible than Australia. The Joint Parliamentary Committee on Foreign Affairs and Defence points out:

> Leaving motives or intentions aside, there would be only two nations at present which have the military capabilities to mount a major conventional assault against Australia. These are the United States and the Soviet Union. The Soviet Union has a much lesser ability to project force over sea than the United States, and for a conventional military invasion of Australia the Soviet Union would probably require an intermediate staging base in South-East Asia to provide an attacking force with effective air cover and to keep its shipping operational. Of the superpowers, only the United States has sufficient aircraft carriers to provide an adequate degree of air superiority for a successful invasion of Australia.[27]

An attack against the main population centres of the East is unbelievable. Such an attack would require a massive naval operation which would offer itself as an easy target to Australia's maritime strike forces. An invasion of Australia's North would need less time at sea and Australia's maritime strike forces might have fewer opportunities. But even if a landing were successful, an invader would certainly be confronted by major logistic problems.[28] It is worth remembering that a relatively mobile force would require about 150 tonnes of fuel and 200-250 tonnes of water for each 10,000 men per day.[29] It is very difficult to keep long lines of communication over the sea for such vast supplies.

Without huge preparation, which is almost impossible to be achieved, an invader could become a 'hostage', even if successful in landing. As low-level threat is aimed at getting a political concession, there is a grave disadvantage to the invading country. The invader would therefore have to secure an escape route beforehand. A war of 'punishment',as the Sino-Vietnamese War, is very difficult to conduct over the sea.

DETERRENCE

Paying priority to a policy of countering low-level threats, constrained by a limited budget, what concrete defence planning should Australia undertake? First it is required to deter a would-be aggressor. But the relationship between deterrence and actual war-fighting is most complex. As Langtry and Ball point out:

> It is an axiom in the strategic literature that the criteria for deterrence and for defence are not only different but could even be quite incompatible - precisely because the objectives of deterrence and war-fighting are different. ... The strategic policy and associated force structure required to influence an adversary's intentions (namely to deter an adversary) may be quite unsuited for the conduct of military operations in the event that deterrence fails. ... Postures which can successfully deter one level of contingency will not necessarily deter others; and the forces necessary in case deterrence fails at one level will not necessarily be of use in the event of the failure of deterrence at another level. ... the possession of nuclear weapons does not automatically guarantee successful deterrence.[1]

But conversely speaking, if actual war-fighting is limited to defence purpose only, namely neither to impose one's will upon others nor to solve political conflict and if the level of contingency is limited to some extent, deterrence and defence could be coordinated. This is desirable considering cost-effectiveness under a limited budget. Again Langtry and Ball say:

> ... An important element in the theory and practice of deterrence is the concept of disproportionate response which has been developed to provide a means of ensuring, in higher levels of contingency, that aggression will be very costly to the aggressor. (hopefully, so costly that military aggression as an option of coercion against Australia is denied would-be enemies.)... Disproportionate response within the context of strategic deterrence is intended to progressively incorporate into the defence forces specific capabilities that will cause a potential aggressor to respond disproportionately in terms of the cost in one or all, of money, time, material and/or manpower in order to gain the advantage. ... It is true that deterrence may fail for any number of reasons - irrationality, miscalculation of the costs, or acceptance of the military costs in order to achieve non-military strategic objectives. Accepting this, care must be taken to ensure that the concept of disproportionate response is not only applied in the context of deterrence but is also taken into account when considering the military requirements for the actual defence of Australia. To be cost-effective, preparations should be suitable both for deterrence and for actual defence.[2]

Low-level contingency is relatively more likely to happen than high-level contingency, it is true. It does not need so much military force to mount, and if it turns out a failure, the aggressor country would not be occupied. But even if this were so, the failure

could be fatal to the government. We can see this by the fact that the Galtieri government of Argentine collapsed after the Falklands War. There is the possibility that a low-level contingency may escalate to intermediate-level contingency. If this does happen, the war will be intensified. But even if a low-level contingency does not escalate, it may be prolonged and go to stalemate. Thus even a low-level contingency can be fatal to the government of an attacking country, at least politically and/or socially. Disproportionate response can therefore be applied to low-level contingency.

The problem is to have a deterrent capacity suitable to low-level contingency. For example, strategic nuclear weapons do not deter low-level threats. And it is not permissible to attack a port overseas as a countercheck against intrusion into Australia's proposed Exclusive Economic Zone; counteraction would have to be taken in or adjacent to the zone. As far as low-level contingency is concerned, actual war-fighting capability can therefore be deterrence as well.

The practical application of the concept of deterrence depends on not only the level of contingency which is to be deterred but also on the resources available and the geographical environment where it is to take place.[3]

There are many resources. Quantity is one of them. Although the concept of combat ratios cannot be applied in the abstract, the general application of the combat ratio formula is that a defender has a 3:1 advantage over an aggressor in a major land campaign. But numerical superiority is far from the most important thing. There are many other factors determining relative combat power, called 'combat multipliers'. They are: particular pieces

of equipment, logistic support, intelligence, training and tactics, command and control including leadership, etc.[4]

The importance of these factors can again be illustrated from the recent Falklands War. The success of the British Task Force should mainly be ascribed to the quality of individual Servicemen. The Task Force was equipped and despatched in a remarkably short time, and rarely lacked essential supplies. This showed the high state of readiness and training of all three Services.[5] The most brilliant example is the battle at Goose Green, where an all professional British parachute battalion of 450 men defeated an Argentine force of 1600(mostly conscripts).[6]

Australia does enjoy a preferable geographical environment. Babbage says:

> Some of the offshore islands probably could be assaulted and then defended by a force of one or two battalions. However, any attempt to attack and hold the Pilbara, the northern half of the Northern Territory or Cape York certainly would be a multiple-division operation.[7]

As stated before, no country except the United States possesses such a capacity. If any country should seek to acquire a similar capability, it ahould become apparent to Australia well before the capability became operational reality.

Babbage continues:

> The achievement of surprise, in any circumstances, would be a prerequisite..., for if an assault were contested seriously during the initial crossing of the sea/air gap, it might fail completely. Even if the assaulting forces arrived at their objective

> relatively unscathed, they still would be vulnerable to continuous interdiction of their lines of communication and supply across the water gap. ... Once landed on any objective along or adjacent to Australia's northern coastline, an enemy would be confronted with a naturally inhospitable environment.[8]

In general, then, it can be said that the larger an assault the more difficult surprise attack and supply become. This means the escalation of a contingency level would be more disadvantageous for the attacker and more advantageous for the defender, Australia. Hostile landing forces might be victim of a kind of 'territorial defence'.[9]

A big political risk accompanies an invasion across the sea. Landing and supply themselves are not easy as we have observed. However, withdrawal is not easy, too. Japan in Siberia after the Russian Revolution, and the United States in Vietnam, found it difficult to withdraw without losing their honour, but in both countries military operations overseas brought about fierce anti-government movements and social confusion at home, so that governments had to accept political damage rather than persevere with unpopular military campaigns.

Therefore, Australia's geographical environment is the most powerful factor of deterrence. Even at low-level contingencies landing on Australian soil is troublesome and potentialy very dangerous project for the attacker.

A low-level attack on Australia could take the form of a blockade, air attack, or invasion of some outlying islands rather than the mainland. These actions are in order of possibility. First, a blockade is indirect military action, midway between

inactionand attack, aggressive enough to communicate firmness of intention, but still not so forceful as an actual military shot, and it places on Australia the burden of choosing the next step.[10] If there is to be a blockade it would probably be on the northern coast. The second possibility, an air attack, does not have to maintain lines of communication, nor are aircraft in mass as vulnerable as surface ships. Third, although landing on islands poses a problem of supply, it is still much safer than an attack on the mainland.

This implies that Australia should attach importance to air defence, anti-surface vessel striking capability, and mine warfare(both anti-mine warfare and mine-laying warfare capability). However this suggestion does not mean Australia may ignore ground forces. In order to make an opponentgive up its landing on Australia and to fight in PNG if necessary, maintenance of ground forces is required, and the capacity to transport them to remote areas and over long distances is especially important. This capability, required for defence of the mainland, should also be helpful to defence of the peripheral islands, PNG included.

Although deterrence is based mainly on the concept of 'disproportionate response', another aspect of deterrence should not be neglected. That is 'pre-emption'. Langtry says:

> Perhaps the most significant lesson for Australia to come out of the Falkland Islands conflict is the disproportionality of the cost to the British in failing to pre-empt. Even if the warning signals were less than conclusive, it would have cost the British very little to have deployed pre-emptively a deterrent force to the Falklands with the very

> likely result that the Argentinians would have called off the operation. ...Australia has a number of strategically important communities and facilities - on-shore and off-shore - which, unless a credible capacity for pre-emptive deployment at short notice can be demonstrated, are vulnerable to 'hijacking' and being held to ransom for limited economic or political gains.[11]

Although some areas may not be so important strategically, it could be politically damaging for one's own territory to be occupied by foreign force. According to "The Strategic Basis of Australian Defence Policy", published by the National Times:

> In a campaign of harassment of Australia, Australian territories at Christmas and the Cocos Islands could be favoured targets. ... it is most improbable that an attempt would be made to seize them except after a period of high political tension. It would be important that Australia recognize the warning time thus provided, decide whether in the circumstances of the time, commitment of important Australian military assets to the defence of the islands was prudent....[12]

In a low-level contingency, the aim of the attacker is political pressure rather than military destruction or territorial gain, the attacker seeking to demonstrate its strength and Australia's weakness, in order to win political concessions over some particular issue in dispute.

In future, one military exercise aimed at quick and effective pre-emption could be required; even though this might cause concern

to neighbours, especially if conducted at Christmas or Cocos Islands, such an experience would have a considerable deterrent effect at least against the possibility of 'hijacking' of some peripheral areas.

ACTUAL WAR FIGHTING CAPABILITY

Probably no one will object to the priority given in formulation of Australia's defence posture to holding and destroying an invading force on the high sea and/or in the air before it reaches Australia. This means clearly that priority should be given to maritime and air defence forces rather than ground forces.[1] However at the initial stage of a possible Indonesian invasion of PNG, ground forces would be more important. Here we should be careful. Building up of maritime and air defence forces can provide both deterrence and actual war fighting capability but that of ground forces may not provide deterrence within the context of the stated Australian posture. Indonesia's main fear would probably be of bombing or mining of main ports in the event of military conflict in PNG, and the building up of Australia's ground forces might indicate to Indonesia that Australia would not conduct such a operation at least in the first stage of a limited war.

Langtry and Ball say:

> A through knowledge of the significance of force multipliers in the tactical sense and their application to the concept of disproportionate response at the strategic level are fundamental prerequisites to sound defence planning. The decision to acquire a specific military capacity should be influenced by the extent to which it contributes to Australia's deterrent posture - with its significance being assessed as a measure of cost-effectiveness in terms of the disproportionate effect caused to a potential aggressor.[2]

(1) Anti-Submarine Warfare Capability

In terms of disproportionate response, anti-submarine warfare is less effective than submarine warfare, mining or strikes by surface by surface vessels.In fact, given the weakness in submarine forces of most regional powers, it has been suggested that Australia has paid more attention than necessary to anti-submarine capability.[3]

The process of anti-submarine warfare operation involves, first locating a submarine-like object on or in the sea by means of radar or sonar(search, detection), then ascertaining that the object is an enemy submarine(identification), determining the position of the identified submarine accurately(localization of the position and pursuit), and finally sinking the submarine by torpedoes or anti-aubmarine rockets. As submarines under water are concealed by the thick veil of sea water which does not transmit light or radar waves,sound waves are the main resource in detecting submarines. However, the speed at which sound travels through sea water varies with the place, the time of the year, and the depth of the sea, and there is not a sole anti-submarine weapon capable by itself of searching, identifying, locating and sinking a high proportion of submarines. Therefore, combined action by surface vessels, submarines, fixed wing anti-submarine aircraft and anti-submarine helicopters is necessitated, requiring a very high investment of manpower and resources compared to those embodied in a submarine.[4]

There is a calculation about an adequate defence for a single ship:

> ... a minimum of three, preferably four, escort ships, two helicopters and one fixed wing aircraft would be required continuously on task. To maintain the necessary aircraft on task for, say, 1-2 weeks would require approximately 9 helicopters and 4 fixed wing aircraft(whether sea- or land-based). Increased numbers would be needed to maintain this level of defencecontinuously for longer periods. In addition, suitable ship platforms could be required for the sea-based helicopters and fixed wing aircraft. It does not follow that the addition of more submarines to the threat must necessarily cause the defender to respond in like proportions. Nor does it follow that the addition of a second ship carrying a vital cargo would require a doubling of escort ships, helicopters and aircraft.[5]

Thus we can see how difficult anti-submarine warfare is. Even the United States cannot contemplate the cost of a high level of protection of sea lines of communication over great distances.[6] But fortunately for Australia, its trade is important to other countries and 97 % of it is carried in foreign ships;[7] it is therefore impossible to conduct a submarine operation against Australia's sea lines of communication at low or even intermediate-level contingencies, because it could not be effective if confined to Australian-flag vessels. Therefore, the main purpose of Australia's anti-submarine warfare should be escort of RAN surface warships at and/or near a conflict area. Lines of communication within the Australian continent should be improved, because they are much safer than sea route. At Kangaroo'83, for example, disembarkation

from HMAS Jervis Bay was a slow process,[8] and the delays involved could lead to big losses unless the increased cost of adequate escort were shouldered.

(2) Mine Warfare Capability

Mine warfare as a force multiplier has been considered as an effective way to carry out a disproportionate response. The RAN recognizes this well,too:

> A single mine costing a few thousand dollars can sink a capital ship worth millions. The cost and effort to clear a port that has been mined - or even to establish that a port is clear if an enemy claims to have mined it - is totally disproportionate. As an example, the cost to the US of clearing Haiphong harbor in the aftermath of the Vietnam War was some 20 times more than the cost of mining it. Supposing that Australia chooses to lay only one submarine load of mines(32) off four of an aggressor's ports(eight apiece) and then declare these to be minefields, four mine countermeasures vessels(mine hunters and sweepers) would be required to clear each port in reasonably quick time(up to a week) judging by Australia's stsndards.[9]

The cost of one submarine and 32 mines are much cheaper than that of 16 countermeasure ships.

On recent types of mines, several major nations are promoting the research and development of deep-sea mining; among these is a type which can be laid at depth of over 1,000m, and several types of self-propelled mines which home in on surface ships and

submarines have also been developed.[10] In order to conduct mine laying, the RAN needs, in emergency situations, to define an area capable of taking the necessary amount of mines in a short period, and then to lay them quickly.

Besides mine-laying warfare, there is also anti-mine warfare, the purpose of which is to remove or detonate mines which have been laid. The RAN needs to promote efforts in research on and development of the capability to cope with mines especially those laid in the deep sea, and of mine-sweeping helicopters. It is also important, of course, to develop the capability to detect and destroy enemy forces before they can lay mines. At Kangaroo'83 the mining of Cape Lambart could have had a serious result.[11] Anti-mine warfare capability is an essential part of the RAN's effectiveness.

(3) Anti-Surface Vessel Striking Capability

The enhancement of anti-surface vessel strike capability would be extremely effective for the defence of Australia. Recently the vulnerability of surface vessels has been demonstrated. In the age of PGMs and sophisticated surveillance systems the balance has shifted markedly to the attacker. Strategic Survey 1982-1983 describes:

> The array of anti-ship missiles now available creates a special danger for all navies. In addition to being relatively cheap and easy to operate, these missiles offer the advantages of being: 1) suitable for launching by aircraft, fast patrol boats and other means at ranges sufficient to reduce the vulnerability of the launching platform to attack;

> 2) likely to home in on their targets successfully, though this depends on the countermeasures taken to disrupt their guidance systems; 3) difficult to shoot down, owing to their flight profiles and high speeds; 4) able to inflict severe damage against modern warship designs.[12]

Indeed in the Falklands War, British forces succeeded in landing on and regaining the islands, but they did enjoy favourable circumstances that may not exist in future. Because mainland Argentinian air bases were far from the British forces, Argentinian aircraft were able to attack from only a narrow range of directions. Thus British air defences were able to concentrate on certain directions. Surface forces operating nearer to enemy air bases would not enjoy such a crucial advantage. As Argentinian aircraft launched their few Exocets piecemeal, British surface-to-air missile systems never had to cope with more than one or two attacks at one time. If there had been more massive and coordinated attacks, British forces would have suffered a much greater threat. Furthermore, Argentinian air attacks were not supported by the sort of electronic countermeasures which are designed to shorten radar detection ranges and disrupt the operation of defensive systems. This decreased the likelihood of Argentinian anti-ship missile-carrying aircraft reaching targets. The error in arming the Argentinian bombs, which resulted in numerous failure to explode on hitting their targets, is unlikely to recur in future. Indeed British forces were protected by carrier-based interceptor aircraft, surface-to-air missiles, and systems for disrupting enemy weapons guidance such as chaff. But without those rare advantageous conditions the threat to British

forces would have been much bigger.[13] Even in the circumstance of the Falklands War, out of a total of some twenty surface warships four were sunk and two others heavily danaged, an attrition rate justified in a short and decisive war, but likely to be unacceptable in a prolonged and inconclusive conflict.

Modern anti-ship missiles can be greatly cost-effective. A something over 1 million dollars Harpoon missile can easily destroy a large ship costing 100 million dollars or more. Australia's maritime strike force has P-3-C Orions, FFG frigates, and F-111s all armed with Harpoons, and the cost-effectiveness of this combination of systems is very high. However. it would be even greater if the FFGs were equipped with helicopters (which would double the effective range of their Harpoons), and procurement of a suitable helicopter for these very expensive vessel is a matter of high priority.[14]

At Kangaroo'83, Harpoon missiles were simulated frequently. Although they performed well, three areas of difficulty were highlighted:

1) the target must be clearly identified. Often this can be done on only at some risk to the P-3-C.

2) Even with definite target identification, there is a real risk that where there is more than one ship in the sea, the missile will 'lock on' to the wrong target. 3) Harpoon's guidance system does not function well within 30miles of land. It is, however, an excellent weapon provided it is used in a blue water environment.[15]

Therefore, improvements of operation with Harpoon and joint operation with submarines are required.

Surface vessels, too, have increasingly been equipped with

surface-to-surafce missiles and warfare between surface ships is changing from fighting with conventional guns to fighting with shipborne surface-to-surface missiles fired at a long distance [16] (However, experience in both Vietnam and the Falklands indicated the continued importance of gunfire in support of operations on land, the lower accuracy and destructive power of shells being compensated for by the relative cheapness which makes it possible to use them in large quantities, and the flexibility with which guns can switch from one target to another[17]).

Surface vessels can acquire defence systems against missile attack, but none of these systems is effective against torpedo attack. Australia has 6 Oberon submarines which are among the best conventional submarines in the world,[18] and as stated before, anti-submarine warfare is difficult.But the Oberons are now hearing the end of their lives, and a replacement for them is being sought.[19]

(4) Air Defence Capability

As the vulnerability of surface vessels has become more prominent these days, the most probable operation that an enemy would resort to in a low-level contingency would be an air attack. In this case, too, it is desirable to be able to shoot down an opponent's aircraft before they can reach targets on land, and on the approach to a target rather than after they have attacked and perhaps destroyed it. The ability to operate interceptors to fairly long ranges is therefore desirable, but long-range interception should not weaken the operating flexibility of the home-based force and not over-extend the lines of logistic support.[20]

Since avionics technology has been advancing remarkably

well in recent years, aircraft performance such as cruising speed, rate of climb, cruising range(and hence "loiter time" awaiting the adversary), maneuverability and acceleration, and performance of airborne avionics such as radars, navigational devices or electronic warfare equipment have greatly improved. In addition, combat capability has been greatly enhanced by installing air-to-air and air-to-surface missiles. These capabilities make various modes of invasion possible such as intrusion at low altitude or very high altitude at high speeds while jamming or confusing radars which function as the eyes and ears of air defence operations, and implementing air-to-surface missile attacks from a long distance.[21]

Recent types of aircraft have acquired the capability to attack surface vessels while out of the range of the ship's surface-to-air missiles. Therefore the threat posed by aircraft to surface vessels at sea is increasing.[22]

Missiles are less effective against aircraft than against surface vessels. Throughout the Vietnam War, a total of 1,070 US aircraft were shot down, 80 by enemy aircraft, 150 by surface-to-air missiles and 840 by anti-aircraft guns. The number of aircraft shot down by anti-aircraft guns is outstandingly high, but must be related to the low altitudes of many US sorties and to the large numbers of anti-aircraft guns deployed by North Vietnam (for example, at one point in 1972, North Vietnam deployed 250 Mig interceptors, 300 Soviet SA-2 surface-to-air missiles and 10,000 anti-aircraft guns). As far as surface-to-air missiles were concerned, for the whole of the Vietnam War, about 9,000 missiles were fired against 470,000 sorties by US aircraft and 150 aircraft were shot down. This means for the United States

that 0.03 % of its sorties were shot down by missiles and for Vietnam that an average of 1.7 % of missiles launched brought down an aircraft. For various years of the war the average of the North Vietnamese hit rate was 5.0 % in 1965, 0.9 % in 1968 and 1.2 % in 1972. These figures show that North Vietnam's missile hit rate average fell gradually as the war progressed and American ECMs improved. In the first phase of the Fourth Middle East War (October 1973), the anti-air warfare systems, including surface-to-air missiles, of both Egypt and Syria worked very well. Over the Sinai peninsula Israel lost 78 aircraft in the first week of the war, or about 25 % of the 300 aircraft Israel operated in this area. Over all 114 Israeli aircraft were lost in the war, 44 by surface-to-air missiles, 31 by anti-aircraft guns, 6 by either of them and 33 by other methods. In the air, however, Israel overwhelmed the Arabs. Israeli aircraft shot down 334 Arab aircraft, 196 by air-to-air missiles and 138 by automatic weapons, for a loss of only 4 Israeli aircraft. The surface-to-air missiles of the Arabs, worked well at first, but could not respond adequately to the expansion of the fighting area because of intercept range limitations, vulnerability to attack from the ground and attrition of the system by prolonged combat use.[23]

We can conclude as follows: the technology of missiles has developed amazingly, but air defence efficiency is not sufficient with missiles only. Anti-aircraft guns and missiles should supplement each other. Also, in the air, the use of both missiles and automatic weapons is effective.

A surface-to-air missile system has many weak points, indeed. First, as the role is fixed according to direction and altitude,

many such missiles are neecssary. In a real battlefield,many aircraft move in different directions. In Australian air space, owing to its wideness, an opponent's aircraft are able to attack from only a narrow range of directions. Still sufficient missiles would be necssary to some extent, suitable for different altitude and capable of being used forward and backward. Second, though not particular to surface-to-air missiles, wireless guidance missiles are likely to be useless against ECM. In June 1982 when Israel invaded Lebanon, 17 Syrian surface-to-air missiles sites in the Bekka Valley were destroyed before the Syrians were able to shoot down single Israeli aircraft. It is said that Israeli ECM made Syrian surface-to-air missiles ineffective Third, when anti-aircraft warfare is combined with air war surface-to-air missiles may shoot down friendly aircraft unless proper safeguards are adopted. In the Fourth Middle East War the Arabs shot down 60 of their own aircraft.[24]

We must calculate an air balance in terms of effective presence in the air, rather than available aircraft. For example, Strategic Survey 1982-1983 points out, in the Falklands War:

> The six-to-one (some would say ten-to-one) Argentine advantage in the number of airframes was effectively neutralized by a sortie rate on the part of the British Harriers which was at least six times higher per airframe. Weather aside, it appears that Argentina could generally mount less than one sortie per aircraft per day over the Falklands; at peak periods, Harriers could be turned around (either on the two carriers or on the ground) to fly six sorties

> per day - so that pilot fatigue replaced airframe availability as the limiting factor. The Harriers were not six times better than the opposing aircraft; they were airbone six times as often.[25]

The Argentine Air Force's nearest mainland base was 400 miles away, so it could not fly as many sorties per aircraft per day as the British could. It is more a matter of the distances to be covered than anything else. Perhaps the Argentines could have averaged more sorties per aircraft per day than they did, but they would then have had the same problem of pilot fatigue unless they had a lot of spare pilots(pilots are so expensive to train that no air force has very large numbers of spare pilots available). In the Australian case, the ability to fly more sorties depends on where the enemy is, and the distances the RAAF's pilots might have to fly.[26]

(5) Surveillance Capability

Surveillance capability is fundamentally important. P-3-C Orions, together with smaller coastal aircraft, are the best ones in this regard Australia has ever possessed. The rapid development of over-horizon radar, such as the Jindalee, and other electronic systems should be added to them.[27]

In order to detect an intrusion in an early stage, it is necessary to maintain air defence radar networks around northern Australia, thus leaving no space uncovered. However, it is difficult for ground radars alone to achieve early detection of enemy aircraft intruding at an altitude lower than the line-of-sight, because radar signals proceed in straight lines, and do not follow the curvature of the earth.[28] For this purpose, the RAAF requires

a special airborne radar early warning unit to detect aircraft intruding at low altitude. Because of the lack of shch a system, the British commander in the Falklands War had to deploy HMS Sheffield in a dangerously exposed position as forward radar picket where it could not be given aid protection due to the limited range of the Sea Harriers. This led to her destruction. The absence of an effective airborne early warning system also made possible surprise attacks by the Argentinian Air Force on the British landings.[29]

As repeated often, the threat to surface vessels at sea is becoming greater and greater. The best way to defend surface vessels is to destroy the carrying platforms before the missiles arelaunched. Therefore an early warning system against intruding aircraft also helps to defend Australia's frigates and patrol boats which are a part of the maritime strike forces.

(6) Coastal Patrolling Cspability

Comprehensive coastal patrolling at surface level is a vital function both in relation to national interests and the enforcement of nationaljurisdiction in many aeras. There are various functions which navies can be expected to perform in the offshore estate; support of mineral extraction, fishery protection duties, pollution control, law enforcement against errant merchant ships, smugglers and pirates, and search and rescue missions.[30]

It is sometimes argued that defence forces have better things to do than to conduct coastal patrols.[31] But navies have had some constabulary role in the past. In the 19th century the Royal Navy spent much time suppressing piracy and slave trade and generally maintaining good order at sea,[32] while the US Coastguard was established by act of Congress in 1915 as a military service and

a branch of the armed forces of the United States.[33] Navies are likely to perform patrol duties offshore on an even greater scale in future, given the extention of offshore economic zones and of installations such as oil and gas platforms.[34]

In fact, some likely or foreseeable contingencies that could endanger Australia's interests in the future could happen in coastal reigons. Hence if there is a tendency within Australia's defence force to neglect constabulary functions, this should be questioned.[35] Therefore:

> Attention should be given to the role that hovercraft or surface-effect ships can play both in coastal protection and surveillance and in support of other defence purposes generally. These vessels can operate now in a variety of sea conditions with speeds in excess of fifty knots; they would also be excellent PGM platforms. Moreover, they require a smaller crew than conventional patrol boats and are virtually immune to all current types of mines and torpedoes - making them useful for mine counter-measures and related operations.[36]

Although coastal surveillance is one of the most important functions of navies, the execution of that role by civilian companies on charter is an outstanding example of how to use the civil infrastructure in support of the defence forces. The benefits are, on the one hand, providing an economic stimulus for the civil industry, and on the other, a saving for the government.[37] At present the civilian role in this regard is not large, but it is being increased.[38] As it would be difficult to locate a secret

landing of terrorist groups and/or small special forces on Australia's long coast line, the chartering of civil infrastructure is very helpful, especially in the ability it provides to exploit the local knowledge of civilian aircrew.

In recent times the boundary between terrorism and military operations has been becoming more and more vague. First, new technological developments have enhanced the capacities of terrorist groups. As Babbage says:

> Although national government will retain a clear superiority in conventional military power, the increasingly light and compact nature of guided firepower will provide stateless groups with a means of inflicting violence in a highly discriminating manner from stand-off ranges. Terrorist groups armed with modern anti-aircraft, anti-tank and anti-shipping weaponry will pose a threat of quite a different type to that of the past.[39]

Second, modern terrorists tend to be supported by much bigger organizations. In the past terrorists were individuals acting alone or backed by small minority groups, but now they often belong to influential political groups whose existence their governments sometimes admit, and enjoy regional or worldwide infrastructural support from governments or from other terrorist organizations. The increased speed and prevalence of international travel has also facilitated terrorist mobility.

This means terrorists can launch armed attacks on a hitherto unprecedented scale. As stated before, any attemptto attack and hold an area in the North certainly would be a multiple-division

operation. However, in order merely to destroy a given military or industrial facility, 100 or fewer terrorists on a suicide mission might be enough. Thus terrorism is one of the most feasible and likely low-level contingencies. Unluckily deterrence is not so effective for terrorism, because a target of retaliation can usually not be specified.

Although terrorists coming from abroad would be more likely to come in on commercial flights and obtain their weapons after that, some might plan to cross the surrounding water barrier, and special units, too. Therefore air, surface-and under-sea surveillance and patrolling of coastal regions are important.[40]

(7) Command, Control and Communication (C^3)

A war is heavily dependent on command, control and communication (C^3). This means not only their roles in military operations but also those in civil/military coordination. Especially in low-level contingencies, which could occur at short notice, C^3 are decisive. Kangaroo'83 showed this.

The Australian defence forces do not have joint headquarters. Each time a joint operational force is formed, a joint headquarters should be established. Considering the possibility of a low-level threat developing in remote areas with relatively little warning time, serious consideration should be given to establishing a number of joint headquarters at suitable locations to cover such contingencies, for example, Perth, Darwin and Townsville.[41]

(8) Intelligence

Intelligence-gathering and analyzing capacity is important, especially for low-level contingency. As low-level contingency needs just a change of intention, not of capability, it could

happen in a very short time. Australia needs a longer (even though not adequate) warning and lead time.[42]

It is clear that a country's national security interests do not always coincide with those of its allies. The intelligence-dispensing country, such as the United States, might regulate or modify the flow of information in its own interests. Disinformation might be supplied either unintentionally or intentionally. It must be anticipated that in addition to the flow of valuable objective information, foreign countries are likely to infiltrate their own value judgements, interests, philosophies and concepts into senior levels of the national security structure. Over an extended period of time, this influence could have a significant impact upon the attitudes and reactions of Australia's national security decision-makers. Further, in some types of situations, foreign sources of information could be suspended arbitarily or made the subject of bargaining pressures that would not be in Australia's interests.[43]

A situation could arise where intelligence links with the United States might be too intimate. While the Australian defence establishment benefits from American intelligence data, the United States also benefits from Australia. Albinski says:

> United States personnel work closely with Australians at joint defence facilities, and the work of Australia's Defence Signals Directorate is of considerable value to American intelligence collecting organizations such as the National Security Agency.[44]

This close relationship might lead to undue American interference in Australian affairs:

> ... there have been various, documented examples

> of CIA efforts to win over or to compromise groups or individuals in host countries, and of efforts to destabilize regimes. ... Allegation arose that American intelligence and security agencies, and especially CIA, engaged in improper and deceptive activity toward Australia during the period of the Whitlam government, particularly in its closing stages.[45]

Although this allegation has been denied officially by the US government,[46] still this example shows that too close and intimate intelligence relations with the United States could be counterproductive and controversial.

Hence too great a reliance upon foreign intelligence services is far from desirable. Indeed only the United States and the Soviet Union will be able to afford a full range of sophisticated intelligence collection and analysis in the foreseeable future and it is useful to maintain intelligence relationships with one of them, but, at the same time, Australia should make aneffort to lessen its dependence on such intelligence. This requires an expansion of intelligence-gathering capabilities and a more sophisticated capacity for intelligence analysis and interpretation. The change of Australia's security strategy, from "Forward Defence" to "Defence of Australia", has a direct bearing on the nature of the task of its intelligence service. Much greater attention needs to be given to intelligence likely to be of specific significance to Australia. Most importantly, very close monitoring has to be maintained on all variables relating to pressure and threat lead and warning times. It would be upon the basis of detailed

material in this field that many important characteristics of Australia's response capacity could be determined.[47]

It should be remembered that democratic control over intelligence services is indispensable. Nowadays militarism is unlikely to be dominant in democratic countries such as Australia, Japan, New Zealand, Western Europe, the United States, and Canada. However, because of their bureaucratic procedures, their monopolization of information, and their intrinsic secrecy, intelligence services could become a strong obstacle to democracy. Therefore strict control that does not jeopardize the efficiency of intelligence services is neecssary.

(9) Training

Training is a determinant of a war, too. For example, pilot training has an enormous impact on the overall effectiveness of any tactical fighter force. Difference in pilot qualities are important in determining air combat outcomes in situations where each adversary is using the same aircraft. An official German report on World War II states:

> During the battle of France in 1940, groups of German Me 109 fighter aircraft frequently flew over Swiss territory. They were regularly intercepted by Swiss citizen pilots flying exactly the same aircraft - Me 109s. The rate of scoring was 7 to 1 in favour of the Swiss; not figures to be shrugged off as quite insignificant.

Furthermore, the factor of pilot training is of such significance that it often overrides differences in aircraft performance and capabilities.[48]

In the Vietnam War, most of the American pilots who were shot down by surface-to-air missiles had not experienced more than 9 sorties. The return rate of pilots who had experienced more than 9 sorties was high.[49] Therefore, it is essential that pilot training should be as realistic as possible.

Pilot training is expensive. According to one RAND report, it is perhaps the most expensive educational process in the world.[50] But cutting down of training flight hours might make the existence of 'expensive' aircraft meaningless. Pilots of the Soviet Air Force in the Far East undergo only 80 flight hours a year, while pilots of the US Air Force undergo more than 200 flight hours a year. In the shooting down of a KAL aircraft in September 1983, Soviet jets could not intercept the KAL aircraft crossing over Kamchatka Peninsula at an altitude of 10,000 m, in which radar can find aircraft relatively easily. At last one jet caught up with it only after it had passed Sakhalin Island. This fact suggests that the quality of Soviet pilots and their cooperation with radar sites are defective.[51] Appropriate pilot training is indispensable lest defence budget and resources should be wasted.

(10) Civil-Military Relations

The protection of civilians to the extent possible is indispensable in any operation. At Kangaroo'83, problems of target identification made it difficult to use helicopters or ground support aircraft to destroy Kamarian units.[52] Defence forces should never destroy civilians by mistake. At the battlefield of Okinawa in World War II, the Japanese Army, far from protecting citizens, slaughtered them. This memory has endured in the minds of the Okinawa people to this day, and consequently they have strong

feelings against the present Self Defence Forces. Soldiers by themselves cannot fight a war of any considerable magnitude or duration. Support of public opinion is indispensable:

> In World War II there were industrial strikes; and some trade union embargoes during the Vietnam War were such that Australian-based logistic support for the troops in Vietnam could only be guaranteed by using naval vessels and requisitioned vessels manned and loaded by military crews.[53]

Although defence of the home country is distinct from sending forces overseas, a war situation would be disadvantageous without public support, especially as a considerable part of transportation would be dependent on the civil infrastructure.

CONCLUSION

As stated in this article, Australia has some defence problems which will take a lot of time to solve. But no country ever has enough capacity, and it is never possible to say definitely how much is enough. Considering its advantageous strategic environment, we might well say Australia is relatively well off compared to most countries.

Although its industrial and technological capacity is not great, Australia can endure against a low-level contingency. It is 70 % self-sufficient in oil, has ample minerals, including coal and natural gas, if necessary uranium also, and is considerably more than self-sufficient in agriculture.[1] Long before Australia can suffer seriously from a world crisis , steps would probably have been taken to resolve it, because of the great dependence of Japan and the western European countries on imported resources. This does not mean that Australia does not have to make an effort to advance industrial and technological capacity and to accumulate resources, but it is reasonably well placed to do so.

As to the possibility of a Soviet invasion of Australia, it could safely be assumed that the Soviet Union would be more preoccupied with Western Europe, the Middle East, China, and Japan. For the defence of these areas, the US facilities in Australia would be a threat to the Soviet Union. In this situation a nuclear attack against Australia would be more likely than an invasion. However, Australia can do nothing against a nuclear attack other than cut its military relationship with the United States. The majority of Australians appear to prefer the maintenance of the alliance with the United States, and to accept this risk. This is Australia's choice, supported by governments on both sides

of politics.

As a matter of probability, any military threat to Australia, against which Australia should prepare, would be only a low-level contingency, most likely posed by Indonesia. Other than Indonesia, no neighbouring country is capable of seriously threatening Australia, and even Indonesia has only a poor capacity to do so.

The figures from "Military Balance 1983-1984" indicate that the local balance is advantageous to Australia, provided it does not undertake to invade Indonesia:[2]

	Australia	Indonesia
Total armed forces	72,473	281,000
Estimated defence expenditure 1982/3	4.472 billion US dollars	2.926 US dollars
Defence expenditure as % of government spending 1982	10.2 %	12.4 %
Defence expenditure per capita 1982	299 US dollars	19 US dollars
Army	32,850	210,000
Navy	6 Oberon-class submarines	3 Submarines (1 for training)
	3 ASW destroyers	9 Frigates
	2 Guided missile frigates (FFG)	
	6 River-class destroyer escorts	

	11 Attack-class patrol boats	14 large patrol boats
	9 Fremantle-class patrol boats	
	On order 2 FFG frigates 6 Fremantle-class patrol boats Harpoon SSM	
Air Force	2 Ground attack and reconnaisance squadrons (16 F-111C, 4 F-111A, 4 RF-111C)	2 Ground attack squadrons (27 A-4E, 4 TA-4H Skyhawk)
	3 Interceptor and ground attack squadrons (56 Mirage III O)	2 Interceptor squadrons (11 F-5E, 4 F-5F)
	2 Maritime reconnaisance squadrons (10 P-3B, 10 P-3C)	1 Maritime reconnaisance squadron (C-130H-MP, 1 Boeing 737-200, 5 HU-16)

Quality can override quantity. Besides excellence in quality of its armed forces, geographical location is advantageous to Australia also, in that the vital centres of Indonesia are close to Australia's military facilities, but the vital centres of Australia are far from Indonesia's nearest air bases.

Indonesia could bomb or mine some area of the North, but in turn Australia could do the same thing to main Indonesian ports much more easily and with a much greater effect. Such a strategic asymmetry makes the situation more disadvantageous to Indonesia, in that the more Indonesia escalates a conflict, the more options Australia would have for using its more sophisticated military technology. Hence if a conflict were to occur between Australia and Indonesia, the latter would have the moreincentives to keep the level of conflict as low as possible.

At present relations between Australia and Indonesia are not bad enough for the development of a military conflict to seem at all likely. It could, however, be a consequence of excessive Indonesian pressure against PNG; although there is no formal defence agreement, Australia has/had special responsibility for PNG historically and geographically.

Australia's deterrence and actual war fighting capabilities coincide to a remarkable degree. As we have seen, any country wishing to invade Australia would find it difficult even to attempt low-level harrassment. Compared to other powers in its region, Australia has a better geographical situation and more sophisticated defence forces for mine warfare, anti-surface vessel strikes and fighting capabilities.

However, unless Australia's mainland or off-shore islands were to be attacked, it might be politically difficult to bomb or mine Indonesia, because such an action could escalate and widen the conflict. In other words, Australia's ability to defend itself or to attack Indonesia provides deterrence against, for example, an invasion of PNG, but not necessarily actual war fighting capabilities for the direct defence of PNG if deterrence fails.

Then, should Australia build up its ability to defend PNG? This is the dilemma which military planners confront. If Australia develops its actual war fighting capabilities further, it might be a signal to Indonesia that Australia would wish to keep a contingency as low as possible, and therefore would not escalate conflict by attacking Indonesia. This is the same logic as the anxiety that building up of NATO conventional forces might encourage the Soviet Union to invade Western Europe without worrying about

a possible nuclear response by NATO.

The answer to this question is to be found in the width of Australia. As most of the Army focus on the East, it is necessary to be able to transport them everywhere within the country, and such a transportation capability would be adequate for defence of PNG also. If Australian Defence Forces can carry troops and supplies from the East to the North, why not from North to PNG? No additional specialised equipment is required for defence of PNG, and there probably would not be much need for heavy equipments such as tanks or armoured personnel carriers. The most important factor required for defence of PNG is a transportation capability for troops and light equipment up to and including hand-held anti-tank and anti-aircraft missiles. A military exercise to send troops and supplies to the North is useful as a rehearsal for sending them to PNG, so war fighting capability for that theatre can to a large extent be exercised without necessarily encouraging Indonesia towards a belief that Australia would wish to keep a conflict at the low-level possible. The transportation range covered by Kangaroo'83, for example, was much larger than the distance between Eastern Australia and PNG.

Australia's relatively small ground forces could have only limited military effect, but considerable political effect. Preemptive deployment of Australian forces would be a great deterrence if Indonesia contemplated invasion of PNG. Australian naval and air capabilities could be used either as direct combat support or to cut Indonesian lines of communication to Irian Jaya and the border area.

However, as Indonesia's frustration is caused by an

uncontrolled dissident movement within Irian Jaya which uses PNG as a "sanctuary", it is a prerequisite for Australia to persuade PNG to take a firm policy toward dissident groups and, if necessary, to cooperate with PNG.

Another matter which might develop to a conflict between Australia and Indonesia concerns natural resources at sea. The two countries have adjoining Exclusive Economic Zones the boundaries of which are in dispute in some areas. At present neither is exploiting the disputed areas, but there could be some possibility of future conflict, should either or both discover sugnificant natural resources such as oil or natural gas.[3] In this case too, a peaceful settlement is desirable.

Political solutions are preferable to military ones. Defence preparation is very important but supplementary to politics. Australia should attempt to retain the support of Asia-Pacific countries, because it is one of them, and deterring war is preferable even to winning it.

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