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THE PHILIPPINE ROSES: BACKGROUND FOR NEGOTIATIONS

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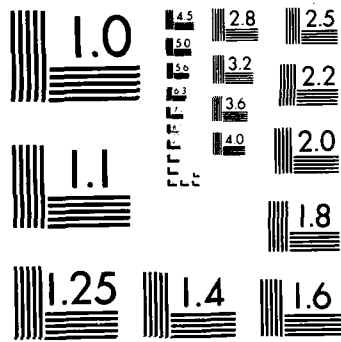
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**The Philippine Bases:  
Background for Negotiations**

**Executive Summary**

Donald Putnam Henry, Keith Crane,  
Katharine Watkins Webb

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This report assesses the value to the United States and to the Republic of the Philippines of U.S. access to military facilities in the Philippines. Estimates of value for the United States focus on the cost of maintaining existing capabilities through the use of alternative bases and other means. A wide range of alternatives that might provide necessary support for operations stretching from the Persian Gulf to the Pacific Ocean are examined and costed. Value for the Philippines is defined more broadly to include U.S. direct input to the Philippine economy through aid payments and base expenditures, as well as estimates of avoided Philippine military expenditures and investor confidence associated with the U.S. presence. The report concludes with suggestions for U.S. policymakers concerning ongoing negotiations with the Republic of the Philippines over the status of the bases. *King*

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# The Philippine Bases: Background for Negotiations

## Executive Summary

Donald Putnam Henry, Keith Crane,  
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August 1989

Prepared for the  
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## PREFACE

This study develops a general methodology for estimating the military value and replacement cost of an overseas military base to the United States and the political, economic, and military value of such a base to the host country. The authors have applied this methodology to the U.S. military facilities in the Republic of the Philippines. This report estimates the incremental costs to the United States of replicating at other locations the most important military capabilities currently provided by the Subic Bay and Clark Air Base. It also assesses the benefits and costs of these facilities to the Republic of the Philippines. It is designed to elucidate issues arising in negotiations between the United States and the Republic of the Philippines over these facilities.

The study was prepared for the Office of the Under Secretary of Defense for Policy and the Department of State under RAND's National Defense Research Institute, a federally funded research and development center. It is part of continuing research in the International Economic Policy program of RAND's National Security Research Division; the program focuses on the interface between international economics and national security issues.

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## SUMMARY

In 1988 the United States and the Republic of the Philippines concluded a five-year review of the Military Bases Agreement (MBA). This review, however, was only a prelude to further negotiations. The Philippine constitution requires that the MBA be terminated in 1991 and that any future U.S. military presence be governed by a treaty. These negotiations will involve issues of U.S. economic aid for the Philippines, the presence of nuclear weapons, and Philippine control over U.S. military activities in the Philippines, as well as the broader issue of whether the United States should remain in the Philippines at all.

This study elucidates some of the stakes involved in these negotiations for the United States and Republic of the Philippines and assesses the value of the U.S. military facilities in the Philippines to both countries, quantifying as much as possible what each side has to gain or lose in these negotiations.

To assess the value of the facilities to the United States we estimated how much more would have to be spent to replicate the military capabilities currently generated by the Philippine facilities. In other words, how much more would it cost to develop and operate alternatives to Clark and Subic? We do not, however, simply calculate the cost of rebuilding the facilities *in toto* elsewhere, which is likely to be infeasible for political and budgetary reasons; rather we calculate the incremental costs of replicating capabilities, not facilities.

We first define the capabilities of Clark and Subic that are important to the United States. We construct five scenarios (peacetime, a Vietnamese incursion into Thailand, a Soviet invasion of Iran, a North Korean invasion of South Korea, and a general war with the Soviet Union) and examine how the bases would be used in each scenario. These scenarios not only identify capabilities, but they also size these capabilities and indicate geographical considerations for alternatives.

We then examine a wide range of alternatives that might be available to replace some of the military capabilities now generated from the Philippines. These include existing U.S. facilities, foreign military and commercial facilities, sites for new facilities, and alternatives such as changes in equipment that do not require "real estate."

Adhering as much as possible to standard military costing practices, we then calculate the cost of replicating the capabilities at alternative locations. Initially, few alternatives were excluded solely on political grounds because the level of access that the United States would be

granted elsewhere is unknown. We subsequently remove alternatives from consideration by applying progressively more stringent definitions of political feasibility. To illustrate the range of costs we construct six cases with varying U.S. access to the region. The cost of these cases, which are net of the costs the United States currently incurs using the Philippines, are shown in Table S.1. The annualized cost numbers range from \$180 million to \$1.4 billion per year. The budget numbers, ranging from \$370 million to \$2.5 billion per year, show what the United States would pay in each of the first four years of the new configuration, if one-time costs are spread over the four years.

Additional costs not estimated here come from payments made to support the host nation. The United States gives substantial aid to the Philippines, which might be reduced without the bases. Alternative host nations might also want economic assistance, trade concessions, or security guarantees. We have not estimated these costs, but we believe that aid flows required by alternative hosts would be less than current aid to the Philippines.

Although these numbers are estimates of the quantifiable aspects of the value of the facilities to the United States, they do not tell the whole story. These bases are a symbol of U.S. commitment to the region, a value distinct from that of generating military capabilities. They provide benefits to both the United States and the Philippines; the United States should be able to spend less for the bases than the "walk away" price. The willingness of the United States to continue its defense commitments in this region may waver if costs increase greatly or if it is held up by its allies. Also, payment to the Philippines will affect the demands of other base rights countries around the world. If aid levels are increased substantially, other host countries are likely to ask for similar treatment.

The Philippines derives benefits and incurs costs from hosting the U.S. military facilities. The economic flows that the Philippines receives from the United States, driven to a great extent by the presence of the bases, are substantial. Expenditures for the facilities, aid, and the value of trade preferences amounted to at least \$747 million, or 2.5 percent of GNP in 1987 (Table S.2). These figures went up substantially after the 1988 MBA renewal; economic and military assistance alone will average \$481 million a year in FY 1990 and 1991. The U.S. military presence also allows the Philippines to spend less on external defense than it otherwise would. While additional spending would depend on Philippine threat perceptions and are thus speculative, we estimate that these costs could run an additional \$640 million per year, or roughly 2.1 percent of GNP. Finally, the presence of the bases enhances investor confidence in the Philippines, thereby

Table S.1

INCREMENTAL COST OF ALTERNATIVES  
(Millions of 1990 \$)

Level of Access Granted	Totals		Components	
	Annualized Cost <sup>a</sup>	Budget Cost <sup>b</sup>	One-Time	Recurring
Unconstrained access	178.0	368.1	1,384.1	22.1
Limited ASEAN access	437.5	693.5	1,910.0	216.0
No ASEAN access	667.2	1,125.9	3,454.1	262.4
No ASEAN/NE Asia access	996.5	1,644.9	4,773.0	451.7
U.S. territory only	1,425.9	2,506.1	7,637.5	596.7
Flexible access	729.2	1,225.9	3,599.0	326.1

<sup>a</sup>One-time costs amortized over 20 to 30 years with a 10 percent discount rate plus recurring costs.

<sup>b</sup>One-time costs incurred over four years with no discount rate plus recurring costs. After four years, budget costs would be reduced to recurring costs only.

increasing the level of investment and the economic growth rate. We estimate, with an admittedly wide margin of error, that Philippine GNP would be 6.2 percent lower in 1992 without the bases than with them because of lessened investor confidence. The size of these economic benefits is not widely appreciated in the Philippines.

The costs of the U.S. military presence to the Philippines are more easily enumerated than quantified. Political costs probably swamp all others. Many Filipinos believe that the U.S. presence reduces Philippine sovereignty and results in an inordinate level of U.S. involvement

Table S.2

BENEFITS TO THE PHILIPPINES

Benefit	Million \$	% GNP
<b>Economic Flows</b>		
Base Expenditures (1987)	507	1.7
Aid (1982-87 Avg)	180	0.6
Trade preferences (1986)	50	0.2
Subtotal	737	2.5
<b>Security-Related Benefits</b>		
Avoided military expenditures	640	~2.1
Increased investor confidence (1992)	—	~6.2

in Philippine domestic affairs. In addition, the Philippines suffer from social problems arising from the facilities similar to those generally found around military bases. These problems are exacerbated by the large economic disparities between the United States and the Philippines. Some in the Philippines argue that the U.S. presence makes the Philippines a more likely target for Soviet nuclear attack, while others argue that the bases provide a rallying point for political opposition and thereby strengthen the insurgency.

Our analysis has generated the following conclusions:

- The bases are not irreplaceable. A wide range of possible alternatives exists both in Southeast Asia and elsewhere.
- The United States could improve its negotiating position by reiterating its policy of evacuating military installations, if requested. Misperceptions on this issue by some Filipinos have aggravated concerns about sovereignty.
- The United States may find it expedient to leave the Philippines if the price asked for continued access is too high. Military capabilities can be replaced for less than some Philippine demands even under pessimistic access scenarios.
- The economic benefits from hosting the bases are substantial; aid is only one component of these and not the largest benefit.
- In economic terms, the Philippines has much more to lose in the negotiations than the United States.
- If it is impossible to come to terms with the Philippines, opportunities remain for security cooperation without the bases.

The U.S. government may also find it useful to raise the following points with potential host nations. The seriousness of the U.S. security commitment to the region depends on the level of access that it is granted there. A fallback of U.S. forces will hurt Asian security. The economic benefits from hosting certain activities such as ship repair can be substantial. The United States is flexible and will consider low-profile options such as commercial operations, facilities used jointly by the host nation and the United States, and regional facilities.

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## I. INTRODUCTION

### PURPOSE

This study examines the value of the U.S. military facilities in the Republic of the Philippines. It first estimates the military value of the facilities to the United States.<sup>1</sup> Then it assesses the benefits and costs of the facilities to the Republic of the Philippines.

In examining the value of the facilities to the U.S. military, we have made every effort to express this value in monetary terms. Our assessment of the benefits of the U.S. presence to the Philippines focuses on quantifying economic benefits accruing from the U.S. military presence. Although money is not the only way to assess the value of the facilities, it does provide a common denominator for comparing alternatives. Moreover, negotiations with the Republic of the Philippines are likely to center on monetary issues, including the value of U.S. aid. We also review political arguments within the Philippines against the U.S. presence. Although the economic benefits of the bases are substantial, we do not try to weigh them against their political and social costs. Such a balance can be made only by the Philippine government.

### BACKGROUND

In 1988 the United States and the Republic of the Philippines concluded a five-year review of the Military Bases Agreement (MBA). Negotiations centered on levels of U.S. aid but included other issues. These negotiations were a prelude to renegotiation of the MBA, which guarantees U.S. access to the facilities until 1991, after which either party can end the MBA upon one year's notice. The Aquino government has stated it will honor the MBA until 1991; it then hopes to have renegotiated the status of the facilities. The new Philippine constitution requires that any foreign access to facilities after 1991 be governed by a treaty ratified by the Philippine Senate and, possibly, a national referendum. Negotiations for a new bases agreement will almost certainly include Philippine government proposals to alter existing operating procedures. They will take place against a backdrop of

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<sup>1</sup>More precisely, we estimate the incremental costs to the United States of replicating at other locations the most important military capabilities currently provided by these facilities.

political uncertainty fueled by an active insurgency, large international debts, and national elections scheduled for 1992.

Geography, cost factors, and history have combined to make Clark Air Base and Subic Bay the center of U.S. military activities in the southwestern Pacific. The loss of the capabilities provided by these facilities would have severe repercussions for U.S. strategy in the Pacific. For geographic, political, and budgetary reasons, *duplicating* these facilities in the region is probably impossible. However, *replicating* the capabilities provided by them is potentially feasible, although it would require the cooperation of other Asian nations and additional expenditures.

## APPROACH

### Value to the United States

We assess the value of these facilities to the United States by estimating the incremental costs of developing and operating alternatives that replicate currently generated capabilities. In other words, the value of the facilities is not the cost of duplicating them, but the cost of developing alternative means of generating the capabilities they currently provide.

These value estimates should be used with caution. The U.S. facilities are valuable as a symbol of U.S. commitment to the region; the strictly political value of the facilities is not measured by our methodology. However, the political value of the facilities, although an important consideration to policymakers, derives from their military value and is therefore mostly included under the estimates of the cost of replacing capabilities. Without the Philippines, some capabilities may become so expensive that the United States may choose to accept degraded capabilities instead of higher costs. If such is the case, we overestimate the value of the facilities by replicating these capabilities. Any major disruption in the way the U.S. military operates is likely to lead to costs not included in this analysis, as well as some benefits.

Costs are not the sole measure of value. Determination of the reservation price (the price at which the United States would walk away from the facilities) should certainly include consideration of the costs of operating from alternative locations, but only as one of several inputs. The reservation price should be adjusted based on assessments of the unquantifiable benefits or costs of the facilities and on the ripple effect any basing arrangement will have on relations with other nations. The importance of the facilities relative to other potential

expenditures must be evaluated and the reservation price adjusted accordingly. This study attempts to do only the first portion of this analysis—the assessment of the costs of operating from alternative locations.

### **Value to the Philippines**

We also assess the benefits and costs to the Philippines of the U.S. military presence. We consider and quantify, to the extent possible, the value to the Philippine economy of base-related expenditures and employment, economic and military assistance, trade policies, avoided military expenditures for external defense, and the effect of the U.S. presence on domestic investment within the Philippines. We also discuss base-related social, political, and security costs to the Philippines. These costs are largely unquantifiable but motivate individuals and groups who oppose a continued U.S. presence. By detailing these costs and benefits, we believe U.S. negotiators can better appreciate the political milieu in which the base negotiations will be conducted.

## II. VALUE TO THE UNITED STATES: THE COST OF REPLACING MILITARY CAPABILITIES

The Republic of the Philippines is home to important U.S. forces and facilities (Table 1).<sup>1</sup> These facilities provide the United States with capabilities to respond militarily to a wide range of contingencies. This section explains how we ascribed a monetary value to the bases by estimating the incremental cost of replacing these capabilities.

Costing the military value of the facilities encompasses four steps. First we identify the current capabilities of the facilities in the context of U.S. military missions. Second, we identify potential alternatives. Third, we estimate the net change in costs of developing and using the potential alternatives. Fourth, we select a menu of possible basing alternatives that replicate current military capabilities, yet minimize costs and allow for political uncertainties. To make this process clearer, we trace one capability, strategic lift, through the first three steps in App. A. The menus are presented in their entirety.

The forces and facilities in the Philippines generate capabilities to respond to a variety of scenarios. By specifying the most probable or most serious scenarios, we can identify the most important capabilities generated from the facilities in the Philippines in support of hypothetical U.S. responses. We use these capabilities as our measure of the military value of the Philippine facilities.

We chose five scenarios to illuminate the capabilities that must be replaced at alternative sites. The scenarios also place geographic constraints on alternative locations and help us size the facilities. The five scenarios are peacetime, a Vietnamese incursion into Thailand, a North Korean invasion of South Korea, a Soviet invasion of Iran, and a general war with the Soviet Union.

After determining the capabilities to be replaced, we identify alternatives that might provide these capabilities. These are frequently other sites, but also include different ways of generating the same capability: prepositioning supplies, procuring more equipment, altering modes of operation, etc. We have not concentrated our efforts on

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<sup>1</sup>The two bases hosting the largest number of U.S. forces are Clark Air Base and Subic Bay Naval Base. The bases are owned and controlled by the Philippine government. The United States has been given the right to operate *facilities* on these bases. Although these facilities are frequently referred to as bases, we try to use the more accurate term facilities.

relocating Clark Air Base or Subic Bay. Our goal is to replicate current *capabilities*, not to replace the bases *in toto*. This goal appears feasible, especially if we develop combinations of sites rather than a single location.

Our initial list is very broad, including existing U.S. facilities, foreign military and commercial facilities, locations for new facilities, and a set of mobile supplements or other non-real-estate options. Some of these are probably politically infeasible. However, because political conditions change so quickly we initially defer eliminating unlikely alternatives. We use the scenarios to explore which alternatives best replicate capabilities found in the Philippines. We then cost alternatives net of the costs incurred at Clark and Subic.

Political and other constraints on the United States or potential host governments may preclude certain alternatives, so we assemble six packages of options, estimating the incremental costs for each. We first assume all alternatives are available and package a least cost option that maintains regional presence and other capabilities. We then examine five more options in which we assume denial of access to various countries.

## SCENARIOS

We selected scenarios on the basis of likelihood (peacetime) or importance (global war). They demonstrate the primary capabilities of the facilities for coping with a range of potential threats to U.S. interests. They are not built on specific war plans, nor are they as detailed as most scenarios used for military planning purposes. Instead, they are slanted to emphasize the capabilities of the Philippine facilities in the particular situation.

### Peacetime

In the peacetime scenario tensions in the Indian and Pacific Oceans are at the levels of the mid-1980s. The United States maintains a naval presence in the Persian Gulf, Soviet naval forces at Cam Ranh Bay remain at current levels, and relations between Communist and non-Communist nations in both Southeast and Northeast Asia continue to be uneasy. We assume U.S. military goals are to monitor Soviet forces, to maintain response capabilities, and to sustain deployed forces.

Table 1

## PRIMARY U.S. FORCES AND FACILITIES IN THE PHILIPPINES

---

**Clark Air Base and other Air Force locations****Forces**

3rd Tactical Fighter Wing  
 374th Tactical Airlift Wing (C-130s)  
 1st Special Operations Squadron (MC-130s)  
 31st Aerospace Rescue and Recovery Squadron (Helicopters)  
 13th Air Force Headquarters

**Facilities**

Runway, ramp area  
 Maintenance facilities for Clark and transient aircraft  
 Training and testing ranges  
 Communications facilities  
 Medical, personnel, and rest and recreation facilities

**Subic Bay Naval Base and other Naval locations****Forces**

Deployed P-3s  
 Two aircraft squadrons for training and fleet support  
 Marines  
 Fleet ships and aircraft when in port  
 Homeported cruiser, Sterett

**Facilities**

Ship Repair Facility (SRF)  
 Naval Supply Depot (NSD)  
 Naval Magazine (NavMag)  
 Cubi Point Naval Air Station (NAS)  
 San Miguel Naval Communications Station  
 Navy and Marine Corps training areas  
 Medical, personnel, and rest and recreation facilities

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**Vietnamese Incursion into Thailand**

In this scenario, Vietnamese forces launch a clean-up operation of Kampuchean insurgents along the Thai-Kampuchean border. In the course of the operation Vietnamese forces cross indiscriminately into Thailand, sometimes in large numbers. The Thais try to halt the operation and fighting breaks out. The United States responds by attempting to bolster Thai defenses.

Air units from Clark are deployed to Thailand. Other aircraft are ferried from the Continental United States (CONUS). Clark is used for any necessary training before U.S. or other allied air units move into combat. Clark also supports the strategic air lift of supplies and

personnel into Thailand. Both bases provide supplies, maintenance, and logistic support.

Two carrier battle groups are dispatched to the Thai coast. Subic Bay is the primary source of supplies, arms, and repairs for the two battle groups. Subic also supports heightened maritime reconnaissance patrols in the Gulf of Thailand and the South China Sea.

### **North Korean Invasion of the South**

In the third scenario, in response to a North Korean invasion of South Korea, the United States deploys three army divisions, three fighter wings, and two carrier battle groups to the Korean peninsula. Air units from Clark are moved to the theater. Clark also provides air training for U.S. crews from the CONUS and for allied units. Subic Bay supplies and arms the two carrier battle groups off Korea. Aside from naval support, the logistic support for the Korean conflict does not flow through the Philippines.

### **Soviet Invasion of Iran**

The Soviet Union in this scenario invades Iran and drives toward the oil fields in the south. The United States responds by deploying five army divisions, a Marine Expeditionary Brigade, five fighter wings, and two carrier battle groups to the Persian Gulf. To place the maximum likely loading on the Philippine facilities, we assume that resupply of U.S. forces via the Atlantic and Mediterranean proves impossible. Initial forces and continued support are airlifted through Clark, which provides intermediate-level maintenance and fuel for these aircraft. As the closest and largest naval supply center, Subic supplies both the marine units and the carrier battle groups using shuttle ships operating out of the Philippines or, where possible, from forward locations such as Diego Garcia.

### **General War with the USSR**

In the last scenario we examined the United States is at war with the Soviet Union. U.S. objectives in the South Pacific are to neutralize Soviet capabilities in Cam Ranh Bay, protect sea lanes passing through Malaysia and Indonesia, neutralize Soviet submarines in the area, and support forces in Northeast Asia. The Philippine facilities would be used to generate a variety of capabilities in this scenario.

## MILITARY CAPABILITIES IDENTIFIED IN SCENARIOS

Table 2 lists the capabilities used in each of the scenarios. Such capabilities as personnel processing can be maintained at essentially no additional cost so long as others are maintained. Table 2 identifies which capabilities are explicitly costed in the analysis. Support functions at Clark and Subic are not listed. Although they are necessary for the operation of a military base, they do not drive decisions about possible base alternatives. These support activities, including public works and military hospitals, are included in our cost analysis, even though they are not explicitly integrated as capabilities. Costs for communications and moving to a new base could not be readily constructed from unclassified data and are consequently excluded from the numbers reported here.

Table 2  
CAPABILITIES OF THE PHILIPPINE BASES

Capability	Scenario				
	Peacetime	Thailand	Korea	Iran	General War
<b>Generated by Clark</b>					
Strategic lift <sup>a</sup>	X	X		X	X
Tactical lift <sup>a</sup>	X	X			X
Air power projection ashore <sup>a</sup>					X
ALOC protection		X		X	X
Air training <sup>a</sup>	X	X	X	X	X
Communications	X	X	X	X	X
Personnel processing	X	X	X	X	X
<b>Generated by Subic</b>					
Ship repair <sup>a</sup>	X	X	X	X	X
Naval supply <sup>a</sup>	X	X	X	X	X
Naval ammunition handling <sup>a</sup>	X	X	X	X	X
ASW/ocean surveillance <sup>a</sup>	X	X		X	X
Naval air logistics <sup>a</sup>	X	X	X	X	X
Naval training	X				
Ground training	X				
SLOC protection				X	X
Communications	X	X	X	X	X
Personnel processing	X	X	X	X	X

<sup>a</sup>Aspects of these capabilities are explicitly costed.

## ALTERNATIVES TO THE PHILIPPINE BASES

Alternatives to the Philippine facilities were generated from lists of current U.S. bases in the Western Pacific, previous basing studies, discussions with military personnel in the theater, and by surveying potential sites. Figure 1 shows the range of alternatives that we considered, many of which are commercial sites or locations requiring further development. Each location in Fig. 1 is a possible alternative site for at least one capability. Criteria for assessing the potential use of sites related primarily to geographic location and the availability of space or room for expansion. Facilities that could be constructed or procured are included in the cost estimates but not deemed necessary for a site to be considered a potential alternative.

### Air Force Alternatives

The most important consideration for relocating *strategic lift* is a location enroute to Diego Garcia. Within this constraint there are many military and commercial airfields with the potential to house the necessary refueling and maintenance facilities. At some locations these could probably be provided by locally owned and operated businesses.

For *tactical lift* location was also a dominant consideration because the C-130 aircraft used for this mission cannot be refueled. Bases have to be within ferry range of each other. Proximity to a training area was also an important consideration. At some locations existing airfields are assumed to be expanded to support U.S. operations, but the need for expansion did not exclude a site from consideration.

Deployment times to wartime destinations and the availability and proximity of training facilities were factors used to evaluate alternatives for *air power projection* or *fighter basing*. Lack of facilities was again not considered a reason to exclude a site from consideration. However, commercial airports were generally excluded unless they were already joint use (civilian/military) airfields.

To select alternative sites for *air training* we looked at unrestricted overland airspace and the availability of space for large ground support facilities. Proximity to potential C-130 and fighter bases was also important. Military airfields are preferred because of the heavy traffic at a training base.

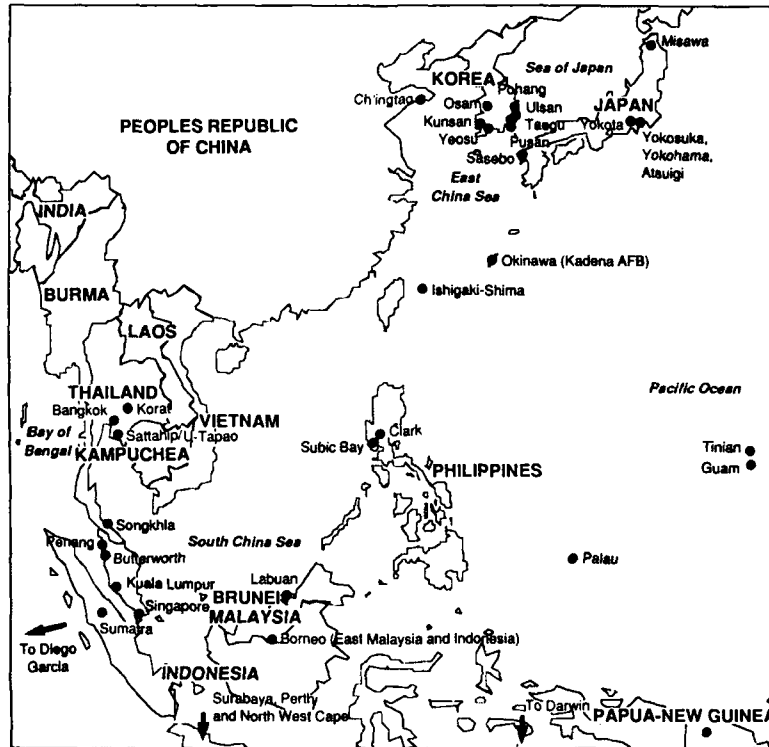


Fig. 1—Alternatives to the Philippine bases

### Navy Alternatives

Alternatives for *ship repair* needed to have a large harbor that could hold approximately ten ships and had a large labor force and the use of a nearby military airfield. Harbor depth was not an issue because most harbors can be dredged.<sup>2</sup> Where labor was believed to be scarce we included the costs of importing labor. In many cases we assumed ship repair would be conducted at commercial facilities. The United States is assumed to pay sufficient rent to give it sole use, but operations

<sup>2</sup>Subic Bay is frequently dredged.

would be conducted on a commercial basis through local contractors. An airfield is necessary for carrier aircraft training, and military airfields are preferred because of heavy training traffic. A commercial airport would be sufficient for support of the repair operation only.

Naval *supply operations* require a harbor large enough to handle container shipping operations and a nearby airfield that can handle C-141 and C-5 aircraft. The airfield may be commercial or military.

A *naval magazine* needs 900 acres near a harbor, far enough away from local populations so as not to put them at risk in case of an explosion. The magazine should also be located within three days sailing time of a ship repair facility so that ships unloading munitions before going in for repairs need not sail long distances without means of defense.

The criteria used to evaluate *P-3 ASW and surveillance operations* was to maximize aircraft time on station at four areas: the Philippine Sea, the Luzon Straits, the coast of Vietnam, and the Malacca Straits. Land-based requirements for P-3s are few and can be constructed at most airfields.

Alternative sites for *naval air logistics* need access to a large military use airfield and to be close to potential ship repair locations, since the primary users of such a facility are carrier-based aircraft.

## THE COST OF ALTERNATIVES

To assess the value of the Philippine facilities to the United States we estimate the additional costs of replicating the capabilities at other locations.

### Methodology

Our cost estimates are designed to compare the capital costs and net changes in operating costs of possible alternatives to the Philippine facilities. Cost data are derived from Air Force and Navy cost factors and are shown in Fiscal Year 1990 dollars. Costs include military construction, procurement, and operations and support (O&S). Facilities are sized to accommodate wartime operations under the most strenuous scenario. However, O&S is assessed for peacetime only because deployment and operating costs seem irrelevant to decisions taken in wartime.

### **Annual and One-time Costs**

One-time costs encompass both facilities and procurement. Facilities costed include public works, airfields, harbors, housing, and other structures. Because some construction will occur at unprepared sites, we also estimate site preparation costs. Procurement costs include additional ships, planes, and spare parts. Most notable are tanker aircraft and fuel and ammunition shuttle ships.

Recurring costs cover personnel, building rental, and transit and maintenance costs. Personnel costs can change through differences in the wages of locally hired employees and through changes in the mix of military, civilian, and locally hired employees. Rental costs for buildings are estimated both for office space and industrial facilities. Transit costs are a function of changes in distance between operating areas and support facilities. They also include the costs for training deployments. Operating costs are assessed for newly procured equipment as well as for that currently operated.

The two types of costs, annual operating costs and one-time costs, are unwieldy and impractical for comparing across alternatives. We therefore annualized one-time costs by using a 10 percent discount rate to amortize them over 20 or 30 years, depending on the type of facility. These costs were then added to annual operating costs and compared across options. We also note the aggregate one-time and annual costs for each package and estimate these costs in terms of budget requirements for a four-year transition period.

### **Side Payments**

We do not attempt to estimate the actual compensation host nations may request from the United States. Aid has been the primary form of official compensation given the Philippines, roughly \$180 million per year from 1982 to 1987. The recently concluded agreement provides for \$481 million in fiscal years 1990 and 1991. Some other host countries would probably expect aid, and some might want trade, technology transfer, or security concessions. In our options, most countries would host only a small portion of the U.S. presence currently in the Philippines and thus would have more limited claims to U.S. aid.

## **RESULTS**

The six packages of options considered here illustrate the sensitivity of cost to location (Table 3). These costs are net of the costs of using the Philippines. Aid and other payments to the Philippines are not

included, nor are the potential costs of gaining access to other host nations. The specific breakdowns of the options can be found in App. B.

The package called Unconstrained Access assumes all options considered would be open to the United States. It is the least cost package for maintaining facilities in Southeast Asia. Air Force assets would be based at Butterworth or Kuala Lumpur on peninsular Malaysia with Navy assets primarily located at the Malaysian port of Labuan in East Malaysia, supplemented by facilities in Pakistan and the People's Republic of China (PRC). Recurring costs are less than those incurred using the Philippines largely because the new naval magazine location reduces the number of ammunition ships needed to support the scenarios and thus reduces overall operating costs. Fighter and C-130 basing and training as well as strategic lift and P-3 operations also have lower operating costs at these locations.

The Limited ASEAN Access package deletes Malaysia and Indonesia from the list of potential host countries. Air Force assets are relocated to Brunei, Okinawa, and Singapore, while Navy assets would use facilities in Singapore, Korea, and Thailand with some ship repair and supply activities in Karachi and the PRC. Recurring costs would increase substantially in this option, to \$231 million above the level incurred when using the Philippines.

The third package, No ASEAN Access, not only precludes the maintenance of a land-based presence in the region but causes a

Table 3

SUMMARY OF COSTS OF SIX OPTION PACKAGES  
(Millions of 1990 \$)

Level of Access Granted	Totals		Components	
	Annualized Cost <sup>a</sup>	Budget Cost <sup>b</sup>	One-Time	Recurring
Unconstrained access	178.0	368.1	1,384.1	22.1
Limited ASEAN access	437.5	693.5	1,910.0	216.0
No ASEAN access	667.2	1,125.9	3,454.1	262.4
NO ASEAN/NE Asia access	996.5	1,644.9	4,773.0	451.7
U.S. territory only	1,425.9	2,506.1	7,637.5	596.7
Flexible access	729.2	1,225.9	3,599.0	326.1

<sup>a</sup>One-time costs amortized over 20 to 30 years with a 10 percent discount rate plus recurring costs.

<sup>b</sup>One-time costs incurred over four years with no discount rate plus recurring costs. After four years, budget costs will be only recurring costs.

considerable increase in the cost of the alternatives. In this package the Air Force uses Darwin for fighter basing and all training operations and uses the Japanese island of Ishigaki-shima for strategic lift operations. Korean ports are substituted for ports in Southeast Asia, and Darwin, Australia, is used for the naval magazine. Most of the increases over the previous option are in one-time costs.

Package four precludes construction or operation of new bases in both ASEAN and Northeast Asia, although current access to Korea and Japan would be maintained. For this option, all Air Force units are based and trained at Darwin while Navy assets make heavy use of Guam and Perth, plus smaller repair and supply facilities in Pakistan and on Diego Garcia. The increase in the cost of alternatives given these constraints is still higher, almost \$1 billion per year in annualized terms.

The worst case option assumes access to U.S. territory only. Air Force units are based on Guam, and Navy assets are split between Guam and newly constructed facilities on Tinian. Air training is done in the CONUS. The biggest contributor to increased costs are sending all air crews and aircraft back to the CONUS for training and repairing ships with high wage labor in Guam and Tinian. The other large increase comes from requirements for increased shuttle ships. The Navy drives the increase in one-time costs, with most of the military construction costs coming from the development of a harbor and airfield on Tinian. Procurement costs for shuttle ships also contribute to the increased one-time costs.

The sixth package, Flexible Access, can be viewed as our best bet politically in addition to supporting U.S. military objectives in the region. It would base fighter and lift aircraft on Guam but use Darwin for training. Strategic lift would be refueled by tankers based on Okinawa. The Navy would use Singapore and Ulsan for repair, supply, and naval air logistics with supplemental support from Guam. The naval magazine would be located on Guam as well. The annualized costs of this package falls between those of packages three and four.

### III. BENEFITS AND COSTS TO THE PHILIPPINES

The second task of this study is to assess the benefits and costs of the facilities to the Philippines. In particular, we estimate the security and economic value of the facilities to the Philippines and determine what factors have generated support for and opposition to a continued U.S. presence.

#### BENEFITS

##### Security

The presence of U.S. forces at Clark and Subic places the Philippines under the U.S. security umbrella. This has probably limited *encroachments* on Philippine territory and foreign violations of air space and territorial waters. The U.S. presence may also have strengthened the Philippine government's position in its territorial disputes with Malaysia and Vietnam.<sup>1</sup> The U.S. presence has also probably reduced the likelihood of violent conflict over disputed territories in Southeast Asia.

Aside from external security, the bases also contribute to internal security. Although no U.S. troops are involved in combatting the current insurgencies in the Philippines, the United States has provided substantial amounts of arms and some training through its Military Assistance Program. The knowledge that a large number of U.S. forces are based in the country probably boosts the morale of the Armed Forces of the Philippines and weakens the confidence of guerrilla forces. The facilities also may dissuade countries from supplying arms to guerrilla movements in the Philippines.

##### Economic Benefits

Aside from the benefits of increased national and regional security, the Philippines derives several types of economic benefits from the facilities, five of which we estimate in Table 4. Base-related expenditures consist of wages paid to employees and base purchases of goods

<sup>1</sup>Vietnam and the Philippines have quarreled over the Spratly Islands. Malaysia and the Philippines argued over the state of Sabah on the island of Borneo until autumn 1987.

and services from the Philippine economy. U.S. aid includes both economic and military assistance provided to the Philippine government. While the Philippines enjoys many trade preferences with the United States, we have estimated the value of the sugar quota only. We estimated the value of avoided military expenditures because of the U.S. presence by measuring the difference in the share of gross domestic product taken by current military spending in the Philippines and the ASEAN average. This estimate is necessarily speculative.<sup>2</sup> Finally, we estimate the economic loss from a fall in investor confidence resulting from a U.S. departure.<sup>3</sup>

As can be seen, the contribution of the U.S. presence to the Philippine economy is substantial. For the sake of comparison, the 1982 recession in the United States, the worst since the Great Depression, led to a 2.5 percent decline in GNP. If the Philippines were to lose just the expenditures and aid flows associated with the facilities, they would probably experience an economic dislocation of at least this size.

## COSTS

The existence of U.S. military facilities within the Republic of the Philippines has long been a contentious issue. Over the years, opponents of the bases have had differing motives for advocating their

Table 4

### ECONOMIC BENEFITS OF THE BASES TO THE PHILIPPINE

Category	Millions of \$s	Percent of GNP
Base expenditures (1987)	570	1.7
Aid (1982-87 avg)	180	.6
Trade preferences (1986)	50	.2
Subtotal	747	2.5
Avoided military expenditures	640	~2.1
Increased investor confidence (1992)	—	~6.2

<sup>2</sup>Few Filipino observers would see an external threat that would justify such large increases in military spending, but such perceptions are colored by the security umbrella now provided by the United States. Even with an active insurgency, the Philippines devotes a smaller share of GDP to defense than any other ASEAN nation.

<sup>3</sup>Our estimate assumes the share of investment in GNP would fall after removal of the bases to a share similar to that of the last two years of Marcos's rule.

removal, but they hold one tenet in common: The costs of hosting the bases outweighs the benefits. Some of their arguments are motivated by real (although perhaps misguided) concerns, such as that the Philippines has become a nuclear target because of the bases. Others are specious, such as the argument that the Philippines could derive more income from converting Clark Air Base into farms or Subic into a commercial port.

### **Political Costs**

Some Filipinos claim the bases are an "insult to Philippine sovereignty" and the bases are "vestiges of colonialism." These individuals ascribe a high value to the exercise of sovereignty and a high cost to the appearance of supporting a foreign power.

Some opponents to the bases also believe that the United States wields an inordinate influence in Philippine domestic politics because of U.S. cultural, economic, political, and military power. They appear to believe that if the United States took a less active role in Philippine domestic politics, government policy would be more to their liking.

Philippine politicians also see a political cost in appearing to support the U.S. presence or in accepting low levels of U.S. economic aid. There is a widespread perception in Philippine political circles that the bases are worth much more to the United States than the levels of aid negotiated by former President Marcos.

### **Security Costs**

Several groups of Filipinos have expressed concern about Philippine security from a nuclear attack, arguing that the large U.S. naval and air complex is a Soviet nuclear target. These groups say the probability of nuclear war or a nuclear mishap is so high that the existence of the bases creates an unacceptably high risk to the inhabitants of the Philippines.

The argument has also been made that the bases may exacerbate internal Philippine security problems. The presence of the bases cause more Filipinos to perceive the current regime as under U.S. tutelage. They respond by joining the violent opposition. According to this argument, the bases are partially responsible for the rise of the New People's Army, the insurgents currently fighting the Aquino government.

**Social Costs**

The U.S. military presence in the Philippines gives rise to social problems in the communities surrounding the U.S. facilities: prostitution, venereal disease, unwed mothers, etc. The severity of these problems may be greater in the Philippines than around other military bases because of the large economic disparity between the servicemen and the Filipinos. The U.S. military has taken actions to alleviate some of these social costs, and more actions may be possible. However, these problems probably cannot be completely solved. Some positive social benefits also accrue from the bases, including service-sponsored relief efforts, medical care, and search and rescue operations.

**INFORMING THE DEBATE**

Ultimately, the Philippine government will have to decide whether the benefits of the bases outweigh their costs. However, misperceptions over the value of the U.S. presence continue to color the internal debate. The following points may help to clarify current perceptions:

1. Base-related expenditures and preferential trade agreements have been as important as aid or more important as a source of economic benefits to the Philippines.
2. Most base-related expenditures are in the form of wages to Filipino employees or contract workers, not spending by U.S. personnel on leave.
3. Philippine military expenditures would probably increase substantially (possibly double) if there were no U.S. presence in the Philippines.
4. The base communities, important regional centers, are firmly in favor of a continued U.S. presence and depend on it for their economic survival.

## IV. CONCLUSIONS

The Philippines is the optimal location from which to maintain and support a presence in Southeast Asia. The facilities already exist and their location is central to current U.S. interests in the region. Furthermore, the U.S. military is accustomed to dealing with the Philippine government, and U.S. military personnel find the Philippines a congenial place to be located. Consequently, we assume the primary U.S. negotiating goal will be to maintain access to these facilities with as few additional restrictions as possible. Nonetheless, negotiators will have to examine some second-best options.

### NEGOTIATING WITH THE PHILIPPINES

#### **Persuading the Filipinos to Negotiate**

The first hurdle faced by the United States is to persuade the Philippine government (and people) to continue to host U.S. facilities after 1991. Concerns over infringement of Philippine sovereignty are among the most difficult to address, because hosting any U.S. presence is an affront to some individuals. For those who believe the United States plays an inordinately large role in Philippine domestic politics because of its desire to retain the bases, it may be worth emphasizing that the United States perceives the Philippines as an independent, sovereign country and that the existence of U.S. military facilities on Philippine soil does not alter this perception, as it does not alter U.S. perceptions of British, German, Italian, or Japanese sovereignty.

Along these lines, it may be worth stressing that, if asked, the United States will leave its facilities. Several base opponents have argued that the Philippines is in an inequitable position with regard to the United States and that the only way to make this position equitable is to evict U.S. forces from the country. Pointing out that the current government does have the option of asking U.S. forces to leave and that the U.S. would honor this request would weaken the position of these opposition forces. It may also dispel the belief that the United States "controls" Philippine domestic politics, which permeates much of the anti-base literature.

Another way to encourage continued Philippine hosting of U.S. facilities is to harness the interests of the two communities most

dependent on the bases, Olongapo and Angeles City. These communities are aware that they are essentially "one-company" towns, and in the past they have held large demonstrations in favor of the bases. Although some political leaders in the Philippines are aware of the importance of the bases to these local economies, others are not. The large numbers of skilled workers employed by the U.S. facilities are unlikely to find similar work elsewhere in the Philippines, if these facilities are closed. Furthermore, many of these employees come from poorer parts of the country and remit money to these regions to support their families. Thus, the economic dislocation of a U.S. departure would be felt in many regions of the Philippines, not just near the bases.

Philippine perceptions of the willingness of the United States to increase its economic support of the Philippines will also be an important input to the government's decision on whether to continue to host the U.S. facilities. The current government will probably have to claim that it has negotiated a superior arrangement to the MBA to obtain the approval of the Philippine legislature and popular support. The United States can do little about past performance beyond highlighting increased aid flows since President Aquino has taken power and stressing the fact that the Philippines receives a higher proportion of grant aid than other countries hosting bases. Congressional initiatives to sponsor a Marshall Plan type of aid package can also be mentioned as a sign of the importance the Congress places on the Philippines.

### **Strategies**

If the Philippine government agrees to negotiate with the United States, talks will center on the amount of compensation and support monies promised and future restrictions on U.S. use of the facilities.

The two issues in aid negotiations are the amount and the composition of assistance. The United States pledged its best effort to provide \$900 million in assistance to the Philippines during the five-year period after the 1983 bases review. Based on a \$180 million a year average, it was behind in providing aid until large payments were made to the Aquino government in 1986. The 1988 review provides for \$962 million total for fiscal years 1990 and 1991. In addition to larger amounts of aid, the Philippine government would like better assurances that aid commitments will be met. Their desire to negotiate a treaty governing U.S. base access stems in part from a perception that this would ensure U.S. aid payments are made.

From the U.S. perspective, determining aid levels is an important part of its negotiating position. One measure of appropriate levels is

the cost of maintaining capabilities from alternative locations. It does not seem reasonable for the United States to be willing to provide aid to the Philippines up to the amount shown in the worst case package (Option 5), \$1.4 billion more in annualized terms than it now costs to operate out of the Philippines (net of aid flows). For one, Congress is unlikely to agree to annual aid payments of this amount. Two, the United States is likely to gain some access to other locations in the region at a cost less than this figure and can consolidate some operations so as to further reduce these costs. We believe that even our "Flexible Access" estimate (Option 6), at \$750 million, is too high a reservation price. This figure is probably still too high for Congress to swallow and is conservative in its estimates of access to facilities and liberal in its requirements for U.S. forces. Both options 1 and 2 show possible basing schemes at costs lower than the recent aid agreement.

Aid is just one part of assistance negotiations. The second issue concerns the composition of the aid package, grants versus loans, how many grants are tied to specific projects, etc. From the U.S. side, aid to the Philippines looks better than packages to some other countries hosting bases because the proportion of grant aid is much higher; other countries receive much of their aid as loans. This point is one the Filipinos have tried to ignore. Much of this aid is administered by the U.S. Agency for International Development (AID). Although lessened U.S. control of aid flows might be attractive to the Philippine government, the United States has a longer term interest in having the aid spent on projects publicly attributed to the United States. In addition, given the history of corruption in the country, grants may be more likely to go to whom they are intended if AID closely monitors them.

Although the Philippine government has concentrated its efforts on increasing aid flows, the United States could support the Philippine economy and help promote development in other ways, including increased access to U.S. markets and U.S. government procurement contracts.

### **Changing the Nature of the U.S. Presence**

In addition to negotiations over monetary compensation, discussions of ways to change the nature of a U.S. military presence at Subic Bay and Clark Air Base are likely to arise. There are many ways to reduce military presence, from adjusting the height of flags to closing facilities. Several major options are discussed below.

**Privatization of Subic Bay.** In the event that the Republic of the Philippines appears adamant in reducing the U.S. presence, the United States may wish to explore the possibility of selling part of the Ship Repair Facility either to the Philippine government or to private

individuals and continue repairs at Subic on a contractual basis. The United States already uses commercial yards in many other countries. Through privatization the United States could continue to benefit from the trained workforce that has been built up in the Philippines, and the Olongapo economy would not completely disintegrate from closure of the shipyards. Unfortunately, many of the features that make Subic Bay such a valuable base (collocation with the Cubi Point NAS, the magazine, the supply depot, etc.) would probably not survive, but it may be possible to arrange for minimal support in these areas, thereby permitting the continued operation of the shipyard, albeit under other ownership.

**Use of Manila International Airport for MAC Flights.** If the United States is denied access to Clark Air Base, the possibilities of using Manila International Airport for MAC flights could be explored. The United States frequently uses Singapore's International Airport and others in the region on a commercial basis for these flights. Unless relations deteriorate to an extraordinary degree, similar usage of Manila International should be possible. If the Philippines decides to turn Clark into an international airport, use by strategic lifters might be even easier to arrange because the existing airfield currently handles a heavy traffic load of these planes.

**Making Crow Valley a Philippine-Run Facility.** If the United States leaves the bases, it may wish to explore the possibility of providing support and assistance for the continued operation of Crow Valley for the Armed Forces of the Philippines and other Southeast Asian nations, under the condition that the United States has continued use of the training range.

**Evacuation of One Base.** The Filipinos might be more inclined to permit continued use of one base if another is vacated. Although Filipinos opposed to the bases usually advocate the complete removal of the U.S. presence, recent statements in the Philippine press have suggested evicting the United States from one base but permitting continued use of the other. In our view, the capabilities provided by Subic Bay would be more difficult to replicate than those provided by Clark.

## **DEALING WITH POSSIBLE ALTERNATIVE HOSTS**

If the United States is asked to vacate the bases, it would probably turn to other countries in the region for sites at which to replicate the lost capabilities. Because of the political sensitivities and the costs

involved, the United States is unlikely to seek or obtain access to new, full-scale bases. In general, alternative solutions will have to be found.

In discussions with all countries in the region, it would be worthwhile to emphasize the importance of the U.S. presence for regional stability. A diminished U.S. presence will probably provide room for an increased Soviet presence and might lead to increased military operations on the part of Japan or China. Neither of these prospects is likely to sit well with the members of ASEAN or the Republic of Korea, and expanding military efforts will not come without domestic political struggles in Japan.

While the ASEAN members probably understand these potentialities, the extent to which the U.S. presence would be reduced as a result of an evacuation of the Philippines should be clearly communicated. The most obvious reduction is in air power located in Southeast Asia. The ASEAN members should be made aware of the problems of using aircraft based in Japan or Korea for conflicts outside those two countries. Even if aircraft are based in Guam, response times to contingencies in Southeast Asia will increase. Furthermore, if no facility for large-scale air training is found in the region, U.S. aircrews will have even more limited familiarity with potential allied crews than at present, not to mention the possibility of reduced effectiveness due to a reduction in training time.

Ships crossing the South China Sea on their way to the Indian Ocean would maintain some naval presence in the region. However, there would be fewer ships than now operate in the area on their way to and from the Philippines. The ASEAN countries can probably encourage a greater U.S. naval presence by arranging for the repair and supply of ships and for the support of naval air operations.

It is important to stress that several current activities can be done on a commercial basis. Some operations, such as ship repair or supply, can bring substantial economic benefits to a host. Depending on the host country, new shipbuilding industries can be built up or old ones sustained through U.S. contracts. New skills in aircraft support and maintenance can be transferred to local workforces to the mutual benefit of the United States and the country. In the case of operations less suited to commercial arrangements, such as aircraft basing, facilities can be designated for joint use or, in the case of air training, even regional use. In these ways aspects of the U.S. military presence that many nations find objectionable may be mitigated.

## **Appendix A**

### **AN EXAMPLE: REPLACING STRATEGIC LIFT**

#### **DEFINING CURRENT STRATEGIC LIFT CAPABILITIES**

The primary strategic lift mission affected by the loss of the facilities in the Philippines is the channel to Diego Garcia and the Persian Gulf. During peacetime this channel supports the Navy's presence on Diego Garcia, in the Indian Ocean, and in the Persian Gulf. It is also central to maintaining forces in the Persian Gulf in the Iranian invasion scenario.

Clark Air Base (and sometimes Cubi Point Naval Air Station) are a gas stop for strategic lifters going on to the Indian Ocean. C-141s can fly unrefueled from Clark to Diego Garcia with close to a full load of cargo, an important capability in the event of war. These flights can and do stop at other locations on this route, but many flights are non-stop. C-141s cannot fly nonstop from Guam or Japan to Diego Garcia more than half full without refueling. Although no strategic lifters are permanently assigned to Clark Air Base, it also provides limited maintenance support.

#### **STRATEGIC LIFT ALTERNATIVES**

Strategic lift capabilities can be replaced at several locations, and refueling and maintenance capabilities need not be replaced at the same location. The mix of aircraft flying this channel may also be changed and the channel's routing may be altered.

##### **Maintenance Alternatives**

Guam is a natural site for replacing the strategic lift maintenance now done at Clark. Andersen Air Force Base, a Strategic Air Command (SAC) base, is usually the last stop before the Philippines on the way to Diego Garcia. Andersen AFB also is underutilized at the present time, and access is not a problem because Guam is a U.S. territory. Diego Garcia is another potential site for maintenance facilities. However, unlike Andersen AFB, space is at a premium on Diego Garcia. Yokota Air Base, already a hub of Military Airlift Command

(MAC) operations, is a third option. It could be expanded to handle the maintenance currently conducted at Clark. Yokota is ideal for flights routed through Japan but is considerably off course for flights that now go through Guam.

### **Refueling and Maintenance Alternatives**

The ASEAN countries provide a range of substitutes for the Philippines. All would result in reductions in the longest leg of flying time, potentially expanding the allowable cargo load. During peacetime arranging access to some of these countries should present few problems. Channel traffic will tend to be regular, so notification requirements can be met even under current agreements. In many places, peacetime refueling of MAC planes is seen as just "selling gas," a purely commercial transaction. Maintaining refueling privileges during a crisis, particularly one in the Persian Gulf, might prove more difficult.

Greater use of Singapore for refueling would mean a change in the scale but not the type of cooperation provided by Singapore. MAC flights already stop in Singapore on a regular basis on the way to Diego Garcia. Both the old international airport, Paya Lebar, and the new international airport, Changi, are capable of handling strategic lifters. Although space on the ground comes at a premium in Singapore, a disadvantage in repairing large strategic lifters, local firms might be able to take over some of the maintenance now done at Clark. Singapore Aircraft Industries currently has a contract with the U.S. Navy for standard depot level maintenance on aircraft, including C-130s and A-4s. Singapore Airlines has an extensive maintenance capability, including hangar space for repairing large commercial aircraft. Probably a modest amount of training would be needed to enable either of these companies to provide maintenance for strategic lifters comparable to that now available at Clark.

Thailand is probably the second most desirable alternative among the ASEAN countries for supporting strategic lift. It is somewhat further than Singapore from the direct Guam to Diego Garcia route. However, it has numerous airfields capable of supporting MAC operations, many of which are former U.S. bases. If the United States or Thailand wishes to keep the operation on a quasi-commercial level, Bangkok International Airport could be used, although this airport is crowded. Other bases such as Hat-Yai on the peninsula are closer to the direct route and further from populated areas. Hat-Yai would also avoid the problems of third country overflight. If other U.S. air units were to be stationed permanently in Thailand, strategic lifters could

probably operate out of the same base. Unlike some other ASEAN nations, Thailand is not predominantly Moslem, so it would presumably be less concerned about its bases being used to support U.S. operations in the Middle East.

Malaysia and Indonesia could both provide numerous geographically convenient refueling sites. Although both nations are nonaligned and predominantly Moslem, regular refueling of MAC flights might be possible in both countries, especially during peacetime. Continued support during a Persian Gulf crisis could be more difficult. While both Malaysia and Indonesia are likely to have common interests with U.S. allies and friends in the Gulf, there are some actions the United States might wish to take that neither nation would want to support publicly.

AIROD, a Malaysian company jointly owned by Lockheed and several government-controlled Malaysian corporations, performs some maintenance out of Subang Airport in Kuala Lumpur. While current capabilities are limited to C-130s, smaller planes in the Malaysian military inventory, helicopters, and strategic transports could probably be serviced after some expansion.

Brunei is a conservative Moslem sultanate that shares the geographic advantages and religious imponderables of Malaysia and Indonesia. Brunei, however, is more openly pro-Western in its foreign policies. The international airport in Brunei is certainly adequate to meet the refueling needs of MAC aircraft.

Australia provides a longer, albeit politically more certain, route to Diego Garcia from Guam. A route from Guam to Darwin to North West Cape and on to Diego Garcia would add roughly 1000 nautical miles, an additional stop, and two and a half flying hours to the route. If this route were chosen, maintenance capabilities could easily be set up in Australia.

Ishigaki-shima, a small Japanese island northeast of Taiwan, could provide a refueling stop on the way to Diego Garcia from elsewhere in Japan or Guam. We assume existing maintenance capabilities are inadequate for strategic lifters but there is room to construct sufficient facilities.

Air-to-air refueling is another possibility for these aircraft, although reliance on this alternative might require procurement of additional tanker aircraft. In the event of a Soviet invasion of Iran, strategic lift would be severely taxed because tanker aircraft otherwise available in the region might be allocated to SAC at the time.

A shuffle of missions and machines within MAC could also replace the strategic lift capabilities in the Philippines. C-5 aircraft can fly from Guam to Diego Garcia unrefueled with substantial payloads. Sufficient C-5s already exist in the inventory to make this switch. This

option has three disadvantages. First, C-5s have higher per ton-mile operating costs than C-141s. Second, Diego Garcia requires 26 C-141 flights per month. This would translate into roughly 15 C-5 flights per month, reducing the frequency of service to the island. Finally, using C-5s for this mission reduces the number available for outsized cargos elsewhere in all but a Gulf scenario. This might not be a severe constraint, however, because forces deployed in the Indian Ocean would probably be needed elsewhere in the other scenarios, reducing the requirements on the channel and freeing C-5s for outsized loads needed in other theaters.

As conceived by its designers, a Mobile Operational Large Island Airbase (MOLI) is a large floating air base capable of moving at about five knots. It might be used to replace the strategic lift (and other) capabilities provided by Clark Air Base. In theory a MOLI can provide a refueling stop for transport aircraft independent of cooperation from another country. Because MOLIs are mobile, they provide some flexibility to the U.S. basing system in the region and can be relocated as military needs change. Since no MOLI has ever been built, the cost and performance characteristics are based on calculations and approximations.

Air routes through Europe and the Middle East or Africa could probably replace current strategic lift capabilities through Clark to Diego Garcia. However, problems in obtaining permission for overflight (as witnessed in the U.S. raid on Libya) constrict the feasibility of this option.

## **COSTING STRATEGIC LIFT ALTERNATIVES**

While details of the costing analysis are too lengthy to report here, Table A.1 shows the summary figures (Total Annualized Costs) for the strategic lift options. Costs for each location assume that strategic lift will be the only capability located at a given site. Considerable savings may be realized if other activities are collocated with strategic lift, and thus these figures may be somewhat higher than those reported in App. B.

Table A.1

TOTAL ANNUALIZED STRATEGIC LIFT COSTS  
(Millions of FY 90 \$)

Refueling Site	Maintenance Site			Diego Garcia
	Same as Refueling Site	Guam	Tinian	
Australia				
Darwin	17.1	19.2	17.7	80.0
North West Cape	17.1	19.2	17.7	80.0
Brunei	11.1	14.7	13.2	75.5
Jakarta, Indonesia	(3.8)	13.8	12.3	74.6
Ishigaki-shima, Japan	12.9	16.0	14.4	76.8
Malaysia				
Butterworth	(1.3)	13.7	12.1	74.5
Kuala Lumpur	(3.2)	13.6	12.0	74.4
Palau	74.2	69.9	68.4	130.7
Singapore	0.1	13.9	12.3	74.7
Thailand				
Bangkok	0.8	18.2	16.6	79.0
Hat-Yai	7.8	13.8	12.2	74.6
MOLI	426.5	439.5	438.0	500.4
Tankers over Kadena	NA	23.0	18.3	83.8
Tankers south of Kadena	NA	18.0	13.3	78.8
C-5A	NA	19.3	14.6	80.1
Atlantic C-141B	NA	24.6	19.9	85.4
Atlantic C-5A	NA	37.9	33.2	98.7

NOTE: Costs may be lower when collocated with other activities.

**Appendix B**  
**DETAILS OF THE SIX OPTIONS**

Table B.1

**UNCONSTRAINED ACCESS**  
(Thousands FY90 \$)

Capability	Location	Military Construction	Procurement	O&S	Public Works
Fighter basing and training	Butterworth	50,765	277,621	7,045	1,095
C-130 basing and training	Butterworth	2,052		(2,831)	1,095
Regional air training	Butterworth	146,740		22,377	1,095
Strategic lift	Kuala Lumpur	1,196		(3,337)	1,095
Ship repair facility	Labuan(0.5), Ch'ingtao(0.25), Karachi(0.25)	188,513		15,373	598
Naval supply depot	Labuan(0.5), Ch'ingtao(0.25), Karachi(0.25)	23,676	0	(16,006)	598
Naval magazine	Labuan	188,119	0	573	1,752
Naval air logistics	Labuan	241,514	0	(1,041)	1,752
P-3 basing and operations	Labuan	106,196	43,000	4,169	1,752
Sub total		948,771	320,621	26,322	10,832
less duplicated facilities		(22,946)			
Site invariant costs		93,153			
Total annualized cost					<b>193,482</b>

Table B.2

**LIMITED ASEAN ACCESS**  
(Thousands of FY90 \$)

Capability	Location	Military		Procurement	O&S	Public Works
		Construction	Works			
Fighter basing and training	Brunei	391,072		277,621	9,333	10,541
C-130 basing and training	Kadena	74,162			4,649	6,155
Regional air training	Brunei	260,316			8,729	10,541
Strategic lift	Singapore	0			126	4,551
Ship repair facility	Singapore(0.5), Ch'ingtao(0.25), Karachi(0.25)	48,345			80,373	3,364
Naval supply depot	Singapore(0.25), Ch'ingtao(0.25), Karachi(0.25), Uisan(0.25)	23,676		142,000	32,227	2,039
Naval magazine	Songkhla(0.5), Sasebo(0.25), Singapore(0.25)	207,695		303,000	30,764	4,416
Naval air logistics	Singapore	0		2,000	2,003	7,282
P-3 basing and operations	Kadena	38,204		43,000	4,160	9,848
Sub-totals		1,043,468		767,621	172,372	58,735
less duplicated facilities		(7,709)				
Site invariant costs		93,153				
Total annualized costs		<b>452,888</b>				





Table B.5

U.S. TERRITORY ONLY  
(Thousands of FY90 \$)

Capability	Location	Military Construction	Procurement	O&S	Public Works
Fighter basing and training	Andersen	692,773	277,621	27,252	6,845
C-130 basing and training	Andersen	400,570		15,359	6,845
Regional air training	Nellis	0		66,831	9,520
Strategic lift	Tankers south of Kadena	128,500		4,364	1,239
Ship repair facility	Guam(0.5), Tinian(0.5)	1,782,278	237,731	10,951	
Naval supply depot	Guam(0.5), Tinian(0.5)	1,349,950	426,000	81,028	10,951
Naval magazine	Guam	338,584	909,000	90,193	10,951
Naval air logistics	Tinian	1,147,663	2,000	5,635	10,951
P-3 basing and operations	Guam	51,385	43,000	4,169	10,951
Sub-totals		5,891,705	1,657,621	532,563	79,204
less duplicated facilities		0			
Site invariant costs		93,153			
Total annualized costs		1,441,530			

Table B.6  
FLEXIBLE ACCESS  
(Thousands of FY90 \$)

Capability	Location	Military Construction	Procurement	O&S	Public Works
Fighter basing and training	Andersen	692,773	277,621	14,660	6,845
C-130 basing and training	Andersen	400,570		5,361	6,845
Regional air training	Darwin	357,934		21,253	6,845
Strategic lift	Tankers south of Kadena	128,501		4,364	1,239
Ship repair facility	Singapore(0.5), Ulsan(0.5)	12,907		103,260	4,632
Naval supply depot	Singapore(0.25), Ulsan(0.5), Guam(0.25)	39,002	142,000	38,854	5,549
Naval magazine	Guam	338,584	909,000	90,193	10,951
Naval air logistics	Singapore(0.5), Ulsan(0.5)	117,547	0	548	4,632
P-3 basing and operations	Guam	51,385	43,000	4,169	10,951
Sub-totals		2,139,204	1,371,621	282,663	58,487
less duplicated facilities		0			
Site invariant costs		93,153			
<b>Total annualized costs</b>		<b>744,736</b>			

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**DATE:** 4-90

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