PN-ABQ-095

NATHAN ASSOCIATES INC.
ECONOMIC AND MANAGEMENT CONSULTANTS

Final Report

Technical Resources Project

Interisland Liner Shipping Rate Rationalization Study

Volume V

Review of the Phillipine Interisland Shipping Sector

Submitted to
United States Agency for International Development
Manila, Philippines

Under
Contract No. 492-0432-C-00-1012-00
Project No. 492-0432

October 1991

Submitted by
Nathan Associates Inc.

PN-ABQ-295

Final Report

Technical Resources Project

Interisland Liner Shipping Rate Rationalization Study

Volume V.

Review of the Phillipine Interisland Shipping Sector

Submitted to
United States Agency for International Development
Manila, Philippines

Under
Contract No. 492-0432-C-00-1012-00
Project No. 492-0432

October 1991

Submitted by
Nathan Associates Inc.
Economic and Management Consultants
Arlington, Virginia

CONTENTS

CONTENTS
(continued)

TABLE

FOREWORD

The Interisland Liner Shipping Study Rate Rationalization Study (SRRS) was conducted in the Philippines from November 1990 through August 1991 by a six-person team. This study was completed through the assistance of the Agency for International Development (A.I.D.). Throughout the study the team received full cooperation from management and staff of the Maritime Industry Authority (MARINA) and the Philippine Shippers' Council (SHIPPERCON). A.I.D and the Conference of Interisland Shipowners and Operators (CISO), together with MARINA and SHIPPERCON, closely reviewed the work of the team and provided valuable information and comments. Several other Philippine public and private organizations also provided useful information and comments. Notwithstanding all of these important inputs from various concerned organizations and individuals, the analyses, conclusions, and recommendations in this report remain solely the products of the SRRS team and do not necessarily reflect the views or policies of MARINA, SHIPPERCON, A.I.D., CISO, or any other individual or organization. Certainly any mistakes that might appear in the report are solely the responsibility of the study team.

The SRRS first phase report submitted in June 1991 and the draft final report submitted in August 1991 are incorporated in this draft final report, with some revisions based on comments and further analysis.

This draft final report is submitted in five volumes. Volume I presents the findings and recommendations of the SRRS team on liner shipping rate rationalization and deregulation; Volume II presents the study shipping cost and rate analysis and incorporates most of the first phase report; Volume III discusses the economic effects of shipping rate regulation and deregulation; Volume IV discusses the design and development of MARINA and SHIPPERCON databases; and Volume V presents a broader review of the Philippine interisland shipping sector and identifies desirable actions to be taken for improvement of the sector.

ACRONYMS

ADB	Asian Development Bank
A.I.D.	Agency for International Development
BOC	Bureau of Customs
BOT	build-operate-transfer
CISO	Conference of Interisland Shipowners and Operators
DOD	Department of Defense
DOTC	Department of Transport and Communications
DPWH	Department of Public Works and Highways
DTI	Department of Trade and Industry
GRT	gross registered ton
IATS	Interisland Agro-Transport Study (recommended)
ILSPAS	Interisland Liner Shipping Passenger Accommodation Study (recommended)
IPACTS	International Ports and Container Transport Study (recommended)
JICA	Japan International Cooperation Agency
LSRS	Liner Shipping Route Study (recommended)
MARINA	Maritime Industry Authority
MARSH Study	MARINA and SHIPPERCON Study (recommended)
MICT	Manila International Container Terminal
MSIOS	Maritime Safety Infrastructure Organization Study (recommended)
MTIS	Maritime Training Industry Study (recommended)
NAMRIA	National Mapping and Resource Information Authority
navaids	navigational aids (lighthouses, beacons, and buoys)
NMP	National Maritime Polytechnic
NRTSDS	Nationwide Roll-on Roll-off Transport System Development Study
OECF	Overseas Economic Cooperation Fund (Japan)
PAGASA	Philippine Atmospheric, Geophysical, and Astronomical Services Administration
PAL	Philippine Airlines
PCG	Philippine Coast Guard
PICO	Port Integrated Clearance Office
PISA	Philippine Interisland Shipping Association
PMMA	Philippine Merchant Marine Academy
PPA	Philippine Ports Authority
PPC	Philippine Ports Corporation (possible conversion of the PPA, under consideration by the Senate in July 1991)
PTF	Presidential Task Force (on interisland shipping)
PTSR	Philippine Transport Sector Review
RORO	roll-on roll-off (vessels)
SEA	Shipping Expert Assignment (incorporated into current study)
SHIPPERCON	Philippine Shippers' Council
SMSA	Southwestern Mindanao Shipowners Association
SPAC	Shipping and Ports Advisory Council

SRRS	Interisland Liner Shipping Rate Rationalization Study (current study)
TOR	terms of reference
USAID	United States Agency for International Development
VAFCSO	Visayan Association of Ferryboat and Coastwise Service Operators

Chapter 1

INTRODUCTION

Efforts to Identify Needs for Interisland Shipping Sector Improvement

During the 1980s, several studies were conducted in the Philippines to identify needs for improvement of the interisland shipping sector. One of the more recent of these investigative efforts was a 1989 presidential task force (PTF) on interisland shipping. In 1990, the Philippine Transport Sector Review (PTSR), conducted for the United States Agency for International Development (A.I.D.), reviewed the findings of the PTF and other studies of the sector and made recommendations for improvement of the sector. The emphasis of the PTSR was on desirable policy initiatives to improve the sector, but needs for institutional and infrastructure development were also identified. In the cases of a number of policy initiatives, institutional development efforts, and infrastructure projects, firm and precise recommendations would have only been possible with further study, and the PTSR provided terms of reference (TOR) for these study efforts.

One of these proposed studies was the current Interisland Liner Shipping Rate Rationalization Study (SRRS) conducted from November 1990 through August 1991. The results of this study are presented in this five-volume report. Volume I presents the SRRS findings and recommendations that correspond to the original TOR for the SRRS.

The PTSR anticipated that, within a year after completion of the study, USAID/Philippines would need an update of the issues in the Philippine interisland shipping sector and of efforts or lack of efforts to implement policies, programs, and projects designed to improve the sector. The objectives and scope of work for updating the issues in the sector were identified by the PTSR in TOR for a Shipping Expert Assignment (SEA). Because the SRRS was concerned with the same sector and many of the same issues as the SEA and because the timing was appropriate, USAID/Philippines decided in July 1991 that the first phase of the SEA should

be incorporated into the SRRS. This fifth volume of the SRRS final report is devoted to the findings and recommendations originally foreseen to derive from the SEA first phase investigative effort.

Objectives and Scope of the Investigation

The broad objectives of this portion of the SRRS investigation and analysis are:

- To identify the status of each of the policy initiatives, institutional development efforts, and other improvements identified by the PTSR as desirable for near-term implementation to aid in improving the Philippine interisland shipping sector.

- To recommend a desirable and detailed action plan for improving the sector.

Specifically, in this portion of its investigative effort, the SRRS team must identify the status of implementation and the needs for increased implementation efforts and support of the following interisland shipping sector policy initiatives, institutional development, and other improvements:

- Liner shipping rate regulation liberalization and deregulation, perhaps leading to full rate deregulation.

- Liner shipping route franchising liberalization and increased service schedule flexibility, with the objective of improving the structure of the liner shipping industry, as well as better serving the public, and perhaps leading to full deregulation of liner shipping services.

- Rationalization of port cargo-handling arrangements and operations and charges at ports to ensure that (1) potential efficiencies and annual productivities of facilities are realized, (2) port costs are lowered per unit of traffic, (3) security is improved, (4) services are more reliable, and (5) charges are closely related to work performed.

- Rationalization of other port policies, regulations, and charges with regard to shipping to eliminate unnecessary administrative and other delays and unwarranted costs in ports.

- Policy and institutional initiatives and other efforts to improve the efficiency of the shipping industry and to upgrade shipping service standards and improve maritime safety.

- Institutional development initiatives to better ensure the traveling public and shippers of sufficient and satisfactory services and reasonable charges for such services.

- Institutional development, policy initiatives, and port improvement programs to improve the adequacy of the interisland and international port system (including optimization of system design) and improvement in individual ports of sea and land transport interfacing, relief of landside congestion, and reduction of passenger and cargo operation conflict.

Chapter 2 of this volume presents an overview of the problems of the interisland shipping sector. Liner shipping industry regulation is briefly discussed in Chapter 3; the subject is covered more thoroughly in Volume I, which includes a detailed recommended action plan to achieve full deregulation of shipping rates and liberalization of service regulation. Chapter 4 provides a more complete discussion of rationalization of port operations and charges; only limited discussion of this subject is provided elsewhere in this report (Volumes I and II). Chapter 5 discusses shipping industry manpower needs, and Chapter 6 discusses maritime safety. The port system is covered in Chapter 7 and also briefly in Volume II. Chapter 8 discusses how information could aid in the improvement of service standards. Chapter 9 expands the discussion of institutional development presented in Volumes I and IV. The final chapter of this volume presents a recommended action plan for improving the interisland shipping sector. Terms of reference for several studies recommended by the SRRS to provide useful information and analysis on directions for interisland shipping sector development are presented in an appendix.

Chapter 2

OVERVIEW OF THE INTERISLAND SHIPPING INDUSTRY

Interisland shipping services in the Philippines are generally inadequate. Many desirable services are not yet being offered; standards of many services that are offered are low; service charges are higher than they would need to be if operations were efficient; and many maritime accidents occur. Government regulation, intended to aid both the industry and its users, has instead been detrimental, and other principal causes of the inadequacy of interisland shipping service include unsatisfactory port operation, insufficient numbers of qualified ships' officers, and unsafe navigation conditions.

Government regulation of the interisland liner shipping industry includes regulation of most rates and all routes and service schedules. Regulation has had the following adverse effects on the industry.

- It has prevented the initiation of services on some desirable routes, because official rates were too low to induce operators to accept the financial risk.
- It has prevented operators from offering sufficient capacity to accommodate some agricultural commodities, because official rates were too low to make these commodities attractive to operators.
- It has prevented operators from obtaining and offering appropriate, specialized, capacity for some commodities.
- It has protected inefficient operation and (when it has occurred) overtonnaging on a route by disregarding these considerations when identifying needs for rate adjustments.
- It has further protected inefficient operation and limited inducements to provide good standard services by limiting competition and, in particular, failing to take into account service standard records when awarding new route franchises and expanded service schedules.

Previous Page Blank

- It has encouraged passenger overloading and otherwise low passenger service standards by preventing flexibility of service schedules to better meet demand in peak periods, and by holding Third Class passage rates at levels that have not generally kept pace with inflation.

Port inadequacies and unsatisfactory port operations, as well as unnecessary regulations, have resulted in higher than desirable ratios of port time to steaming time and low vessel voyage utilization rates. These unnecessarily low utilization rates have represented a particularly acute problem for operators of short routes, including many ferry operators. Delays at ports have occurred as a result of (1) congested port conditions, especially on the land side at many ports; (2) low-productivity cargo handling; and (3) vessel clearance and pilotage regulations at ports.

The shortage of qualified manpower, principally the lack of sufficient numbers of qualified ships' officers, has occurred despite the large numbers of qualified seafarers produced in the Philippines because many qualified officers find employment with the world shipping industry. The problem of shortage of qualified ships' officers for domestic shipping causes the following problems for liner, tramper, and ferry operators in the Philippines:

- Inadequate vessel maintenance, leading to high repair costs, reduced annual utilization, and frequent schedule delays;
- Unsafe operations (the PTF identified unqualified ships' officers as the principal cause of maritime accidents, and this fact was confirmed in PTSR interviews); and
- Administrative delays at ports.

Maritime accidents occur not only as a result of inadequately trained ships' officers, but also because many vessels are not in class,[1] navigational aids are not kept in working condition, and shore-to-ship communications are inadequate. Because shore-to-ship communications are inadequate, storm warnings are inadequate.

The government is requiring, in 1991, that all vessels of 500 GRT and over be in class by the end of the year. Although the safety and reliability goals of this policy are laudable, a large number of vessels are involved, and efforts to strictly enforce the policy in so brief a period would be disruptive to interisland shipping services. A somewhat longer period for implementation, for example, 3 to 5 years, would be preferable, because vessels that could be put in class at a relatively low cost could then be put in class, and other

---

[1]Vessels that are in class are those that meet the standards of accepted international classification societies.

vessels could gradually be retired. Some of the vessels to be retired might be sold for purposes for which they could be granted exemptions from the in-class directive, such as use as training vessels.

The changeover to using only vessels in class (and smaller vessels not required to be in class) in interisland shipping will improve maritime safety and shipping service reliability. Shipping costs (without counterbalancing corrections of other shipping problems) will tend to rise, both because of the higher initial costs for generally better standard vessels than have been acquired in the past and because closer attention to maintenance will be required to keep vessels in class. As discussion in the chapters that follow will make clear, however, there are opportunities for counterbalancing the cost increases arising from the use of better average standard vessels through higher vessel utilization rates.

In the short term, the increased maintenance requirements of in-class vessels will put pressure on the capacities of the ship repair industry, where some capacity constraint is already beginning to be felt. Vessel maintenance has not been a serious problem in the industry in the past, but adequate vessel maintenance services could become a temporary problem in the future if capacity of the repair industry is not significantly expanded, perhaps through improvement in productivity.

Chapter 3

LINER SHIPPING REGULATION

Rate Regulation

At the time that the PTSR was conducted in 1990, only First and Second Class passage rates were deregulated, and all interisland liner cargo rates, as well as Third Class passage rates, continued to be regulated. Late in 1990, the Philippine Government deregulated rates for reefer (refrigerated) boxes in interisland trade and for livestock shipments and all transit traffic (any commodity carried over an interisland leg of an international shipment, i.e., exports or imports). At the same time, the government liberalized all remaining cargo rate regulation by permitting tariffs to vary by ±5 percent from reference points for each of four commodity classes.

The SRRS team found these changes in cargo rate regulation to be desirable, but also found that additional changes should be made in 1991 and 1992 for the following reasons:

- Inaccuracies and anomalies of the currently used cargo rate formulas.
- The inherent inaccuracy of using a single set of formulas to apply to all liner routes.
- Inappropriate classification of several important agricultural commodities, with the result that appropriate services are not sufficiently available for these commodities.

To correct these problems, the SRRS team recommends some specific cargo charge adjustments for 1991 and wider fork tariffs of ±15 percent from commodity class reference points. Further corrections for accuracy should be made in April 1992, at the time of cargo rate adjustment for inflation from April 1991, and the Class C (Basic) commodity classification should be abolished.

Document Data Bank

Two important cargo rate regulation adjustments are recommended for 1993. Most important, the past philosophy of rate setting, to cover operator revenue shortfalls regardless of load factor levels and degree of efficiency of operations, should be replaced by design load factors and efficiencies that correspond to target, "reasonable" rates of return on assets. Also, rates should be computed on a route-by-route basis to improve the likelihood that computed rates will be appropriate for at least the majority of efficient operators.

Also in 1993, the next steps leading to full cargo rate deregulation should be taken; full deregulation should be accomplished over 4 years, provided that each stage is closely monitored by the Maritime Industry Authority (MARINA) and the Philippine Shippers' Council (SHIPPERCON) and found to be generally satisfactory for Philippine shippers.

The SRRS team found less need for revision or deregulation of Third Class passage rates than for cargo rates, but the following adjustments should nevertheless be made by 1993:

- Route-by-route rate computation should be accomplished with design load factors and target, reasonable levels of operating efficiency.

- Service standards for Third Class passage should be set by MARINA, with official rates applying only to "basic" and "probation" services (see discussion of standards in final section of this chapter), while rate increments of up to 15 and 30 percent, respectively, would be permitted for "standard" and "superior" services.

- Provided that a recommended March-June 1992 pilot project proves successful at helping to level out peaks of passenger demand, higher "seasonal" Third Class passage rates during peak travel periods (with discounts for students) would help to make shipping passenger capacity sufficient during peak demand periods.

Service Regulation

The SRRS team identified a need for liberalization of liner service regulation, for the following reasons:

- There is some evidence that a sellers' market exists for liner services, which puts upward pressure on rate levels, especially if rate deregulation is to proceed.

- The potential exists for introducing better service standards, including new types of service, and these opportunities are not currently being pursued.

- Service frequency adjustments in peak and off-peak periods would permit services to be more closely tailored to demand.

Many potentially desirable liner routes are not currently operated by the liner industry or are provided with either cargo or passenger services only.

Rather than merely responding to applications for new or expanded services, the SRRS team recommends a more positive role for MARINA, whereby it identifies needs for services and publicly invites operators to apply to provide the services, specifying in their applications vessels to be used and intended schedules and rates.

Since route franchising was instituted in 1972 the criteria for issuing a franchise have been generally limited to prior operator and prior applicant. That is, an operator already on a route has usually been assured of obtaining franchises for expanded services provided only that the operator was not dilatory in applying to provide whatever new or expanded services might be needed to meet all cargo and passenger service demand. Past service records have usually not been taken into consideration. It is desirable, in the interest of gradually upgrading interisland liner shipping service standards including safety, that past service and safety records be taken into account by MARINA when considering alternative applications to provide new or expanded services on a route. MARINA management have informed the SRRS team that it is their intention that past records of service be taken into account when ruling on route franchise applications in the future.

There is yet another possible consideration that might be taken into account by MARINA when reviewing applications for route franchising, namely, the structure of the industry. Compared to the interisland air transport industry, where one airline is dominant, the structure of the interisland liner shipping industry is rather good. There are three large shipping operators and several medium-sized operators, as well as a number of smaller operators. The PTSR identified that there is considerable evidence that the industry has been and remains competitive. The fact that there are several large and well-financed operators has made possible, over the past 15 years, first the rapid introduction of containerships and then the advent of roll-on roll-off (RORO) vessel operation. Large and medium-sized operators should also make it possible to rapidly expand the numbers of reefer and ventilated boxes in interisland liner shipping once cargo rates are entirely conducive to such expansion and the operators are provided with good market information. All this is to say that there have been some advantages to the Philippines and might continue to be some advantages, of the current structure of the liner shipping industry.

Nevertheless, the current level of concentration of the interisland liner shipping industry carries with it some dangers. First, the potential for collusion in an unregulated environment is greater with just a few large liner operators than if there were many. Second, if there is sufficient reason for the government to suspend the franchises of an operator, as occurred when one operator had two major accidents recently, then the suspension should not seriously harm shippers and interisland passengers; that is, the capacity temporarily suspended should not represent any sizable proportion of the entire interisland fleet. A possible criterion, therefore, in ruling on route franchise applications is the size of the applicant. A period of "affirmative action" in favor of small and medium-sized operators in the awarding of route franchises could help to improve the structure of the interisland liner industry, so that within a decade or two there might be between 14 and 20 medium and large operators providing interisland liner services to the principal ports of the Philippines.

In the longer term, however, continued preference to smaller operators should not be necessary or even desirable, and there is a danger that if MARINA were to adopt operator size as one criterion for awarding franchises, it would thereafter be difficult to discontinue use of that criterion. To avoid any such problem, it appears preferable to the SRRS that, rather than have MARINA adopt operator size as a criterion for franchise awards, moral suasion might be used by both MARINA and CISO to encourage the larger operators to voluntarily refrain from applying for new or expanded services for a period of some years.

Service Standards

Standards of shipping services have never been regulated in the Philippines. Consideration is now being given, however, to the possible regulation of interisland passenger service standards. In the view of the SRRS, the institution of passenger service standards regulation would be undesirable, first, because it would involve disruption of services in the short run, if it were actually enforced, and, second, because an effective strategy for improving standards need not include regulation. The SRRS team agrees that action to encourage improved standards of passenger service is desirable and recommends the following:

- Conversion of the preparatory work for regulating standards to a grading system, but adding past service safety and reliability records into the grading system;
- Defining four service standards on the basis of grade levels (superior, standard, basic, and probation might be used);
- Rating all liner and ferry passenger services annually;

- Posting ratings at all passenger terminals;

- Notifying the shipping industry and the public that a service standard rating of probation means that operators will be given 6 months to bring their service ratings up to basic or higher, or their route franchise will be amended to limit their services to cargo only, and other operators will be permitted to enter the route; and

- Notifying the industry and the public that official Third Class passage rates apply to basic and probation services only, and operators providing standard and superior services are permitted to impose surcharges of, for example, up to 15 and 30 percent, respectively.

Chapter 4

PORT OPERATIONS AND CHARGES

Rationalization of Cargo Handling and Charges

Cargo handling (arrastre and stevedoring services) at Philippine ports has generally been unsatisfactory for several years. The basic problems have been that the Philippine Ports Authority (PPA), responsible for developing and operating the national public port system, has not always selected satisfactory cargo-handling firms and has not entered into the type of arrangements that would protect shipping operators and shippers while providing the cargo handlers with good opportunities to realize reasonable returns on desirable investments in cargo-handling equipment.

Before 1991, most cargo handlers were operating under renewable one-year contracts that provided them with little incentive to invest in equipment or to hire and train permanent staff. Where cargo-handling equipment was available in ports it was frequently provided by shipping operators in their own self-interest. Cargo-handling activities are also hindered in many ports by insufficient landside areas as well as conflict between cargo and passenger activities. In some principal ports, cargo-handling productivity is limited by restricting cargo handling to daytime hours only.

To correct this situation, which has created substantial delays for the interisland shipping industry, the PTSR made the following recommendations:

- The PPA should select suitable cargo handlers mostly through competitive bidding. When negotiation with current or other cargo handlers is to be the method of selection, public hearings should be held before a final decision is reached.
- Multiyear contracts of sufficient length should be entered into to permit cargo handlers to realize returns on desirable investments in equipment.

Previous Page Blank

- PPA contracts with cargo handlers should specify desirable hourly and annual productivity rates that must be met or exceeded by the contractor. If the contracts do not specify these rates, the PPA would unilaterally terminate the contract. Minimum investment might be specified in the contract, but if productivity rates are appropriate contractors would have no choice but to invest even if minimum investment requirements are not specified. For principal ports the specified annual productivity rates should be such that they would necessitate two- or three-shift operation whether or not such utilization of contracted facilities is separately specified in the contract.

- The contracts should specify beginning cargo handling charges and provide a mechanism for periodic (annual or semiannual) automatic adjustment for inflation. The PPA should no longer receive a surcharge on cargo-handling charges but the contract should provide the PPA with facility leasing fees to cover capital and operating costs for the leased facilities. The contract should also provide some contribution to port overhead costs and PPA profit (a modest 7 percent on assets).

In 1991, the PPA began to enter into longer-term contracts with cargo handlers although not through competitive bidding. Depending on the amounts and types of equipment that will need to be acquired to meet specified productivity rates in the contracts, the durations of the contract are 5, 8, and 10 years. To date, the PPA has entered into 10-year contracts with cargo handlers at the ports of Manila (both the South Harbor and the North Harbor), Batangas, Calapan, San Fernando, Cebu, Iloilo, and the Mindanao ports of Cagayan de Oro, Davao, General Santos, Zamboanga, Polloc, and Ozamis. The PPA policy change for cargo handling contracts is laudable but it is not clear that sufficient care has been taken in all cases to ensure that capable and reliable cargo handlers are selected, terms of contracts are commensurate with investment requirements, annual as well as hourly productivity rates are specified, and beginning cargo handling charges are appropriate.

With regard to beginning cargo handling charges, a study was conducted by consultants for the PPA in 1990 to determine how rates might be rationalized. The PPA held hearings (July 1991) on the recommendations of the study. One desirable change is to bring arrastre and stevedoring charges more in line with services actually performed. When no services are performed, as in the cases of some RORO vessels and some container vessels, no charges should be imposed. Final decisions on cargo-handling rate rationalization should have been reached before the PPA began entering into multiyear contracts with cargo handlers.

Another policy generally supported (by the PTF, the PPA, and the shipping industry) is to increase competition among cargo handlers. In the Manila South Harbor (Manila's international port facilities), operation of the Manila International Container Terminal (MICT) served to galvanize other cargo handling at the port to limit the shift of cargo to the MICT. The same sort of positive effect should result when the major domestic ports are provided with container terminals (such facilities may only be justified at three or four ports before the year 2000). It is essential that the operators of these terminals not provide any other cargo-handling services in the same ports. The PPA hopes to attract private investors to provide these container terminal facilities on a build-operate-transfer (BOT) basis.

In addition to new, specialized facilities such as container terminals and perhaps bulk-handling terminals at a few ports, the PPA intends to increase the level of cargo-handling competition at ports by entering into contracts with two or more cargo-handling firms in ports having annual cargo throughputs of more than 300,000 tons. The PTSR cautioned that whereas the objectives of increased competition and efficiency are laudable, it is desirable that approvals be granted case by case. A port like San Fernando, for example, accommodates mostly petroleum and otherwise needs only a single small cargo-handling firm with limited equipment. Other ports with throughputs in excess of 300,000 tons might be more efficient if a single operator were able to afford the cranes and other equipment needed to obtain high productivity. In such cases competition should be for the award of the cargo-handling contract, and the clauses of the contract entered into should provide assurance of high service standards and reasonable charges, or the contract should be terminated.

Rationalization of Port Policies, Regulations, and Charges

In addition to the need to improve cargo-handling at ports, the need also exists to eliminate unecessary delays at Philippine international and interisland seaports that make it impossible for liner vessel operators to achieve potential vessel utilization rates. This problem is particularly acute for operators of short-distance routes, including some ferry operators, and reduction of unnecessary port time could result in significant increases in annual voyages per vessel and corresponding reductions in shipping costs per voyage. In the short run, expansion of service frequency for vessels in class would permit some retirement of overaged vessels that would have safety and service standard advantages if not cost advantages. Nevertheless, some erosion of load factors might occur in the short run if voyage frequency were suddenly improved (as it potentially could be) so that rates might not immediately decline by the same proportion as costs per unit of space.

In the longer run, load factors would recover and the cost improvement would be fully reflected in cargo and passenger rates. Delays at ports as a result of unnecessary and undesirable regulations raise shipping costs not only through time losses and resultant lower than desirable vessel voyage utilization rates but also through official and especially unofficial charges because they add directly to costs.

The more onerous port policies, regulations, and charges are

- Port clearance;
- Compulsory pilotage; and
- For ferry operators, standard PPA port charges.

Port clearance requirements were instituted as an adjunct to martial law in the 1970s. The requirements apply to all vessels in commercial service, even ferries. Final clearance is given by the Philippine Coast Guard (PCG) but the Bureau of Customs (BOC) and officials of several other organizations have needed to give clearance as well. PCG and BOC representatives are often not in the port area to give clearance, and officials of other organizations also might not be present when a ship's officer is seeking clearance for his vessel. These absences have frequently required the ship's officer to spend long periods outside the port area in pursuit of clearances. Official charges for these clearances are low, but unofficial charges often are high, and often receipts cannot be obtained.

According to the PTF, it has generally been recognized that these vessel clearance requirements are unnecessary and detrimental to the operation of the domestic shipping and ferry industry; however, because they are required by law they cannot easily be dispensed with. As a first step toward the eventual ending of clearance requirements, the government has decided that clearance procedures will be consolidated within Port Integrated Clearance Offices (PICOs).

A few PICOs have been established but reports from SRRS surveys and interviews indicate continuing absentee problems that limit the effectiveness of PICOs to limit vessel delays and reduce unofficial charging. A PPA official is at the head of each PICO, and it is highly desirable that these officials be authorized to give full vessel clearance in the event that any other PICO representative is absent. The PPA indicates that it favors this change and has tried to implement it but other organizations have been unwilling to delegate authority to the PPA.

In June 1991, the most hopeful development toward ending unnecessary clearance delays occurred as a result of a joint study by the BOC and the PPA when the BOC announced a decision to discontinue collection of port entrance and clearance fees on all vessels engaged in domestic trade. The

study was initiated in response to a complaint in 1990 by the Cebu-based Visayan Association of Ferryboat and Coastwise Service Operators (VAFCSO). The PPA noted that BOC requirements were particularly burdensome to vessel operators because of the frequent need to find BOC personnel at their residences to pay fees and obtain clearances. The PPA as well as the operators maintained that the BOC should only be concerned with vessels on international voyages.

The next desirable step is to relieve the PCG of any regulatory role in ports, leaving it to police the safety and legality of interisland and international shipping operations on the high seas. MARINA, which already has the legal authority to do so can take over some functions that nominally reside with the PCG at present but that have not been and are not being effectively carried out by the PCG. These functions include vessel inspection, vessel safety equipment checks, and passenger counts to prevent overloading.

The PTF recognized compulsory pilotage as undesirable and charges as not commensurate with services rendered. From SRRS surveys and interviews it was revealed that the pilot must frequently be fetched from somewhere beyond the confines of the port and must be compensated for this inconvenience. Usually vessel captains require no assistance entering ports that they frequent 30 or more times per year, and pilots (reportedly) do not begrudge the captain a portion of the pilotage fee.

Pilots cannot be dispensed with entirely because their services are sometimes needed, but it would be desirable to license captains as pilots in all the ports that they know well. Captains' salaries could reflect this additional acknowledgment of expertise, yet vessel operating costs could still be lowered, and delays could be reduced at ports. The PPA favors such an "open pilotage" policy but the pilot's association sought a court injunction to prevent the PPA from implementing the policy.

In addition to the foregoing reasons for complaint about unnecessary port delays and costs, ferry operators can complain of the unreasonableness of PPA charges. Each time they enter a PPA port they must pay entrance fees and other charges. The overall payment is a problem although not a serious one for most operators because PPA charges are not high, but ferry operators should be able to enter into long-term arrangements with the PPA whereby reasonable levels of port fees for use of facilities are paid monthly or quarterly. The PPA indicates a willingness to enter into such long-term arrangements with ferry operators.

Chapter 5

MANPOWER DEVELOPMENT

Demand and Supply

At the time that the PTSR was conducted in 1990 the interisland shipping industry identified the lack of qualified ships' officers as its most critical problem. Although the Philippines produces large numbers of qualified seafarers, including ships' officers, the world demand for Philippine seafarers has created serious shortages of qualified officers for the domestic shipping industry, including tramper as well as liner shipping.

In the past year, however, this situation has improved somewhat for two reasons: salaries offered by the domestic shipping industry have risen dramatically, and graduates of principal government maritime training institutes are now required to serve on Philippine flag vessels for a minimum of 2 years after graduation. The situation might also have improved as a result of increased competition (from other Asian nations and from Poland) in world shipping for the employment of qualified ships' officers.

About 60 educational institutions provide maritime training, of which 10 are government schools. The most important of these institutions are the Philippine Merchant Marine Academy (PMMA) in Manila and the National Maritime Polytechnic (NMP) in Tacloban. The other institutions are in the private sector and include 11 schools that provide only maritime training. A few institutions provide only a 6-month course in basic seamanship, but most provide training courses leading to an associate marine engineer certificate, and more than 30 offer a degree program in nautical studies. Before the 2-year service rule was instituted, virtually all of the PMMA graduates were recruited by foreign shipping lines before graduation. The NMP has been assisted by the Japan International Cooperation Agency (JICA) and also produces qualified graduates.

Previous Page Blank

Despite the plethora of training institutions and the demand for Filipino ships' officers, the maritime training industry is in poor shape, and a serious problem of insufficient numbers of qualified ships' officers persists. A JICA-financed draft study of maritime safety in the Philippines have completed in July 1991, examined the quality of maritime training. The study concluded that the majority of maritime training institutions in the Philippines has inadequate training facilities and equipment and insufficiently qualified teaching staff and offer inadequate opportunity for shipboard training. Besides these shortcomings identified by the JICA study, the PTSR determined that access to maritime training is inadequate and that training is financially out of reach for the average Filipino.

An even more serious problem is the lack of integrity in the examination and certification process. Reportedly, many otherwise qualified trainees cannot afford the "unofficial" costs of examination and certification. Members of the domestic shipping industry have estimated (in PTSR and SRRS interviews) that there are hundreds of qualified or nearly qualified Filipinos who have not entered the industry because they cannot afford the examination and certification expense.

Maritime Training Industry Development

Correction of the current unacceptable situation of insufficient maritime training and shortage of ships' officers requires a concerted effort by the government, the maritime training industry, and the interisland shipping industry. Elements of this effort might include the following:

- Converting ship officer training from a privilege of the few to an opportunity for many, perhaps by creating a trainee loan program and expanding scholarship opportunities and the total capacity of the maritime training industry.

- Upgrading the caliber of maritime training programs by improving training facilities and teaching staff capabilities, procurement of additional training equipment, redesign of inadequate curricula, and increasing the opportunities for shipboard experience and training.

- Strengthening the examination and certification review mechanisms to better ensure the future integrity of the examination and certification process. The strategy for this effort will need to be developed by the Interagency Committee on Maritime Education, but implementation will require involvement of the Office of the President.

- To the extent possible, compensating for the past lack of integrity of the examination and certification process by offering an expense-free, short retraining course for past trainees who completed most or all coursework toward a certification or degree, but who did not take or pass the examination and were never certified as qualified mariners.

The availability of shipboard experience might be increased in two ways:

1. The maritime training industry could enter into agreements with the Philippine Interisland Shipping Association (PISA), CISO, VAFCSO, and the Southwestern Mindanao Shipowners Association (SMSA), whereby trainees would be assigned to vessels for round trip voyages or for some specified period of weeks or months.

2. By sales at low prices by PISA, CISO, SMSA and VAFCSO to the training industry of vessels not in class, which would in any case need to be taken out of commercial operation. Vessels might be jointly purchased by two to several training institutions. (MARINA could exempt vessels used for seafarer training from a new directive that all vessels of 500 GRT and larger must be in class).

Maritime safety was the principal focus of the recent JICA-financed study, which looked at the maritime training industry from that standpoint. A broader and more in-depth examination of the maritime training industry is required. Such an examination should consider improved access to training, upgrading of all aspects of the training industry, and ensuring the integrity of the examination and certification process. One possibility for upgrading teaching staff that should be considered by the study is the short-term employment of retired maritime experts to design and present skills upgrading courses.

Chapter 6

MARITIME SAFETY

Magnitude and Causes of the Safety Problem

Serious maritime accidents, involving loss of life as well as vessels, reportedly average more than 100 each year in Philippine interisland shipping. Some of these accidents involve the loss of hundreds of lives and are partly the result of a common tendency to overload passenger vessels beyond rated passenger capacity. The Presidential Task Force was created 1989 in response to two major maritime accidents.

The PTF, the PTSR, and other studies of the interisland shipping sector have identified the lack of sufficient numbers of qualified ship officers as the number one cause of maritime accidents. As discussed in the manpower development section in Chapter 5, some actions were taken in 1990 and 1991 to increase the availability of qualified ship officers to the domestic shipping industry, but this shortage remains one of the major problems of the industry and of maritime safety in the Philippines.

Another cause of maritime accidents is the age and poor condition of a large number of vessels used by the industry. Small vessels (under 250 GRT) are generally newbuildings of wooden construction. These vessels may not be old, but are often unsafe because the construction and design reflect little concern for safety. Other vessels (above 250 GRT, and excluding barges) are usually purchased secondhand and converted for intended uses in the Philippines. Some of these vessels have been in use since the 1940s, and many of that age and much younger are not in class.

Maritime accidents also occur because of hazardous sea lanes and inadequate navigational aids (navaids). The National Mapping and Resource Information Authority (NAMRIA) is responsible for mapping the sea floor and defining sea lanes. Survey efforts are far behind and most available navigational information dates from the 1940s. On the basis of this information, an estimated 34 to 37 of 94 sea lanes identified by NAMRIA are

Previous Page Blank

hazardous to navigation. The PPA has nominal responsibility for dredging wherever it is required, but the PPA has limited its dredging activities to harbors and approaches to harbors and has not been able even to keep abreast of the maintenance dredging needs at harbors. The Department of Transport and Communications (DOTC) and MARINA are legally responsible for maintaining navaids. However, to the extent that navaids are maintained at all, the work has been carried out by the Department of Public Works and Highways (DPWH) and the PCG. In early 1990, about 70 percent of all lighthouses were in operation, a proportion that represented a significant improvement over the immediately preceding years.

A final significant cause of maritime accidents is the general inadequacy of weather information, particularly storm warnings. This inadequacy stems in part from the need to strengthen the capabilities of the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA). Even if PAGASA warnings were accurate and timely, however, ships at sea could only receive them if shore-to-ship communications were significantly improved.

Responsibility for Maritime Safety

The government needs to review maritime safety responsibility options, make a final decision on the preferable option and then take the actions necessary to effectively implement that option. When the PCG was established in 1967, it had responsibility for maritime safety, but was never developed to permit it to effectively meet that responsibility. MARINA, given the responsibility after the PCG failed, has also not been developed by the government to permit it to be effective in the area of maritime safety. The PTF, a valuable document overall, leading to several interisland shipping sector improvements during 1989-1991, essentially gave up on the issue of maritime safety responsibility, asking MARINA and the PCG to resolve the issue together.

In the view of the SRRS team, MARINA should be developed to handle all safety functions related to vessels and their operation, which would not only help to reduce maritime accidents, but also would help to reduce vessel delays and unofficial charges in ports. Specifically, MARINA should be solely responsible for ensuring that vessels operate in safe condition, have specified safety equipment onboard, are adequately crewed, have cargo satisfactorily stowed and secured, and do not overload.

The Shipping and Ports Advisory Council (SPAC) was formed in 1989 on the recommendation of the PTF. Both MARINA and the PCG are members of the SPAC, and it would, accordingly, be appropriate for the SPAC to oversee the shift of safety responsibilities for vessels from the PCG to MARINA. The PPA, also an SPAC member, may no longer need to be involved

in reviewing vessel compliance with safety regulations in ports if MARINA will assure such compliance. MARINA, moreover, should not be required to inspect all vessels in all ports at all times; it should be sufficient for MARINA personnel to board vessels for inspection occasionally and unannounced.

MARINA is currently viewed by the shipping industry as a "clean" agency. In order that the agency's reputation remains unblemished, the head offices of Philippine shipping conferences and MARINA management should do their best to ensure that conference members do not offer, and MARINA officials do not accept, any gifts or allowances to disregard rule infractions. Because of the close working relationship that has developed over the years between MARINA and the shipping industry (with no harm to shippers and passengers), it may be possible for MARINA to develop and retain an effective vessel safety oversight function. (See the next section of this chapter for a more detailed discussion of vessel design and safety standards and the role that MARINA might play in achieving better standards.)

More difficult than the question of which agency should be responsible for vessel safety is the question of which should have responsibility for maritime safety infrastructure, including sea lanes, harbor entrance channels, navaids (lighthouses, beacons, and buoys), and coastal communications stations. The current splintered responsibility between MARINA (not yet developed to carry out any responsibility for infrastructure), the PCG, the PPA, and NAMRIA has not been very effective to date, and alternative arrangements need to be considered.

In the view of the SRRS team, because of the major institutional development effort (see Chapter 9 and Volume I, Chapter 3) required to enable MARINA to effectively carry out all of its duties in the shipping industry, it is undesirable that MARINA also be developed to undertake infrastructure development and maintenance functions. Such a transition would be possible if MARINA were authorized to place maximum reliance on the private sector for all navaid development and maintenance, sea lane and approach channel maintenance, and communications development and operation. Even with heavy reliance on the private sector, however, MARINA would still need to develop expertise in infrastructure planning and work supervision and inspection. The PTSR team believed that developing MARINA to carry out the maritime safety infrastructure function, with heavy reliance on the private sector, might, realistically, be the best of the available options. The SRRS team, however, believes that there are better options. The two studies are in agreement on dredging; the responsibility should be shifted from the PPA, which should be permitted to function to the greatest degree possible as a commercial entity concerned only with international and domestic liner ports.

In the view of the SRRS team, a single organization should be responsible for maritime safety infrastructure, including the survey and mapping of sea lanes and harbor approaches; dredging operations where

required; salvaging of wrecks and grounded vessels (currently not the responsibility of any entity); development and maintenance of navaids; development, maintenance, and operation of coastal communications stations; and development and operation of emergency services.

One option for development of a maritime safety infrastructure organization (MSIO) would be conversion of the PCG. If the PCG is to be converted to the envisaged MSIO, there are two good reasons for shifting it from the Department of Defense (DOD) to a civilian government department. First, the MSIO should have maritime safety as its principal concern, and, second, financial aid for development of the MSIO would be much easier to obtain for a civilian organization than for a military one. One reason for favoring the PCG option, if the PCG can be shifted, is that it would be desirable for the MSIO to have police authority for purposes of traffic control, including control at the approach of storms, and for emergency situations. Because the DOTC already has legal responsibility for maritime safety, the PCG would ideally be shifted to the DOTC.

The other option is to create a new agency as the MSIO, in which case it would probably need to work closely with the PCG anyway, for the PCG's police powers. The SRRS team does not particularly like this option but considers it preferable to both the existing situation and the option to develop MARINA into an infrastructure organization.

As mentioned in Chapter 5, a study of maritime safety in the Philippines financed by the Japan International Cooperation Agency was completed in July 1991. With the SRRS completed in August 1991, this is an optimal time for the Government of the Philippines to decide maritime safety responsibilities of each organization. It is highly desirable that the SPAC, established to serve as a forum for discussion of such matters, include the shifting of vessel safety responsibilities from the PCG to MARINA, formation of a MSIO, and other aspects of a maritime safety masterplan high on its agenda of matters to discuss.

Vessel Design and Safety Standards

In keeping with the government concern that maritime safety be improved, MARINA has issued a directive that all interisland vessels of 500 GRT and above must be in class by the end of 1991. The objective is laudable, but the implementation period is not sufficient. In selecting an implementation period, MARINA may have been misled by an unrealistic goal of CISO, which, in 1990, claimed that all of its members were planning to have all of their vessels in class by 1991. In fact, perhaps as many as 25 percent of CISO vessels (as of July 1991) are not yet in class, although in terms of tonnage, the proportion not in class would be much smaller.

All new vessels acquired by CISO members and other liner shipping operators are in class, and it is primarily the larger operators who have managed this changeover to in-class vessels most effectively and completely. Thus, if the current schedule is enforced, the smaller operators (members of CISO and others) will suffer either additional conversion costs to bring vessels into class or forced retirement of vessels not in class and perhaps loss of market shares. In cases in which operators would need to discontinue services, shippers and the traveling public would also suffer, until another (probably larger) operator initiated services to replace those that were discontinued.

In the view of the SRRS team, the possible disruptions of service and the potential for increased concentration of the liner shipping and ferry industries are of greater concern than the incremental risk of maritime accidents if vessels not in class are permitted to operate beyond 1991. For this reason, the SRRS team strongly recommends that the deadline for vessels of 500 GRT or more to be in class be deferred (phased deadlines for vessels of different types or sizes is a possibility) until MARINA and the shipping industry can produce an implementation action plan.

Beyond this immediate need, two other needs concerned with vessel design and safety standards exist. Currently, all vessels are classified by foreign classification societies, and it would be helpful to the interisland shipping industry if a private-sector Philippine classification society were developed. The MARINA and the local classification society must develop design guidelines for vessels under 500 GRT. An attempt has been made to develop a local classification society with the establishment of the Philippine Register of Shipping, but this new organization requires technical assistance if it is to develop.

Chapter 7

PORT SYSTEM DEVELOPMENT

Philippine Ports

There are several hundred ports in the Philippines; most of them pre-date the road networks on the various islands. With the development of the road network a large number of ports are no longer necessary. No functional classification of ports exists, except that the Bureau of Customs has designated some 38 ports as "ports of entry" where customs offices have been established. It would be useful for the PPA to develop a functional classification of ports. One possible benefit of replacing BOC ports of entry with PPA-designated international ports would be a reduction of customs offices. Many of the ports of entry accommodate only a few thousand tons of international cargoes per year and do not require customs officials stationed permanently at the ports.

In 1990, the PTSR proposed a functional classification of ports, including international ports, liner cargo ports, liner passenger ports, ferry ports, and other port groups. Perhaps six to eight ports in the Philippines should be designated as international ports to regularly serve direct calls by international shipping and to be developed, in terms of water depths and facilities, to satisfactorily serve international traffic. Although designated as international ports, these ports would serve interisland liner cargo as well as passenger traffic, but perhaps separately, as in the case of Manila South Harbor (international) and North Harbor (interisland).

The distinction between liner cargo ports and liner passenger ports would be useful because of the different facilities and labor force required at the two types of ports. The cargo ports, which would also serve interisland passenger traffic, would require many more berths, more land area, storage facilities, handling equipment and labor gangs, whereas the standard liner passenger port might have no more than two or three berths and few other facilities. In terms of numbers, international and liner cargo ports together would probably not exceed 20, especially if RORO ferry

Previous Page Blank

services are well-developed in the Visayas. There might be twice as many liner passenger ports as international and liner cargo ports combined.

In the interest of satisfactory development of the international and liner port system, it is probably desirable that the PPA retain authority of these types of public sector ports only and relinquish authority over any ferry and municipal ports under its jurisdiction. Relinquishing authority over ferry ports would also be desirable from the standpoint of the development and operation of ferry ports.

In addition to public sector ports in the various categories of commercial ports, a number of private sector commercial ports exist. The growth in the number of these ports has been hindered, however, by the fact that the PPA has what amounts to taxing authority, and the private ports (including dedicated own-account ports as well as commercial ports) are forced to subsidize the development and operation of PPA ports. This uneconomic practice would be ended if a bill currently before the Philippine Senate (Bill S.1821) is enacted into law.

The ports that might deserve designation as international ports or liner cargo ports are generally inadequate. Problems in a majority of these ports include

- Inadequate land area, causing inefficient cargo handling and storage operations and poor interfacing with land transport.
- Poor facilities, also causing inefficient cargo handling.
- Lack of shore-based, container-handling equipment (only the MICT has such equipment).
- Lack of RORO berths, making it difficult or impossible to use these vessels appropriately, thereby failing to take advantage of their potential for improving port efficiency.
- Lack of bulk-handling facilities, thereby forcing less efficient methods to be used for handling potential bulk cargoes.
- Lack of effective schemes for accommodating passengers, resulting in conflict between cargo and passenger operations.
- Inappropriate operation schemes, permitting the control of port facilities by individual shipping lines, which tends to lower facility utilization levels and create seaside congestion.
- Inadequate maintenance, dredging, and water depths.

Except for the MICT, the port of Manila is one of the best examples of forced port inefficiency due to inadequate infrastructure. All of the preceding problems exist in Manila, and the land area constraint is particularly acute in the North Harbor. Were the North Harbor problems less severe, it would make sense to permit a South Harbor improvement project to be completed first and therefore offer some relief in traffic accommodation during the North Harbor improvement project. Similarly, were the South Harbor problems less acute, it would probably be desirable to delay the project there until the Batangas port construction project is completed. Both the South and North Harbor projects, however, each receiving funding from the Asian Development Bank, must proceed simultaneously because problems at both have become critical. Simultaneous improvement will mean a period of serious traffic disruption at the port.

When the North Harbor project is completed, it is highly desirable that shipping lines cease monopolizing piers at the port; this not only has important implications for port efficiency, but also implications for possible route franchising liberalization or deregulation, because in the present situation, new liner operators at the port cannot be assured of adequate accommodation. A problem that could limit the effective implementation of the North Harbor project is the presence of thousands of squatters at one end of the harbor. Unless these squatters are moved from the port, landside area of the harbor may remain inadequate.

Except for the Manila and Batangas projects (the latter financed by the Overseas Economic Cooperation Fund [OECF] of Japan), the World Bank is funding some port rehabilitation but little upgrading or expansion. Some World Bank funds will be used to repair the damage by typhoon Ruping to the ports of Cebu and Iloilo and to assist in rehabilitating a few medium-sized ports, including the cargo ports of Pulupandan (Negros) and Ozamis (Mindanao north coast).

Port Development Priorities

Unquestionably, the physical improvement of the port of Manila is of the highest priority; it is regrettable that it must be done in a manner that will create intense congestion during the project implementation period, but no reasonable alternative exists. During this period, the Philippine Government should make every effort to remove all squatters from inside and outside the port area. A major low-cost housing project, perhaps coupled with a training or retraining program, could help a great deal in making the North Harbor project effective in improving the efficiency of interisland shipping.

After Manila, Cebu is the Philippines' principal port of export-import trade transshipment. Cebu also has landside area constraints, and, for this reason and others, the preparation of a Cebu port master plan should be

viewed as a high priority. The PPA deems the need for a Cebu port development plan to be urgent, and the SRRS team concurs with this view. The SRRS team also agrees with the PPA that there is a general need to study international ports other than Manila and Cebu, including at least Cagayan de Oro and Davao, and perhaps General Santos and Iloilo as well. A study of these international ports needs to address a number of port system questions. For example, the PPA indicates the need to consider the bulk handling and shipping of fertilizer, and there are questions about the separation of international traffic from domestic traffic; separation of cargo operations from passengers; provision of shore-based container handling equipment, specialized livestock handling facilities, and bulk grain facilities; and the future reliance of interisland shipping on RORO vessels for conventional RORO operations.

To the extent that it is desirable to provide specialized port facilities at a few ports in the future, cargo volumes will become more concentrated. This trend will be encouraged by the improvement of road networks and the development of RORO ferry services. For example, with good roads on the islands of Panay, Negros, Cebu, and Bohol, and with good, high-volume RORO ferry services connecting the island of Negros to both Panay and Cebu and Bohol to Cebu, the cargo of the Central and Western Visayas may become highly concentrated in just two ports: Cebu and Iloilo. Whether or not this example actually evolves in the future, facilities for accommodating cargo in ports other than the international ports will depend to a considerable extent on the system decisions that are made, and PPA planning for these other ports should therefore be deferred (except for rehabilitation) until system decisions are made.

As soon as system decisions are made, the PPA should review cargo liner ports (i.e., excluding the international ports) and then passenger liner ports to identify priority improvements for both groups.

Chapter 8

ADEQUACY OF INFORMATION AND SERVICE

Need for Information

In 1989, the PTF identified a need for closer coordination between MARINA and the PPA, and cited as an example of the lack of close coordination the number of RORO vessels that had proliferated in interisland shipping without the port system having provided appropriate berths for them (Iloilo was the only exception). Undoubtedly, closer coordination between MARINA and the PPA is desirable for a variety of reasons and is achievable in a variety of ways, and it is hoped that the establishment of the SPAC, of which both the MARINA and the PPA are members, will help to improve coordination.

However, the case used by the PTF to illustrate the need for close coordination between MARINA and the PPA is one in which neither organization had sufficient information in time to plan and implement port improvements in order to serve RORO vessels appropriately. Even now, with a number of RORO vessels already employed for liner services, the future of RORO operations remains uncertain.

The future division of container accommodation among vessels using ship's gear, modern container vessels that rely on shore-based handling equipment, and RORO vessels is a major concern of port system planning, and the PPA can do little that would be useful toward improving interisland container handling until the future of container transport is analyzed and system decisions are made.

Similarly, as discussed in Chapter 7, the PPA cannot make investment decisions for many of the principal ports under its jurisdiction until system decisions are made about the port and shipping accommodation of grains, livestock, fertilizer, and passengers. Perhaps bulk accommodation of sugar and cement also needs to be considered. System decisions that result in the provision of specialized berths, storage facilities, and handling equipment at a

few ports will expand the hinterlands of these ports for these commodities being accommodated at the specialized facilities. This increased concentration of cargo traffic (but not passenger traffic) at a relatively few ports will reduce the needs to expand and improve other ports.

The interisland shipping industry also requires information in order to make investment decisions. Rates for liner shipping transport of reefer boxes and livestock were deregulated in November 1990; since then, rates have increased appreciably (in line with actual costs, which were not covered at the former regulated rates), but shippers complain that services have not improved. Shipping operators have not responded by acquiring increased numbers of reefer boxes (which are expensive) or specialized capacity for moving livestock because they do not know the potentials of the market.

The SRRS team recommends that bananas, other fruit, and vegetables be shifted from MARINA commodity Classes C and C (Basic) to Class B in order to induce shipping operators to acquire the ventilated boxes that would be appropriate for many of these commodities, but that are now in very short supply. Nevertheless, even if this SRRS recommendation is accepted and implemented, a sufficient number of ventilated boxes might be attained only over a period of years, if shipping operators are uncertain about the market.

Many desirable liner shipping routes are not now being operated for two reasons: regulated rates are insufficient to induce services on low-traffic-density routes, and the industry is not aware of the market potential on these routes. Both of these impediments to service should be removed. The SRRS team recommends route-by-route identification of rates in 1993, which, even before full deregulation of cargo rates is implemented, should help to induce new services. Route analyses undertaken by MARINA and made available to the liner shipping industry would also help to induce liner services on routes that do not yet have such services.

Providing liner services with full passenger vessels has been tried previously, most recently in 1990, but it has not been successful. A possible reason for the lack of success was Philippine Airlines' (PAL) subsidization of its domestic services by its international services. Reportedly, this subsidization policy has been discontinued, and PAL's 1991 domestic fares, which are higher in real terms than in past years, are diverting some passengers to First Class liner shipping passenger service. Thus it may be desirable to reexamine the profitability of liner shipping operations employing some full passenger vessels. The industry will be very cautious about investing in passenger vessels, however, so a study that thoroughly assesses the market and profitability potentials for such services will probably be needed to induce operators to invest in passenger vessels.

Additional information required to improve the shipping sector would affect the adequacy of interisland shipping service only indirectly and relates to the institutions serving the sector, including the maritime training industry,

MARINA, SHIPPERCON, the PPA, and the PCG. Required information is discussed in Chapters 5, 6, and 9.

Studies to be Conducted from 1991 to 1993

In addition to the SRRS, two other studies conducted in 1991 will have implications for services of the domestic shipping sector. One is the Nationwide Roll-on Roll-off Transport System Development Study (NRTSDS), which should help to promote the introduction of new RORO services and the improvement of existing services. As of July 1991, it was still too early in the study to obtain results. The SRRS team expects that the NRTSDS will eventually lead to the expansion and improvement of services among the principal Western and Central Visayan islands, thereby more fully integrating the economies of those islands. The second study is a Norwegian Government-financed pilot project to improve the efficiency of interisland cargo movements.

From the discussion in the preceding section of this chapter, the SRRS team recommends that the following additional studies be conducted during 1992-1993: (1) Liner Shipping Route Study (LSRS), (2) Interisland Agro-Transport Study (IATS), (3) International Ports and Container Transport Study (IPACTS), and (4) Interisland Liner Shipping Passenger Accommodation Study (ILSPAS).

Liner Shipping Route Study

The SRRS field surveys have revealed that the overtonnaging problem that prevailed on primary and secondary liner routes in the past (according to the literature) is not a problem in 1991, and that shipping capacity may even be insufficient on some routes to accommodate the average level of traffic. The SRRS team suspects that this might be the case and therefore recommends that cargo rate deregulation proceed concomitantly with a route franchising program that would ensure that routes are not underserved, and that rate deregulation would not lead to upward pressure on rates because of "sellers' market" conditions.

The SRRS team further recommends that MARINA adopt route-by-route cargo and passenger rate identification in 1993 to bring rates more closely in line with costs per traffic unit at design load factors and efficiency levels. These changes, with perhaps a lower design load factor for tertiary and development routes, should help to induce new services on routes not currently served. The LSRS is required to enable implementation of both cargo rate deregulation and route franchising liberalization. The LSRS will

- Identify cargo and passenger load factors and service standards on all primary and secondary liner shipping routes;
- Compute vessel costs and identify desirable cargo and Third Class passenger rates for each of these routes;
- Identify and prioritize desirable new service frequencies and new route franchises for routes with high load factors or poor service standards, or both, including lack of sufficient variety and convenience of service;
- Identify a number of new services that should be initiated (in carrying out this objective, it is important that MARINA staff be trained to conduct analyses of liner service route potentials because the LSRS will only be able to complete a few such analyses, and many other analyses should be conducted in future years to prioritize new service needs and to persuade liner shipping operators to offer services); and
- Assess the desirability of full liner service deregulation, and devise a scheme by which this might be accomplished, including preparation of a pilot project to test the effects of route deregulation.

Interisland Agro-Transport Study

The objective of the IATS will be to provide the information required (1) by shippers of grains, fruits, vegetables, livestock, livestock products, fishery products, and fertilizer; (2) by prospective investors in agricultural treatment, packaging, storage, and processing facilities; (3) by the interisland shipping and air transport industries; and (4) by MARINA and the PPA to arrive at decisions on production, marketing, transport, and investment options.

The IATS will take into account all pertinent information and analyses available from other studies, including regional planning efforts financed by OECF (central Luzon), the ADB (western Visayas), and USAID/Philippines (southern Mindanao). The IATS will project agricultural production by principal port hinterland throughout the Philippines to the year 2000; identify and assess marketing processes, including commodity treatment, packaging, and storage requirements; identify and assess agro-processing options; identify and assess the interisland shipping and air transport service options, including the establishment of specialized storage and handling facilities at principal ports; and prepare recommendations with a detailed action plan of production, marketing, processing, and transport strategies and actions for each commodity.

International Ports and Container Transport Study

The objectives of IPACTS are as follows:

1. To identify how containers can best be moved in interisland shipping, including the option of continued reliance on ship's gear in all ports, the option of instituting a system with shore-based handling equipment at a few principal ports, and the option of heavy reliance on RORO vessels, with appropriate accommodation at ports;

2. To define and provide general (not fully costed) master plans for an optimal system of international ports in the Philippines (excluding the ports of Manila and Batangas); and

3. To assess prospects for attracting private investment in specialized new port facilities, including container terminals on a BOT basis, and to devise appropriate strategies for attracting investment.

In preparing port master plans (three to five are expected) IPACTS will take into account the findings and recommendations of the IATS.

Interisland Liner Shipping Passenger Accommodation Study

The ILSPAS has two objectives: (1) to identify an optimal system of liner shipping passenger services, including optimal type of vessel to be employed by type of route (but not by individual route), optimal First, Second, and Third Class service standards, including subclass standards, if desirable, and the costs and charges for all services; and (2) identify the optimal schemes for passenger accommodation in international, liner cargo, and liner passenger ports.

In addition to the preceding four major studies, MARINA and the domestic shipping industry need to work together to produce an action plan for bringing all vessels of 500 GRT and above into class (see discussion in final section of Chapter 6). TOR for each of these studies, as well as for the training industry and institutional development studies identified in Chapters 5 and 9, respectively, are included in the appendix to this volume.

Chapter 9

INSTITUTIONAL DEVELOPMENT

Needs for Institutional Development

The preceding chapters have identified a need for several important improvements in the interisland shipping sector. In order for these improvements to be effectively accomplished, the capabilities of several organizations need to be improved, including those of the maritime training industry. Most important, the capabilities of MARINA, the PPA, and SHIPPERCON require upgrading. If the PCG is to be converted to the Maritime Safety Infrastructure Organization recommended in Chapter 6, the PCG also will require substantial institutional development. The rates of the SPAC also require a clearer and more complete definition.

MARINA

MARINA's capabilities, in line with SRRS findings and recommendations for improvement of the interisland shipping sector, require improvement in the following areas:

- **Data evaluation and cost and rate analysis.** The SRRS and the recommended LSRS (see Chapter 8) have provided and will continue to provide analyses of liner shipping data submissions to MARINA and industrywide and route-by-route costs and appropriate rates. MARINA staff will need to be capable of monitoring costs, recomputing costs for changes in technology and vessel utilization rates, and investigating costs for new services. Enhancement of MARINA's computer capability by the time the LSRS is under way is highly desirable; MARINA staff will work closely with the LSRS team to improve their cost and rate analysis skills.

Previous Page Blank

- **Planning.** MARINA has always had two roles: (1) assisting in the development of the shipping industry and (2) regulating the shipping industry, but the latter has generally been the organization's dominant role. This role should be changed, and the 5-year (1992-1996) development plan prepared for the domestic shipping sector by MARINA suggests that greater emphasis is now being placed on development. For this emphasis to be translated into effective assistance to the domestic shipping industry, however, MARINA's planning capability must be enhanced. As a beginning, MARINA should assign appropriate staff to the study teams for every study recommended in this report. These staff need not be planning staff at present, but they must have some basic knowledge and skills (e.g., nautical engineering or studies, economics, computer skills, business administration) and they should have an interest in problem analysis and proposal evaluation.

- **Service standards analysis.** The SRRS team recommends that service standard records be used as one criterion in MARINA analyses of needs to introduce new services on routes and in the evaluation of applications for new route franchises or expanded service schedules. The team also recommends that service standard records be used for rating passenger services of each class over two distance ranges. MARINA staff have not dealt with service standards previously and no data have been collected on service performance, accidents, crew qualifications, passenger accommodation standards, and the like. Should services, as well as rates, be deregulated in the future, only shipping operator safety records would need to be kept, but, in the interim, it is highly desirable that MARINA staff learn to appraise service standards.

- **Shipping problem analysis.** This analysis is not planning, and no overlap of function is needed. MARINA should compile data on industry problems, such as pilotage fees and delays, lost vessel utilization per year because of vessel clearance requirements at ports, unofficial payments made to various organizations at various ports, vessel delays because of cargo handler gangs failing to work official hours, overvaluation of cargoes (for purposes of claims if goods are lost or damaged), and all of the other persistent problems facing the industry. It is only when these problems are documented and converted to equivalent monetary losses and service charge increments that both the government and the public will understand the magnitude of the shipping industry's problems and will join the industry in agitating for their correction.

Beginning in August 1991, MARINA should monitor implementation of the BOC decision to stop requiring harbor entrance and departure clearances for interisland vessels. MARINA has never performed this sort of monitoring and problem analysis, however, thus failing to seize an ever-present opportunity to be a force in achieving improved vessel utilization and lower costs for both the liner shipping and ferry industries.

- **Port safety functions.** For reasons of safety and operational efficiency, MARINA needs to carry out its vessel safety obligations at ports. It has tried to carry out these obligations to a limited extent in the past but has been unsuccessful, partly because of a lack of equipment, including water transport. Port safety functions include ensuring that vessels are in compliance with the international safety conventions to which the Philippines is a signatory and ensuring that vessels do not overload. To make effective use of staff, these MARINA functions can be coordinated with the shipping problem analysis identified earlier.

- **Vessel design and safety standards.** This is another area where MARINA has done very little, and staff capabilities urgently require upgrading. In general, MARINA needs improved coordination and cooperation among its offices—the Technical Services Office, the Domestic Shipping Office, and the planning and policy staff of MARINA need to form a joint team (as of August 1991) to work with the domestic shipping industry to prepare a satisfactory action plan to bring all vessels of 500 GRT or greater into class. MARINA will also need to assist in the development of a private sector classification society and to work closely with the society after it is functioning properly. The two organizations will need to develop design standards for vessels less than 500 GRT.

- **Manpower development.** MARINA could provide considerable assistance to the domestic shipping industry. To date, MARINA's involvement in this area has been limited to little more than participation as a member of the Interagency Committee on Maritime Education. The manpower development function needs to be developed and made a force for improving the maritime training industry, improving access to training, and overseeing the examination and certification process. In 1991, the MARINA Manpower Development Office should be working to develop a scheme for rapid improvement of the manpower situation by reclaiming trainees who were formerly qualified or nearly qualified but were never certified because they were unable to pay for the examination process.

- **Regional offices.** MARINA currently has regional offices at Cebu, Iloilo, Cagayan de Oro, Davao, Zamboanga, and Batangas. There are plans to establish offices at Cotabato, Tacloban, and Legaspi. Until now, these offices have functioned only to license hitherto unlicensed operators. Although this function is necessary under current law and is desirable from the standpoint of maritime safety, it is more important that these offices be developed for shipping problem analysis, planning (local new services), and meeting MARINA port safety responsibilities as previously discussed. It is not clear that new regional offices should be established before existing ones have been fully developed. Also, it seems doubtful that Legaspi, at least, is an acceptable site for a new MARINA regional office.

Philippine Ports Authority

In July 1991, controversy arose over the future organizational structure and functions of the PPA. The instrument that created the PPA in 1974, as amended in 1979, gave the organization regulatory powers as well as the responsibility to develop and operate the public ports system. The PPA has been able to achieve profitability only because of this regulatory power, which permits the PPA to essentially tax private sector ports.

The PPA has had no role in developing private ports, and it performs no services for the majority of these ports and only limited dredging for the others. Senate Bill 1821 would end this regulatory power, enabling private commercial ports to compete with PPA ports on an equal basis. The bill would permit the PPA to charge for dredging or supervisory services, however. The bill does not specify that such services might be voluntarily agreed to by the private ports and that fees should be commensurate with services rendered, but it does specify that MARINA must approve the fees. MARINA would also be responsible for approving port fees and cargo-handling fees, with all of the port fees and some portion of the cargo-handling fees accruing to the PPA.

The bill would convert the PPA to a Philippine Ports Corporation (PPC). It would relieve the PPA/PPC from any responsibility for ferry ports, but would leave the organization with responsibility for "all international liner passenger and liner cargo public ports," as well as other ports built by the PPA or ports declared by the Secretary of the DOTC to be under PPC jurisdiction.

Part of the disagreement over the bill may arise from misinterpretations of its language; it relieves the PPA/PPC of any regulatory power, but would leave the new PPC with full authority for planning, developing, and managing all public sector liner ports. The principal disagreement with the bill, however, is that it allows no period for implementation, thereby

threatening the profitability of the new PPC and perhaps threatening an interruption in the port system development process.

In Chapter 7, the SRRS team recommends that the PPA (or, preferably, the PPC) be given responsibility for public sector international ports and interisland liner cargo and liner passenger ports, but that ferry ports and any other ports be excluded from its jurisdiction. The SRRS team deems it desirable, also, that the PPA be relieved of any regulatory, and particularly taxation, functions. Thus, the SRRS team is in total agreement with the overall objectives of Senate Bill 1821.

Nevertheless, the bill does need some revision, and it would be highly desirable for the SPAC to discuss the clauses and precise language of the bill and advise the Secretary of the DOTC on the views of the executive branch of the government. The secretary and the senators sponsoring the bill might then reach agreement on a revised bill that would achieve the same basic objectives. The SRRS team recommends, for SPAC consideration, the following revisions of Senate Bill 1821:

- That the DOTC rather than MARINA approve port fee and cargo-handling charge adjustments and that the bill specify that the SPAC must advise the DOTC Secretary.

- That the bill specify that the PPC receive no portions of cargo-handling charges, nor any surcharges on the charges, but that the PPC be given full authority to enter into leasing agreements for its port facilities and to promote and enter into BOT arrangements with private sector investors, provided that, in all cases, the arrangements give good assurance of satisfactory cargo-handling, storage, and passenger services and are liable to termination if services are unsatisfactory.

- That the bill specify that the PPC attain commercial profitability by the 1995 calendar year; that, in the interim, government fees to the PPC for planning and advisory services permit the PPC to attain, in each year of the interim period, a 7 percent return on its assets, and that government fees to the PPA for services continue from 1995 onward, but at rates that shall be advised by the SPAC, and finally by the DOTC, to be approved by the Department of Finance.

- That the bill specify that the PPC have no dredging duties to perform for the government or for ports not under PPC jurisdiction but that the corporation may, at its own discretion, undertake capital and maintenance dredging activities within its own ports and the approaches to ports.

The foregoing specifications will give the PPC a period of approximately 3 years to establish a new (and more appropriate) basis for obtaining reasonable returns on assets, namely, rentals of port facilities together with traditional port fees. Port fees should be permitted to increase not only with inflation but also with improved standards of port service, including the elimination of unnecessary charges.

The shipping operators would be willing to pay significantly higher port charges, in real terms, and PPC operations would probably become profitable in the truest sense, as PPA operations have never been, if shipping operators:

- No longer needed to pay pilotage fees for no services or essential services rendered.
- No longer needed to pay official and unofficial fees for vessel clearance, sometimes chasing after officials outside the port area to obtain clearance.
- Paid rationalized cargo handling charges and no charges at all when no services were actually rendered.
- No longer needed to provide handling equipment to cargo handlers and were not required to do so by PPA contracts.
- Could count on cargo handling continuing for 20 to 24 hours each day in principal ports.
- Could threaten termination of PPA/PPC contracts with cargo handlers if cargo security was not good, and if the threat were carried through when substantial losses of cargo persisted.
- With route franchise liberalization were permitted to translate all saved time in ports into increased vessel voyage utilization.

SHIPPERCON

For most of its existence, SHIPPERCON has been concerned primarily with international shipping and cargo rates, but in recent years it has become more concerned with interisland shipping. During 1990-1991 SHIPPERCON broadened its concern with services provided to shippers by responding to problems with disreputable operators in the freight forwarding, cargo consolidation, and breakbulk agent industries.

The SRRS team concluded that unavailability of appropriate interisland services has been a serious problem for a number of agricultural commodities in the Philippines, and the problem has persisted for many years. SHIPPERCON should concern itself, first, with the availability of

appropriate interisland cargo services; second, with reliability, security, and standards of service; and, third, with service charges. Had SHIPPERCON been adequately developed with the foregoing institutional objectives a decade ago, it is likely that the problems that have confronted many shippers until today would not have persisted for so long.

Adequate development of SHIPPERCON requires, first, having a regional and known presence, and, second, developing staff capabilities to respond to any complaints of service unavailability, service unreliability, poor cargo security, lack of appropriate facilities (including storage facilities) and equipment, careless handling, inappropriate or otherwise inadequate service schedules, disreputable operators, insurance unavailability or inadequacy, and other complaints that shippers might have, in addition to high charges for services.

SRRS survey efforts at Davao identified an awareness of SHIPPERCON and a desire for the organization's presence in the region to assist shippers in obtaining sufficient and appropriate transport services. In the view of the SRRS, SHIPPERCON should have small offices (perhaps only three people with computer and good telecommunications capability) that are convenient and easily identified. Offices should be located at a number of ports, including at least (in 1992) Davao, Cagayan de Oro, Iloilo, and Cebu. These four offices should be established provided that SHIPPERCON's parent organization, the Department of Trade and Industry (DTI), agrees to broadening SHIPPERCON's role in providing assistance to shippers. The basic objectives of any SHIPPERCON institutional development effort would be to improve the breadth, quality, and speed of the organization's responses to shipper problems. However, DTI should also be aware of SHIPPERCON's potential value to DTI itself in identifying interisland transport impediments to DTI regional development plans and actions to be taken to facilitate interisland transport and regional economic interaction.

The SRRS team recommends that SHIPPERCON play an important role in liner shipping cargo rate deregulation. The organization would closely monitor each phase of the deregulation process to identify the effects of deregulation on overall rate levels, on service standards and availability, and on shippers generally, and to determine specifically the extent to which shipping operator/shipper negotiated terms reflect consideration for "what the market will bear." Ideally, SHIPPERCON would expand its monitoring in August 1991 so that the "before" case is thoroughly known and documented for purposes of later comparisons. (Rates are fairly well known now from SRRS, SHIPPERCON, and other data, but service standards are not thoroughly known. In monitoring rate deregulation, it should be possible to identify fairly accurately whether some portion of any general increase in rates is the result of improved service standards.)

Philippine Coast Guard

As discussed in Chapter 6, there is a need to develop an organization in the Philippines to take on the responsibilities for development, operation, and maintenance of maritime safety infrastructure. The best option for doing this, in the view of the SRRS, is to convert the PCG to a civilian agency, and develop it to effectively take on the full range of responsibilities for maritime safety infrastructure. If this step were taken, the PCG would retain its maritime policing responsibilities, but the Philippine navy would need to bear full responsibility for maritime defense in time of war.

A very substantial institutional development effort will be required if the PCG is to be converted to the MSIO recommended by this study. Whereas the current functions of the PCG that relate to maritime infrastructure are largely limited to maintenance, the MSIO must have planning and development capability. The organization must have a good understanding of all aspects of maritime safety, and must be able to assess problems and prospective problems; identify strategies for the improvement of safety; identify, evaluate, and prioritize measures to be taken in line with these strategies; and develop detailed, optimal action plans to effectively implement all desirable strategies and measures. The PCG at present has no such planning and development capabilities. It is also true that, even in regard to the current maritime infrastructure functions the PCG, there is a need for substantial improvement of the organization's effectiveness.

Shipping and Ports Advisory Council

The SRRS has identified a number of issues that should be reviewed and analyzed by the SPAC. The SPAC does not require institutional development in the traditional sense of the term because it can draw upon the full staffs of all of its member organizations for carrying out analytical tasks. It is desirable, however, that certain measures be taken to give good assurance that the SPAC becomes effective as a force for improvement of the Philippine maritime sector. These measures include:

- Adjustment of its private sector membership, so that organizations and associations are included as members, rather than only a few specified individuals.

- The SPAC should develop as complete a list as possible of the issues to be discussed at SPAC meetings and should prioritize these issues for discussion and submit the prioritized list to the Secretary of the DOTC for approval or comment.

- Another list should be developed of the members to present position papers to the SPAC on each of the identified issues.

- A discussion schedule should be developed. This schedule should take into consideration both the finalized list of issue priorities and the need for time to produce high standard position papers on the various issues. Sufficient time must be allowed for the SPAC to reach conclusions on the optimal courses of action to be pursued in regard to each of the issues under discussion.

- SPAC position papers for immediate submission to the Secretary of the DOTC should be prepared about each issue on which conclusions have been reached. Where minority views differ from the conclusions of the SPAC majority, these should be identified in the position papers. (A good model for these position papers is the 1989 PTF report on interisland shipping, which was responsible for, inter alia, the establishment of the SPAC.)

- Most important, the Secretary of the DOTC must view the SPAC as a potentially valuable source of advice. The Secretary should make the effort to respond to all SPAC position papers within a relatively brief period (e.g. one month) for all but the most complex and contentious of issues. For the good of the maritime sector and the effectiveness of government in improving the sector, the Secretary's expectations in regard to completed SPAC work should be demanding and responses of the Secretary should be critical of any SPAC position papers that are less than lucid, thorough, and logical.

Implementation of Development

Institutional development of SHIPPERCON and MARINA should proceed as quickly as possible. PPA/PPC development must, to some extent, await the outcome of Senate Bill 1821 in Congress, but efforts to amend that bill need to proceed immediately. The PCG could conceivably be developed as the recommended MSIO while remaining under the DOD, but the scope and schedule of development would probably be quite different, depending on whether the PCG remains a military organization or becomes civilian.

Except for Senate Bill 1821 and a possible legal transfer of the PCG to the DOTC or another civilian department, legal adjustments might not be difficult to make. MARINA and the PCG already share legal responsibility for maritime safety, so a specific separation of duties between the two organizations might require little legal change. Ideally, the MSIO, whether the PCG or a new entity, should take over sea floor survey and mapping responsibility from NAMRIA and dredging responsibility from the PPA, but these changes are not urgent.

A substantial amount of institutional development can be accomplished through self-help. Of its own initiative, SHIPPERCON has begun to broaden its role in assisting shippers. An organizational study is nevertheless needed for

both MARINA and SHIPPERCON. Organizational responsibilities and functions would be input to the study (perhaps based partly on SRRS recommendations in this chapter, revised after MARINA, SHIPPERCON, SPAC, DOTC, and DTI review). The study would then identify any desirable changes required in the organizational structures of the two organizations to carry out specified functions and effectively meet responsibilities and would determine, prioritize, and program all needs for staff recruitment, redeployment, and training, as well as needs for technical assistance, facilities, equipment, and materials. The study will also identify the desirable working relationship between MARINA and SHIPPERCON, both in the short term (principally, a coordinated effort to carry out liner shipping cargo rate deregulation), and in the longer term. TOR for the MARINA and SHIPPERCON Study (MARSH Study) are included in the Appendix of this volume.

Even before the MARSH Study is conducted, urgent equipment needs of both SHIPPERCON and MARINA should be met, especially increasing computer capacity to permit them to effectively complete new work in 1991. As indicated above, SHIPPERCON has already begun to expand its role, but it now requires new computer capacity, new programs, and technical assistance. Starting in August 1991, MARINA should begin to prepare an action plan for bringing vessels of 500 GRT and over into class. Also of some urgency, in preparation for the LSRS (discussed in Chapter 8), MARINA should make a major effort, during August-December 1991, to improve financial and traffic information by liner shipping route.

Another new effort already begun is the rating of passenger service standards. MARINA should also be working, as a member of the Interagency Committee on Maritime Education, to develop a strategy for increasing access to maritime training and for ensuring the integrity of the examination and certification process. MARINA will receive some technical assistance from Singapore to develop the organization's database. It is essential that the advisory team understand the changes in MARINA's short- and long-term objectives.

The PPA's transition to the PPC should not be difficult, provided it is allowed a 3-year period during which it need not be concerned about immediate commercial profitability. The key concern, of course, will be to ensure commercial profitability at the end of that period. Emphasis must be on leasing of existing facilities to cargo-handlers and on attracting investors in new facilities on a BOT basis. Staff capabilities in planning could be significantly improved for the PPA and MARINA if both organizations would assign staff to work as members of teams for the various studies recommended by SRRS.

An MSIO study is needed to compare the options of converting the PCG to an MSIO or of creating an entirely new organization. TOR for this study are included in the appendix to this volume.

Chapter 10

ACTION PLAN FOR SECTOR IMPROVEMENT

Sector Problems and Objectives

Interisland shipping services in the Philippines are inadequate in terms of availability, appropriateness, service standards, cost, security of cargo, and safety. In the preceding chapters, the SRRS team attempted to identify causes of the inadequacy of interisland shipping services as well as actions that might be taken to generally improve services. Two important aspects of the sector were mentioned earlier but were not discussed in detail: the need for development of RORO ferry services and desirable expansion and improvement of the vessel repair industry. Development of RORO ferry services is of particular concern for two regions of the Philippines—Central and Western Visayas—and the SRRS team expects the Nationwide Roll-on Roll-off Transport System Development Study (NRTSDS) to make important recommendations for RORO service development in 1992.

The vessel repair industry was not discussed in the preceding chapters because until now it has not represented a problem for the interisland shipping industry; however, this may change in the short term because of the need, for safety reasons, to bring all interisland vessels of 500 GRT and above into class. A plan to prevent or limit any such vessel maintenance, repair, and conversion constraint needs to be prepared.

The underlying causes of the inadequacy of interisland shipping services need to be addressed. These underlying causes, discussed in detail in earlier chapters, are summarized below, with indications of their principal adverse effects on interisland shipping:

- **Liner shipping rate regulation.** Rate regulation has created some problems for both shippers and passengers, chiefly the unavailability of sufficient and appropriate services. Agricultural commodities, including grains, fruits, vegetables, and livestock, have been seriously affected by official rates that were kept too

low (in misguided attempts to aid the producers and shippers of these commodities) with the result that appropriate capacity has not been provided by the liner industry for these commodities, and capacity of any sort has often been lacking.

Low official rates have probably also been responsible for the fact that many desirable routes as yet have no liner services, whereas it is likely that under free market conditions, services would have been provided on some routes not now operated. The manner in which rate regulation has been carried out also tends to discourage efforts to improve efficiency, and it protects inefficient operators as well as low load factors.

Finally, the unwillingness of the government to permit Third Class passage rates to rise as rapidly as shipping cost inflation has probably contributed to the generally very low standards of passenger services and to the common tendency to overload.

- Port development and operation. Public ports have been insufficiently developed and poorly operated and are subsidized by taxation of private ports. Taxation of private ports has tended to limit the development of private commercial ports, since they would need to subsidize the public ports with which they would be competing.

  Cargo handling has been largely unsatisfactory, owing in large part to the manner in which the PPA, the manager of the public ports, has approached the matter. Contracts have not required investment in cargo-handling equipment, nor have they specified 24-hr or annual productivity levels that must be maintained. Port area limitations and inadequate design and condition of facilities hinder the development of efficient cargo handling, and the land area situation is exacerbated in a number of ports (especially at Manila North Harbor) by infringement on the port area by nonport activities, including squatters.

  All of these port inadequacies cause the interisland shipping ratios of port time to steaming time to be excessively high, and the low vessel utilization rates that result mean that costs per traffic unit are much higher than they ought to be.

- Laws and regulations. Conditions at ports are made even worse by various regulations and practices, of which the most economically harmful are vessel clearance requirements. Even if the intended functions of these clearances were carried out, there would be good cause for ending them, but the case is made much stronger by the fact that the intended purposes of the clearances are seldom carried out. Development of RORO ferry

operations, especially, has been hindered by ill-advised regulations, including one that limits trucks to operating on the island where they are registered (this regulation, reportedly, has not been enforced in recent years). Besides port clearance requirements, compulsory pilotage at most ports has been a problem (in terms of cost and time) for the liner shipping industry.

- Ship's officer training. The heavy demand for Filipino seamen to serve world shipping has led to a shortage of qualified ship officers to serve the domestic shipping industry. Vessel operation without full complements of officers or with officers that are not fully qualified has resulted in inefficiency and high costs (mostly, repair costs due to lack of appropriate and timely maintenance), unreliable services, and maritime accidents.

- Maritime safety infrastructure. Hazardous sea lanes, lack of sufficient navaids in working condition, and inadequate shore-to-ship communications have combined to make sailing in Philippine waters unsafe.

Not listed previously as one of the underlying causes of inadequate interisland shipping service is the regulation of liner services, including both routes and service schedules. It is difficult to determine whether service regulation has constituted a net benefit or cost to the interisland shipping sector since it was instituted in 1972. On the plus side, services are better structured today than before 1972, and vessel arrival "bunching" at ports has largely, although not totally, been eliminated. In the SRRS surveys of shippers, a common view was one of concern that deregulation of services could jeopardize the service regularity shippers have come to rely upon. Where ports are concerned, the elimination of bunching tends to minimize the investment required to accommodate traffic without serious congestion. On the negative side, service regulation has had the effect of reducing competition, and thereby limiting (along with rate regulation) the incentive of operators to strive for efficiency. In the view of the SRRS team, service regulation has generally been too rigid. It is highly desirable from the point of view of shippers and the traveling public that service schedule flexibility be incorporated into route franchises in order that services be better tailored than they are currently to meet demand. This is especially important for ferry operations because of the high potential for service schedule flexibility. However, even where long-distance routes are concerned, there is potential, over time, for improving vessel utilization rates, and it is highly desirable that any gains in port efficiency be permitted to translate into improved vessel utilization and resultant traffic unit cost reductions. To continue to eliminate vessel arrival bunching at ports, flexibility of service must be managed, and the recommended LSRS will have to determine how best this might be accomplished.

Also not previously listed as an underlying cause of the inadequacy of interisland shipping service is the condition of vessels. Unsatisfactory condition of vessels (vessels not "in class") is a cause of maritime accidents and unreliability of service schedules. Furthermore, the acquisition of large numbers of secondhand vessels (at lower prices than "new buildings") has helped to contain the costs of shipping services and has probably permitted the industry to be less concentrated and to serve more routes than would have been possible if only in-class vessels could have been used for services. The general adequacy of the Philippine ship repair industry has also tended to lessen any adverse effects of employing vessels not in class for shipping services.

The overall objective of the interisland shipping sector must be to make services adequate in all respects: availability, appropriateness, service standards, efficiency and cost, and safety. To accomplish this objective, the underlying causes of the current problems of the sector must be addressed. A priority listing of the subordinate objectives and strategies to achieve the overall objective must consider both the potential benefits and the cost and degree of difficulty of taking certain actions. The following subordinate objectives for overall improvement of the interisland shipping sector are given in approximate order of priority.

- Adjust, liberalize, and deregulate liner shipping cargo rates and liberalize associated service schedule flexibility and route franchising.
- End, or at least reduce, the cost and delay effects of unnecessary regulations at ports while improving implementation of any regulations that may actually be necessary.
- Improve cargo-handling arrangements at ports.
- Remove nonport activities from port areas and some port fringes, especially at Manila North Harbor.
- Improve access to maritime training and ensure the integrity of the examination and certification process.
- Provide the maritime training industry with greater capacity for offering shipboard training.
- Define and develop systems of international ports and interisland cargo liner ports.
- Develop RORO ferry services.
- Improve liner shipping passenger service standards.

- Improve maritime safety infrastructure.
- Bring all vessels of 500 GRT and above into class in the short term and ensure satisfactory safety standards of all interisland vessels in the medium term.
- Improve facilities and equipment and the capabilities of faculty in the maritime training industry.
- Avoid a possible short-term ship repair industry capacity constraint.

Recommended Action Plan

In most cases, achieving these subordinate objectives will involve (1) conducting a study to analyze options and benefit potential, (2) adoption of an action plan by concerned government agencies, (3) institutional development of the agency or agencies responsible for implementing the plan, and (4) phased implementation of the plan. The SRRS recommended action plan for improvement of the Philippine interisland shipping sector is presented in Table 10-1.

Table 10-1. Recommended Action Plan for Interisland Shipping Sector Improvement

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
I. Provision of adequate interisland liner shipping services, in terms of availability, appropriateness, efficiency, service standards, and safety.	A. Adjustment and liberalization of liner shipping rates, leading to full cargo rate deregulation.	1. MARINA to adjust cargo rates for some distance ranges. 2. MARINA to abolish commodity classifications Class C (Basic), shifting the commodities to Class B (if containerized) and Class C (if not containerized) 3. MARINA to widen fork tariffs for each of three remaining commodity classes to ±15 percent reference points. 4. MARINA to adopt fuel surcharge and discount mechanism and apply if necessary. 5. MARINA to adopt cost monitoring and rate adjustment mechanism. 6. MARINA and SHIPPERCON to adopt action plan for full cargo rate deregulation.	1. MARINA to adopt new cargo rate formulas for each of three commodity classes and adjust cargo rates (April) according to the formulas and 1991-1992 shipping cost inflation. 2. MARINA to adopt new Third Class passage rate formulas and adjust Third Class passage rates (April) according to the formulas and 1991-1992 shipping cost inflation. 3. MARINA to oversee pilot project to test effects and desirability of seasonal rates and institute such rates generally, should the pilot project prove successful. 4. MARINA to institute the concept of Third Class passage charge increments for good standard services.	1. MARINA to convert to cost and rate identification by route for cargo and Third Class passage and rates to be based on design and load factors and efficiency levels. 2. As a step toward full rate deregulation, commodity classes A and B to be combined, with fork tariff of ±20 percent of Class AB route-by-route reference points.	1. MARINA and SHIPPERCON to implement full cargo rate deregulation, over 1994-1996, provided that at each phase of deregulation SHIPPERCON can certify that deregulation has not been detrimental to shippers, and negotiated rates are such as to tend to maximize total traffic (i.e., that "what the traffic will bear" is taken into consideration by the liner shipping operators).

(continued)

Table 10-1 (continued)

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
	B. Introduction of desirable new liner shipping services.	1. MARINA to adopt terms of reference for a Liner Shipping Route Study (LSRS) and make satisfactory preparations for the study (data collection, staffing assignment, and equipping). 2. MARINA, PPA, and DTI to adopt terms of reference for an inter-island Agro-Transport Study (IATS) and prepare to conduct study.	1. LSRS to be conducted, with involvement of MARINA staff; service regulation liberalization action plan to be adopted by MARINA on basis of LSRS findings. 2. IATS to be conducted with MARINA, PPA, and DTI staff and an action plan to improve inter-island shipping of agricultural commodities to be jointly finalized by the three organizations on the basis of IATS findings. 3. In line with the action plans from the LSRS and the IATS, MARINA to issue public invitations for applications to provide new liner services on existing and new routes.	1. Route franchises to be amended by MARINA to incorporate flexibility of service frequency in accordance with LSRS findings. 2. MARINA to complete the issuance of public invitations for applications to provide new services on existing and new routes, in line with action plans deriving from LSRS and IATS, and to begin selection process from the applications received. 3. PPA to invite applications to provide specialized storage and handling facilities at ports, as identified as desirable by the IATS and included in the finalized action plan.	1. MARINA staff to continue investigations of routes not yet provided with liner services and MARINA to continue to issue public invitations to submit applications to provide identified desirable new services. 2. Full implementation of action plans based on LSRS and IATS findings, and initiation of other services identified by MARINA staff as desirable (economically and financially) on routes not yet having liner shipping services.
	C. Improvement of liner shipping efficiency, service standards, and safety.	1. Interagency Committee on Maritime Education to adopt TOR for a study to prepare an action plan to achieve sufficient availability of qualified ships' officers	1. Maritime manpower study to be conducted and Interagency Committee to adopt action plan for improvement of manpower sufficiency. (Action plan to be final-	1. Short-term aspects of the maritime manpower development action plan to be implemented, including strategies for improving access to maritime training and	1. Maritime manpower action plan to be fully implemented during 1994-1995. 2. Development a private sector, Philippine

(continued)

Table 10-1 (continued)

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
		for the interisland shipping industry. 2. MARINA to prepare an action plan (with assistance of PISA, CISO, VAFCSO, SMSA, and PHILSAR) for bringing interisland vessels into class. 3. MARINA to prepare action plan for the improvement of liner shipping passenger service standards.	ized only after review and comment by the majority of public and private sector institutions of the maritime training industry, as well as by PISA and the three inter-island shipping conferences.) 2. MARINA to exempt training vessels from requirement to be in class and some shipping industry vessels not in class to be sold or otherwise transferred to the maritime training industry for shipboard training purposes. Opportunities for such training also to be expanded through agreement between the maritime training and the shipping industries. 3. MARINA to adopt TOR for an Interisland Liner Service Passenger Accommodation Study (ILSPAS).	ensuring the integrity of the examination and certification process. 2. MARINA action plan for the improvement of liner shipping passenger service standards to be fully implemented. 3. ILSPAS to be conducted and MARINA and shipping industry to agree on action plan for implementation.	vessel classification society to be fully implemented no later than 1996. 3. Action plan for passenger services, based on ILSPAS findings, to be fully implemented from 1994 to 1999.

(continued)

Table 10-1 (continued)

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
			4. DOF, DOTC, DTI, MARINA, PPA, and PHILSAR to adopt TOR for Fleet Replacement and Design Study (FRADS). 5. MARINA and Philippine Register of Shipping to agree on TOR for preparation of action plan for development of Philippine vessel classification capability.	4. Conduct of FRADS, and DOF, DTI, MARINA, PPA, and PHILSAR to adopt action plan to assist private sector vessel replacement, including suggested vessel designs. 5. Conduct of classification society study and MARINA and Philippine Register of Shipping to adopt action plan for classification society development.	4. Fully developed action plan based on FRADS recommendations. 5. Full development of vessel classification society.
	D. Institutional development to achieve improvement in shipping services.	1. DOTC, DTI, MARINA, and SHIPPERCON to agree on TOR for MARINA/SHIPPERCON organizational study (MARSH Study). 2. MARINA and DOTC to agree on short-term progam for MARINA development. 3. SHIPPERCON and DTI to agree on short-term program for SHIPPERCON development.	1. Conduct of MARSH study and adoption of action plans for MARINA and SHIPPERCON development. 2. Implementation of MARINA short-term development program. 3. Implementation of SHIPPERCON short-term development program.		1. Full implementation of agreed action plans for MARINA and SHIPPERCON institutional development.

(continued)

Table 10-1 (continued)

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
II. Efficient operation of principal ports, with reasonable charges related to services provided.	A. Rationalized cargo-handling contractual agreements and charges.	1. SPAC recommendations on nature of contractual agreement between PPA and port cargo handlers, and specification of desirable manner of selection. 2. PPA to discontinue collection of surcharges on cargo handling charges. 3. Cargo handling charges to be rationalized and commensurate with services provided.	1. SPAC to review all principal port cargo-handling contracts and identify shortcomings relative to SPAC guidelines and to develop a strategy and schedule for bringing all principal port contracts up to recommended standard.	1. Full implementation of SPAC strategy to bring all cargo-handling contracts for principal ports up to SPAC recommended standard.	
	B. Rationalized port policies, regulations, and charges to eliminate unnecessary vessel delays in ports.	1. DOTC and PPA agreement on schedule for establishment of PICOs in all principal ports. 2. Implementation of BOC's June 1991 decision to end involvement with domestic shipping. 3. Policy of open pilotage to be implemented and all pilotage fees to be made	1. PICO effectiveness to be improved by delegation of authority to PPA heads of PICOs to give clearance for any PICO organization whose representative is absent from office. 2. PPA to discontinue policy of imposing standard port fees on ferry operators in favor of SPAC sanctioned monthly or quarterly user fees.	1. Legal requirements for vessel port clearances to be ended.	

(continued)

Table 10-1 (continued)

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
		commensurate with services rendered.			
	C. Upgrading of international ports and domestic liner cargo ports.	1. DOTC, PPA, and MARINA agreement on TOR for International Ports and Container Transport Study (IPACTS).	1. Conduct of IPACTS and adoption of action plans for upgrading international ports and domestic liner ports and for improving container transport. 2. DOTC and PPA to adopt functional classification of domestic ports. 3. PPA to discontinue collection of funds from private ports, except under agreements voluntarily entered into by private ports for PPA services to be rendered.	1. PPA public invitation to applicants to provide IPACTS-recommeneed port facilities on a BOT basis. 2. PPA identification of liner cargo port development needs other than for container accommodation.	1. Full implementation of IPACTS international port recommendations over 1994-1999. 2. Full implementation of IPACTS recommendations regarding domestic movement of containers, over 1994-1999. 3. Full implementation of PPA-identified liner cargo port needs, over a period to be recommended by PPA.
	D. Relocation of nonport activities, including squatters, from port areas and fringes.	1. PPA to produce a report on the extent to which nonport activities infringe on port areas and interfere with port operations and interfacing with road transport (the report to cover all public liner ports).	1. The Office of the President to form an Interagency Task Force to design and implement a plan to reduce or eliminate adverse effects of nonport activities in port areas.	1. Relocation of squatters at Manila North Harbor.	1. Full implementation of Interagency Task Force plan to relocate nonport activities currently in port areas and fringes.

(continued)

Table 10-1 (continued)

Sector Objective	Strategy and Program	Actions and Implementation Schedule			
		1991	1992	1993	After 1993
III. Provision of adequate RORO ferry services.	A. Development of existing and new RORO ferry services.		1. Completion of NRTSDS, and DOTC and MARINA to adopt action plan for RORO ferry service development and operation.	1. MARINA to issue public invitations for applications to provide new RORO ferry services.	1. Full implementation by MARINA and private sector to establish or improve RORO ferry services in accordance with action plan.
IV. Safe maritime sailing conditions.	A. Improvement of maritime safety infrastructure.	1. DOD, DOTC, and the PCG to adopt TOR for a Maritime Safety Infrastructure Organization Study (MSIOS).	1. Conduct of MSIOS, and decision by DOD, DOTC, and the PCG on MSIO development option.	1. Creation and early development of MSIO.	1. Full development of MSIO to undertake all reponsibilities and functions, including preparation of subsequent implementation of maritime safety infrastructure master plan.

Appendix

TERMS OF REFERENCE FOR RECOMMENDED STUDIES

The SRRS has identified a number of studies that might desirably be conducted during 1992 or 1993. The suggested TOR for seven of these studies are presented in this appendix. The seven studies, in order of presentation in this appendix, are:

- Liner Shipping Route Study (LSRS)
- MARINA and SHIPPERCON Study (MARSH Study)
- Interisland Agro-Transport Study (IATS)
- International Ports and Container Transport Study (IPACTS)
- Interisland Liner Shipping Passenger Accommodation Study (ILSPAS)
- Maritime Training Industry Study (MTIS)
- Maritime Safety Infrastructure Organization Study (MSIOS)

LINER SHIPPING ROUTE STUDY

Terms of Reference

Background

The Maritime Industry Authority (MARINA) has, as one of its functions, the regulation of the Philippine interisland liner shipping industry. This regulation extends to the acquisition of vessels, the franchising of services, including both routes and service schedules, the regulation of service rates, and the ensuring of compliance with the international maritime safety conventions to which the Philippines is a signatory. The last of these is a relatively newer function of MARINA's, and MARINA has yet to be developed to permit it to carry out the function effectively. Service rates have been regulated by MARINA and its predecessor regulatory bodies since the 1920s, and liner shipping services have required franchising since 1972.

Rate regulation was originally based on the costs of providing services, with the exception that ad valorem charging might be used for the few cargoes (in the 1920s) that were valued at 10,000 or more pesos per ton, in which case the transport charge was equivalent to 0.5 percent of the value of the cargo. From this small beginning, ad valorem charging was permitted to get out of hand, rising to 7.3 percent of the cargo value by 1989. These "regulated" cargo rates were not as a rule actually imposed, however, and discounted rates became the rule, frequently in the range of 15 to 30 percent below official rates, and sometimes even lower. MARINA identified, as early as 1980, that ad valorem charging had become seriously distorted, but no action was taken to correct the situation until, in 1989, a Presidential Task Force (PTF) on interisland shipping recommended that ad valorem charging be discontinued. As a result of the PTF recommendation, ad valorem charging was largely ended, in 1989, and the following year the last vestige of ad valorem charging, a 0.3 percent surcharge on the value of most commodities, was also abolished.

Ad valorem charging was not the only problem associated with cargo rate regulation, however. The PTF identified that unrealistically low official rates for some agricultural commodities had resulted in limiting the availability of shipping services for those commodities, and recommended that the commodities be reclassified, thereby permitting liner shipping operators to impose more remunerative rates. The PTF identified, also, a need for greater flexibility in charging, and recommending the institution of official fork tariffs, whereby rates would need to be within plus or minus 15 percent of reference points for each route.

Some changes have proceeded from these PTF recommendations. Cargo rates for the lowest rate grouping were raised considerably in real terms, although still somewhat less than if the PTF reclassification recommendation had been fully implemented. Livestock shipments, which had been included in this lowest rate group, were entirely deregulated. Fork tariffs were also instituted, although of just plus and minus 5 percent of reference points, for each of four commodity groupings. MARINA also deregulated, in November 1990, rates on transit cargoes (that is, the interisland legs of international shipments) and on the shipment of reefer (refrigerated) boxes.

Where passenger transport is concerned, the liner shipping industry provides First, Second, and Third Class passage, and only the rates applying to Third Class passage are now regulated. There is a requirement that a minimum of 50 percent of liner vessel passenger capacity must be for Third Class passengers, but this requirement is not currently onerous for

regulated. There is a requirement that a minimum of 50 percent of liner vessel passenger capacity must be for Third Class passengers, but this requirement is not currently onerous for the liner industry since the interisland passenger market structure makes it necessary that the industry reserve an even higher proportion of capacity for Third Class passengers.

The Interisland Liner Shipping Rate Rationalization Study (SRRS), conducted in the Philippines during November 1990 - August 1991, made several recommendations for liner shipping cargo and Third Class passage rate rationalization, and for deregulation of cargo rates over the 1993-1996 period. Some of the SRRS recommendations for rate rationalization can be implemented, during 1991 and early 1992, without further investigation. Other recommendations, including full deregulation of liner cargo rates, will require further investigation in order to be effectively implemented. This latter group of recommendations includes the following:

- That MARINA discontinue computing rates on an industry-wide, or nation-wide, basis because of the inherent inaccuracy of this approach when rates must then be applied to each and every liner route. Instead, MARINA should begin, in 1993, to identify cargo rates and Third Class passage rates on a route-by-route basis. The identified rates will, of necessity, still be averages, but they will be averages of narrower cost ranges, and therefore applicable to larger proportions of shipping operators. Moreover, the route cost ranges will more nearly reflect differences in efficiency of operation, rather than exogenous variables such as differences among routes in the degree of imbalance of traffic in two directions, seasonality of traffic, traffic growth rates, traffic splits between cargo and passengers, splits between containerized and non-containerized cargo, commodity mixes, efficiency levels of ports, and numbers of annual voyages per vessel. (Of course, distance is a variable among routes, also, but this variable is already taken into account by the industry-wide formulae.)

- That the basis of cargo and Third Class passage rates should no longer be revenue deficiency, to obtain a 12 percent return on assets, without regard to load factors and degrees of efficiency, but should be related to target load factors and efficiency levels, that could vary from route-to-route. With the adoption of this change, operators who could surpass the target load factor and/or efficiency level would earn better than a 12 percent return on assets, whereas those not meeting the operations targets would realize lower returns or even suffer losses.

- That, to better tailor the supply of services to demand, some service schedule flexibility should be incorporated within route franchises. The permitted flexibility should be of two types: first, all operators on routes with considerable seasonal fluctuation of cargo and/or passenger transport service demand should be permitted to adjust their service schedules to meet that demand; and, secondly, operators should be permitted to translate improvements in port efficiency (as may desirably occur in the future) into improved vessel utilization, thereby lowering costs per voyage.

- That there should not only be service schedule flexibility, but also rate flexibility, with the imposition of "seasonal" rates in peak periods intended to reduce seasonal peaks, and that a pilot project should be implemented, during April - June 1992, to test the desirability of seasonal rates and service schedules.

65

- That a passenger service rating system should be introduced, and that Third Class fare increments be permitted for services receiving high ratings.

- That, because of a tightness of shipping capacity as compared with requirements on some routes (as identified from SRRS surveys), cargo rate deregulation needs to proceed concomitantly with route franchise liberalization in order to avoid the upward pressure on rates of "sellers' market" conditions.

- That MARINA no longer wait for applications to initiate new services or to expand services, but that MARINA identify desirable services and issue public invitations to submit applications, and that operators be selected from among applicants with "prior operator" being only one criterion for selection, and with a second important criterion being record of service standards on the route in question and on any other routes that the applicants may be operating at the time of application.

All of the foregoing recommendations of the SRRS are general, and cannot be implemented until they are made specific. Moreover, MARINA requires guidance not only on what new and adjusted rates and services should be, but also on how many of the desirable changes are to be implemented.

There is also a need to reexamine the liner route structure, and to clearly define route classifications. At present, there are "primary", "secondary", "tertiary" and "development" routes, but the classifications are not clearly defined. Some of these routes, perhaps, ought not to be classified as "liner" routes all, but rather as ferry routes. There is a need to identify a useful route functional classification, with criteria for classification, and then to classify all existing and potential routes.

There are some desirable liner shipping routes that are not now provided with liner services. The SRRS examined the case of the two principal islands of Panay and Bohol, for which, as of July 1991, there were no direct liner shipping services, so that passengers and cargoes moving between the two islands had to pass through Cebu. Potential transport cost savings from the initiation of direct services are significant per unit of traffic, and there is a need to identify the prospects for new direct services, and, if promising, to induce operators to initiate the service. Not only Panay and Bohol, but also several other possible services not yet being provided deserve consideration in the near term.

Objectives

The Liner Shipping Route Study (LSRS) is being commissioned by MARINA and the United States Agency for International Development (USAID) to provide the information and analysis necessary to carry out liner shipping cargo and Third Class passage rate rationalization, subsequent full cargo rate deregulation, and the liberalization of liner cargo and passenger services, including both route franchising and service frequency flexibility. Specifically, the objectives of the LSRS are as follows:

- To substantially improve the MARINA database, particularly in regard to liner shipping route-specific information, including levels and seasonality of demand,

shipping service availability, appropriateness, and performance, and the costs of providing services.

- To identify optimal (albeit hypothetical) 1992 rates for three classes of liner shipping cargo and for a combined A and B class, with and without freight-all-kinds (FAK) rates for containers, and rates for Third Class passage, by route, with all rates being based on costs, traffic imbalances in two directions, traffic seasonality, and target load factors and efficiency levels, peculiar to the route, and to provide the methodology for adjusting hypothetical 1992 rates in the years, 1993-1995, in accordance with the cargo rate deregulation scheme adopted by MARINA.

- To identify needs for service schedule flexibility and route franchising, by route, taking into account load factors, standards of service, level of competition, and potentials for efficiency improvements.

- To assess the desirability of "seasonal" Third Class passage rates, and rate increments for good standards of service.

- To examine the markets and assess the desirability of six new liner routes. a

- To consider liner service route classification options, including functional and traffic volume classifications, and to identify and assess possible uses of the classification system, such as guidelines for number of operators, safety specification differentials, vessel size and design differentials, or other possible uses.

- To examine the case for open entrance to routes (i.e. more-or-less automatic franchising upon application), with voluntary agreement on service schedules, and to design a pilot project whereby one or more routes are open to all prospective entrants, provided only agreements can be reached on port calling times.

- To prepare a detailed action plan for implementing any service and rate regulation changes found desirable for near-term implementation.

Work Scope

Database Development. In order for the LSRS to carry out route-by-route service, cost, and rate analysis, the MARINA database must be much more complete than it was during the conduct of the SRRS, and the LSRS will therefore place a great deal of early emphasis on improving the MARINA database, especially in regard to route-specific information. Such improvement can be accomplished through existing reporting requirements, which have not been strictly enforced in the past. The LSRS must develop a strategy for substantially improving compliance with reporting requirements, and then must assist MARINA in the implementation of the strategy. Notwithstanding all of the efforts that shall be made in connection with improving compliance of shipping operators with MARINA reporting requirements, it is not likely that the MARINA database can be fully developed through shipping operator reporting during the course of the study, and other means of obtaining necessary information will also need to be employed by the study. The Philippine Shippers' Council (SHIPPERCON) will provide some useful information for the LSRS, but SHIPPERCON's

database, also, requires considerable development. In addition to improved MARINA and SHIPPERCON databases, the LSRS will undertake considerable survey work in order to meet its full data needs.

Liner Shipping Rates. To arrive at route-by-route rates for three cargo classes, for a combined A and B class, for FAK container traffic, and for Third Class passage, the LSRS will need to obtain the following information:

- Average 1990 or 1991 shipping costs, on each liner route being operated in the Philippines, per cargo ton space and per passenger space (undifferentiated by Class), and, for those routes where containerized cargo represents a significant proportion of total liner cargo, the average 1990 or 1991 shipping cost per box.

- Annual and seasonal liner cargo traffic in two directions, with differentiation among commodity classes and among containerized, break-bulk and bulk cargo, and annual and seasonal passenger traffic in two directions, differentiated among First Class, Second Class and Third Class traffic, for every liner route being operated.

- Load factors in two directions, annually and seasonally, for each type of traffic, for every liner route.

- Shipping efficiency by route (mainly, annual and seasonal voyages), and the potential for improving efficiency per route.

- Value of assets allocated to individual routes of shipping companies plying the route.

On the basis of the foregoing information, the LSRS must identify target load factors and efficiency levels, by route, on which to base operator 12 percent returns on assets, and the corresponding required cargo and Third Class passage rates. In identifying target load factors, the LSRS must first identify the heavy directional and two-directional ranges that are acceptable through time, by route, taking into account capacity constraints in the heavy direction at the upper end of the load factor range and high costs per traffic unit at the lower end of the load factor range. The ranges will differ among routes and type of traffic on a route according to the degree of seasonality of traffic and the imbalance of traffic in two directions. To the extent that the LSRS may identify in this analysis that shipping capacity on a route is less than optimal because some type or types of traffic have excess capacity (and high unit costs) while another type or other types approach the upper limits of acceptable load factor ranges, the implications of this finding for vessel choice on the route must be clearly identified by the LSRS. The selection of target load factors and efficiency levels should take into account what is desirable from the standpoints of shippers and passengers and what is achievable by the majority of operators on a route, with the emphasis, however, on benefits to users of liner services.

Service Regulation Liberalization. The LSRS must identify, from shipping operator reports on operations, from SHIPPERCON records, and from extensive field interviews with users of cargo and passenger liner services, the standards of services being performed on each liner shipping route, including especially the availability of appropriate services, convenience of schedule, service reliability, passenger care and comfort standards, and safety considerations (not only the accident record, but also the care that is or is not taken to

adhere to maritime safety regulations). Current low service standards, as well as high load factors, annually or seasonally, are to be the criteria by which the LSRS will identify needs for increasing service frequency, including just seasonal frequency increases, and for approving new route franchises. (It is not expected that the LSRS will recommend precise adjustments to service schedules, but merely will indicate where, and the approximate extent to which, service schedule flexibility should be incorporated in existing and new route franchises, and to indicate, approximately, the new route franchises that should be approved during the cargo rate deregulation period, i.e., 1993-1996. It will subsequently be the responsibility of MARINA to invite applications for new or expanded services, and then to evaluate the applications received, and select the preferable offers, taking into account appropriateness of services offered, service records of applicants, desirable levels of competition, and the "prior operator" criterion.)

Third Class Passage Rates. The LSRS will assist MARINA to carry out two schemes, recommended by the SRRS, in regard to passenger services: a pilot study to determine the desirability of "seasonal" rates and service schedules; and a scheme for encouraging the upgrading of passenger services (including First and Second Class services, as well as Third Class services). The pilot study is to be carried out during April-June 1992, but an important aspect of the project is advance public awareness of the project, so design of the pilot project and of a related public information program must be one of the early tasks of LSRS. In regard to the service standards effort, the LSRS must review the groundwork MARINA has done, in 1991, to develop minimum standards criteria, and then must convert this work to a rating system, that will also incorporate service safety and reliability records on the individual routes under examination. By the end of the seventh LSRS month; the LSRS must have made completed assessments of the usefulness of "seasonal" rates and service schedules and a MARINA service standard rating system, with and without permitted Third Class passenger fare increments for good standard services.

New Liner Routes. In examining the desirability of initiating services on six possible new liner routes, the LSRS will conduct extensive interviews of shippers and passengers at both ends of the routes. Efforts will be made to identify three groups of passengers and cargo that might benefit from the establishment of new services: cargo and passengers that currently move by indirect shipping services; cargo and passengers that, in the absence of direct shipping services, use a different transport mode; and potential generated traffic, not existing at present because no satisfactory transport option exists to bring it into being. For each proposed new route, the LSRS will carry out both economic and financial analysis. The former will assess the desirability to the Philippines that new services be provided, and the latter will assess the prospects of liner shipping operator achieving profitability on the route, with approximate identification of the optimal type and size of vessel(s) to be employed on each new route.

Liner Shipping Route Classification. The LSRS must make the distinction between liner and ferry routes, and then must identify the most useful classification system that might be adopted for liner routes. The classification might, but need not necessarily, involve both functional and volume characteristics such as "primary cargo routes", to be a route with little or no passenger services but heavy volumes of cargo to be accommodated. A "mixed/separated route", as another example, might be one where, as a future objective, passengers, containers, bulk cargo, and break-bulk cargo would all be accommodated by different types of vessels, that would berth at separate facilities at each port on the route. These examples may or may not be useful for a Philippine interisland liner shipping route classification system, and, in addition to arriving at a preferred system of route classification,

the LSRS must identify the usefulness of the system, as, for example, to identify numbers and variety of operators to be operating on a route.

Open Entrance to Routes. The SRRS recommended route franchising liberalization, primarily to effect full cargo rate deregulation, but also, so that gains in port efficiency could be translated into vessel utilization gains, and to better tailor services to seasonal levels of demand. It is possible that a significantly greater degree of route liberalization is desirable; that is, matching supply with demand might be completely disregarded, in favor of permitting short-term excess capacity on a route or routes, with the expectation that, in the medium term, only the efficient operators would continue to operate, with the happy effect to shippers and travelers that shipping costs and rates would be lower than would have been the case in the absence of the period of competition. This is in theory. It is up to the LSRS to assess the level of efficiency of the liner industry, within the constraints of impediments to efficiency not controlled by the industry, such as inefficient port operations and regulatory obstructions like port clearance requirements. To the extent that the industry itself has immediate efficiency gains that could be realized, yet are not being realized, this must be identified by the LSRS, and a pilot project to test the usefulness of "open" entrance to routes must be designed. To avoid legitimate complaints by operators performing satisfactory services at satisfactory levels of efficiency, the project should be designed either for a route or routes not now being operated (that is, for one or more of the six new routes being evaluated by the LSRS), or for one or more routes that LSRS finds have only poor standard services. The project would entail the franchising of all applicants to provide services on the pilot routes), provided only that a schedule of calling at the ports along the route can be found mutually (operators, MARINA and PPA or private port operator) acceptable.

Action Plans. LSRS must prepare action plans for the implementation of LSRS recommendations for service adjustments. In particular, the LSRS must consider any legal considerations of such adjustment, and recommend a process for best complying with, or revising, law, yet hastening implementation of recommendations. The action plan must deal, also, with management considerations, as for example the adjustment of port call schedules in line with the provision of seasonal services, i.e. expanded service schedules for the peak season. Where rates are concerned, the possibility exists that identified route-by-route rates will, in some cases, be considerably above or below the rates that would derive from industry-wide cargo and Third Class passage rate formulae; to the extent that large adjustments might sometimes be required, the study should examine the possibility that it would be desirable to phase such adjustments in over a two-year period.

Schedule & Reports

The LSRS is to be conducted in two phases:

- The first phase will be eight months, and will include nearly all of the work aimed at improving the MARINA database including efforts to improve shipping operator submission of reports to MARINA, efforts to obtain information from SHIPPERCON, and all survey efforts. All work with regard to passenger service standards and seasonal service schedules, as well as the investigations of potential new liner routes, will also be completed during this phase of the study.

- The second phase will be of three months only, and will involve the computation of route-by-route rates, on the basis of information obtained by the

study c ing the first study phase. Should information in hand at the end of the 8th LSRS month not yet be sufficient for the computation of route-by-route rates, then the commencement of the second LSRS phase should be deferred until such time as additional and sufficient information has been received from shipping operator reports.

Broadly, two types of reports are to be produced by the LSRS: reports to inform and advise MARINA on all aspects of the study efforts; and reports evaluating liner shipping service opportunities, which MARINA might then make available to interisland operators, with the objective of inducing the operators to apply to provide the evaluated services. The schedule for preparing and submitting, to both MARINA and USAID, a total of ten LSRS reports is as follows:

- *Inception Report.* This is to be produced at the end of 45 days after mobilization. It must provide a complete assessment of the status of both MARINA's database and SHIPPERCON's database from the standpoint of the study, and must identify all additional information which needs to be obtained for the purposes of both phases of the study, and indicate all necessary steps to be taken by the LSRS team and by MARINA and SHIPPERCON to meet all of the information requirements of the study. The report must also provide a detailed explanation of the analytical approaches which are to be employed to complete all aspects of the study. (This report is not expected to be resubmitted after receipt of comments from MARINA, SHIPPERCON, and USAID, but an aide memoire, identifying any significant changes from the Inception Report, will be prepared by the LSRS team, and signed by all parties, if significant changes are necessary.)

- *Draft Phase One Report.* This report is to be submitted at the end of the 8th LSRS month, and should contain the action plans for liberalizing liner shipping services on routes now being operated, and for introducing services on new routes. The report should comprise three volumes:

  - Findings and Recommendations Regarding Liberalization of Interisland Liner Services on Existing Routes

  - Findings and Recommendations on New Liner Shipping Route Opportunities

  - Existing Liner Shipping Route Market and Service Evaluation (comprising back-up information for the findings and recommendations of the other two volumes of the draft phase one report).

- Six reports presenting financial appraisals of potential liner shipping services on routes not currently operated. Each report will concern just one of the new route possibilities considered by the study, and the reports must ultimately (that is, when finalized by the LSRS) be presented in such a way that they might be provided to any prospective operators. These reports must be submitted in draft at the end of the 8th LSRS month.

- Draft Phase Two Report. The report is to be submitted at the end of the 11th LSRS month, and should provide the optimal, yet hypothetical, 1990 or 1991

route-by route cargo and Third Class passenger rates for all liner route being operated or proposed to be operated, with indications on how the hypothetical rates should be adjusted to appropriate rates for the 1993-1995 period.

- Final Report. This will be due within 60 days of LSRS consultant receipt of comments (MARINA, SHIPPERCON, USAID, and other reviewers) on the draft phase two report. The Final Report will include all earlier reports, excluding only the Inception Report, and must be submitted in ten separate volumes.

Manpower

The study will be conducted with considerable involvement of MARINA staff, and more limited involvement of SHIPPERCON staff. Besides the short-term value of the LSRS for MARINA and the interisland liner shipping industry, the study represents an opportunity for both MARINA and SHIPPERCON to develop their databases, and for staff of both organizations to become more fully involved in functions of their organizations which have, until now, not been fully carried out. From the standpoint of the study, the involvement of MARINA and SHIPPERCON staff reduces the overall need for consultant input. Consultant input adding to 35 person-months is nevertheless needed for the study. All members of the consultant team should be familiar with the interisland shipping sector of the Philippines. Consultant LSRS team members, and their person-month (p/m) inputs to the study shall include the following:

Senior Transport Economist/Project Director	5 p/m
Shipping Service and Efficiency Expert/Team Leader	11 p/m
Senior Shipping and Rate Specialist	2 p/m
Cost & Rate Analyst	7 p/m
Transport Economist/Survey Director	8 p/m
Survey Assistants (2)	10 p/m
Computer Specialist	4 p/m
Legal Expert	1 p/m
Total: LSRS consultant input	48 p/m

MARINA AND SHIPPERCON STUDY

Terms of Reference

Background

The Maritime Industry Authority (MARINA) is an agency under the Department of Transportation and Communications (DOTC), and has both regulatory and development roles in regard to the Philippine shipping sector. MARINA's regulatory role includes the registration of vessels, the franchising of interisland liner shipping services, the regulation of most interisland liner shipping service rates, and the enforcement of international maritime safety conventions to which the Philippines is a signatory. The development role includes planning for the interisland shipping sector to ensure that all areas of the Philippines are adequately provided with shipping services, and assisting both the Philippine international and interisland shipping industries to develop and operate satisfactorily, with appropriate vessels, sufficient qualified manpower, and adequate support from the Philippine shipbuilding and shiprepair industries. In line with these responsibilities, MARINA is a member of the Shipping and Ports Advisory Council (SPAC), established, in 1989, to better coordinate development activities and operations of the shipping sector, and is also a member of the Interagency Committee on Maritime Education (ICME).

Until now, MARINA has not actually been very effective at carrying out many of its functions, and little success has been achieved in the areas of shipping sector planning and problem solving, maritime safety, and manpower development. MARINA has been primarily a regulatory body, and has been effective in the sense that interisland liner shipping services and the rates charged for such services have been largely controlled by the agency, although not necessarily in the best interest of interisland trade and passenger travel.

The Philippine Shippers' Council (SHIPPERCON) is an agency attached to the Department of Trade and Industry (DTI), and is charged with looking after the interests of Philippine shippers. For most of the years of SHIPPERCON's existence, this mandate was interpreted quite narrowly as being, principally, concern for the levels of shipping charges on exports. In more recent years, SHIPPERCON extended its area of concern to interisland shipping, but still was mainly concerned with charges, and not so much with service availability, appropriateness, and standards. In 1991, however, SHIPPERCON management attempted, with some success, to broaden SHIPPERCON's role in protecting shippers, by evaluating freight forwarders, cargo consolidators, and break-bulk cargo agents, and, in so doing, reducing shipper risk and loss due to involvement with disreputable operators.

During 1989-1991, various study efforts were undertaken which are helping to redefine the roles of both MARINA and SHIPPERCON. In 1989, a Presidential Task Force (PTF) on interisland shipping identified a need for deemphasis of interisland liner shipping regulation, generally, while also identifying a need for more effective regulation of maritime safety conventions. As a result of this study, the first steps were taken toward liner shipping rate deregulation, and the SPAC was established. In 1990, the Philippine Transport Sector Review (PTSR) identified a need for investigation of further liner shipping deregulation possibilities, and prepared terms of reference (TOR) for an Interisland Liner Shipping Rate Rationalization Study (SRRS). The PTSR also recommended a broadened role for SHIPPERCON and increased emphasis on the development role of MARINA. The SRRS was conducted, in 1991, and recommended a program of cargo rate rationalization and deregulation to be carried out by MARINA and SHIPPERCON, over the 1992-1996 period.

recommended a program of cargo rate rationalization and deregulation to be carried out by MARINA and SHIPPERCON, over the 1992-1996 period.

The managements of MARINA and SHIPPERCON are in favor of developing their respective organizations to provide more positive support than they have in the past to the interisland shipping industry and to the users (shippers and passengers) of the industry's services. The DOTC is also cognizant of the desirability of deemphasizing MARINA's regulatory role, except where safety is concerned, while placing greater emphasis on the agency's development role, and the DTI is supportive of expanding the role of SHIPPERCON to deal with all shipper concerns. In regard to these evolving roles, the following was recommended by the SRRS, and has been agreed upon by MARINA, SHIPPERCON, and their respective parent organizations:

- MARINA's role in regulating the interisland liner shipping industry is to continue, but to be deemphasized relative to its role in assisting the domestic shipping industry, with assistance being primarily in the forms of the identification and implementation of solutions to industry problems and the provision of information to the industry to better enable operators in all sectors of the industry to make appropriate and timely investment decisions.

- MARINA and SHIPPERCON will develop a much closer working relationship than has existed in the past, beginning with jointly planning and carrying out a program of interisland liner shipping cargo rate liberalization and deregulation during 1992-1996.

- SHIPPERCON will extend its concern for Filipino shippers to service availability, appropriateness, and standards (reliability, speed, and cargo security), as well as service cost, for all international and interisland transport services (including air transport, as well as sea transport, services), and for support services, including freight forwarding, cargo consolidation, insurance, and other support services.

- SHIPPERCON will also assist the shipping industry and MARINA whenever and wherever shipping problems are due to any fault of the shippers, such as inadequate packaging.

These agreed responsibilities and functions largely define the future role of SHIPPERCON, although they provide no guidance as to how SHIPPERCON is to meet these responsibilities and carry out these functions. Where MARINA is concerned, even the agency's future role is left only partially defined. As such, there is a need to more fully define the future role of MARINA, with specification of responsibilities and functions, as well as to provide desirable institutional development schemes for both agencies, to permit them to effectively meet the full spectra of their respective responsibilities.

The questions that need still to be answered in regard to MARINA's future role and responsibilities are at two levels: whether any useful role might be played by government in several areas; and, if so, the extent to which MARINA might desirably take on whatever that role would be. Areas where MARINA's possible future role still requires clear definition include:

- Maritime Safety. The DOTC and MARINA are charged with the responsibility for maritime safety, except that the Philippine Coast Guard (PCG), under the

Department of National Defense (DND), is charged with assisting MARINA in this regard. The PTF, among others, noted that no clear delineation of the responsibilities of MARINA and the PCG had been made, by 1989, and recommended that the two agencies work out between themselves how best they might share the responsibilities and functions in regard to maritime safety. In 1991, this has not yet been done by the agencies or their parent departments. Partly as a result of this uncertainty regarding the scope of its involvement with maritime safety, MARINA has not yet been organizationally structured to carry out maritime safety functions, nor has the agency been provided with the budgets which would be required to carry out maritime safety functions effectively. The SRRS recommended that MARINA take on all of those maritime safety functions that relate to the shipping industry, including ensuring that Philippine flag vessels are all in class, are adequately manned, and are in compliance with the international maritime safety conventions of which the Philippines is a signatory. The SRRS concluded, however, that MARINA is not an infrastructure organization and ought not to evolve into one, for the sake of its effectively carrying out all of the agency's current functions. Since both the PCG and MARINA are members of the SPAC, the SRRS recommended that that organization discuss the division of maritime safety responsibility, and advise the Secretary of the DOTC on the matter. The SPAC, in order to do this, however, may require an assessment of the options for dividing maritime safety responsibilities and functions.

- International Shipping. Whatever will be MARINA's responsibilities and functions in regard to maritime safety, they will apply to all Philippine flag vessels, whether employed in international or interisland services. Other than these functions, however, Philippine Government and MARINA responsibilities in regard to Philippine flag vessels in international service need to be clarified. One possible function for MARINA would be to respond to Philippine shipping operator complaints of unfair trade practices.

- Manpower Development. The interisland shipping industry of the Philippines has been facing a serious problem of insufficient numbers of qualified manpower for many years. The problem is due in part to inadequacies of the Philippine maritime training industry, in part to the lack of integrity of the testing and certification process, and in part to a heavy international demand for Filipino seamen. MARINA's desirable role in correcting shortages of qualified manpower must be more clearly defined than at present.

- Support Industries. There is a need to define, more clearly than at present, the desirable role of government in regard to the development and operation of shipbuilding and shiprepair industries, and a possible new shipbreaking industry. Should there be desirable government roles in regard to any or all of these industries, the optimal means of fulfilling those roles would need to be identified. MARINA and/or the DTI might carry out functions in regard to the industries, and/or other government organizations, such as the Philippine Development Bank, might be involved with assisting the industries.

- Maritime Law. The optimal role of MARINA in regard to the formation and enforcement of maritime law needs to be identified.

In the cases of both MARINA and SHIPPERCON, the expansion of their effective roles into areas hardly dealt with in the past can be accomplished only through the design and implementation of institutional development programs. These institutional development programs must include restructuring the agencies in accordance with their responsibilities and functions, and improving staff productivity to effectively meet all responsibilities and carry out all functions. Improving staff productivity, in turn, may require staff upgrading through recruitment, redeployment and training, and providing the agencies with the facilities and equipment needed to maximize the productivity of staff. Plans for institutional development of MARINA and SHIPPERCON must identify, also, all desirable internal and external working relationships and procedures. One of the more important external relationships is that that ought to develop between the two agencies themselves; it is especially urgent that this working relationship be clearly and precisely defined, as the two agencies are about to embark on a joint effort to rationalize and deregulate interisland liner shipping cargo rates. Both agencies are members of the SPAC, and their desirable respective relationships with this organization need identification.

In the case of SHIPPERCON, there is also a need to reexamine the desirability of a long-term association with the DTI, or any public sector body. Whether SHIPPERCON would remain as a public sector organization or not, the desirable make-up of its Board of Directors might usefully be reexamined.

In addition to its headquarters in Manila, MARINA has operational offices at the ports of Cebu, Iloilo, Batangas, Cagayan de Oro, Zamboanga, and Davao, and offices not yet operational at the ports of Cotabato, Tacloban, and Legaspi. SHIPPERCON currently has no presence outside of Manila.

Objectives

MARINA is commissioning, with funding from the United States Agency for International Development (USAID), a MARINA and SHIPPERCON Study (MARSH Study) to more clearly define the desirable responsibilities and functions of MARINA and to prepare institutional development programs for both MARINA and SHIPPERCON. The broad objective of these plans is to enable the two agencies to fully and effectively carry out all of their respective functions, as these functions are identified in these TOR or shall be identified by the MARSH Study itself. The study will also assist in some of the early steps toward implementation of these plans. Specific objectives of the MARSH Study are:

- To identify the optimal scope for government involvement with maritime safety, international shipping, maritime manpower development, and the shipbuilding, shiprepair, and shipbreaking industries, and to identify the optimal MARINA roles in the context of desirable government involvement in any of these areas, and in the area of maritime law.

- To identify the optimal short- and long-term relationships of SHIPPERCON with the DTI, and the optimal make-up of the SHIPPERCON Board of Directors.

- To identify the optimal working relationships of the two agencies, with each other first of all, and then with the SPAC and other public sector agencies

concerned with the maritime sector, and with private sector organizations and associations, including especially the shipping industry (in the case of MARINA), and the Philippine Chamber of Commerce and Industry (PCCI) and various other producer and shipper associations (in the case of SHIPPERCON).

- To review the organizational structures of MARINA and SHIPPERCON, and consider whether they are optimal for the effective carrying out of all of the respective, desirable functions of the two agencies, and, to whatever extent they may not be optimal, to recommend desirable alterations of their respective organizational structures.

- To identify the optimal extent of regional presence for each of the two agencies, and the optimal levels of regional office involvement in each of the respective functions of the agencies.

- To identify the needs of both MARINA and SHIPPERCON to convey information to the public, and to specify the optimal means by which this shall be done.

- To identify optimal staffing levels at each office of each agency, and to review and revise job descriptions, with specification of job qualifications, for all management, professional, and technical positions of MARINA and SHIPPERCON.

- To continue the development of the SHIPPERCON database, begun under the SRRS, and to review and comment upon the work being done, in 1991-1992, to develop MARINA's database.

- To evaluate the adequacy of office facilities and equipment at all office locations for both agencies, and to recommend desirable improvement and acquisition for the short term (1992-1994) and the medium term (through the year 1999).

- To audit MARINA and SHIPPERCON staff, and identify needs for staff recruitment, redeployment, and training, with specification of desirable formal and on-the-job training.

- To identify and prepare TOR for technical assistance needed in the short term (before staff of MARINA and SHIPPERCON are fully capable of carrying out all of the functions of their respective agencies effectively) to assist in carrying out agency work and to provide some portion of staff training.

- To assist MARINA to design and carry out an action plan for bringing all vessels in interisland shipping of 500 GRT or above into class, and to prepare TOR for two 1993 study efforts to facilitate the acquisition of vessels for interisland shipping services and to develop a Philippine private sector vessel classification society.

- To assist SHIPPERCON to investigate the possible need to take action to protect the interisland liner shipping industry from overvaluation of cargo by some shippers, and to draft TOR, if necessary, for an assessment of the desirability of limiting shipping operator liability to avoid excessive claims.

- To identify the capital and recurrent budget implications of all study recommendations, and to recommend strategies for meeting budget requirements.

Work Scope

Functions and Responsibilities. The MARSH Study must identify the types of government actions which are required in order to improve maritime safety in the Philippines. It is not expected that the study will provide assessments of the relative desirability of the various types of actions or prepare any overall plan for achieving maritime safety improvement, but the study must consider the advantages and disadvantages of MARINA having full or partial responsibility for each type of action. In this assessment, the MARSH Study shall consider that the alternatives to responsibilities for maritime safety residing with MARINA include, but need not be limited to, continued or enhanced PCG involvement in various aspects of maritime safety and/or the establishment of an entirely new organization to take on some or all responsibility for maritime safety.

The shortage of qualified manpower to serve in interisland shipping has implications for maritime safety, but has implications, as well, for the efficiency and costs of interisland shipping services. The maritime training industry is partly public sector and partly private sector, and the MARSH Study should attempt to identify what might be the desirable role of government both in regard to assisting further development of the public sector entities and in regard to more general assistance to the industry, that would extend to private sector institutions, as well as to those in the public sector. To whatever extent it appears to the MARSH Study that government involvement in the development and/or operations of all or some portion of the maritime training industry is desirable, the study should identify the optimal scheme for providing this assistance, and particularly the role to be played by MARINA. The MARSH Study is not expected to identify the magnitudes of required efforts, but must be specific about MARINA involvement in development and operations monitoring and correction efforts, and MARINA's optimal levels of effort in the short and long term must be roughly estimated. The MARSH Study must consider, also, whether government and MARINA efforts ought to extend beyond the training industry, into the area of improving access to training, perhaps through the establishment of scholarship funds and student loan opportunities, and into the areas of testing and certification. In all of these MARSH Study assessments, quantification may not be possible, and at most the study would be expected to provide rough approximations of the levels of government and MARINA efforts that might desirably be made.

In regard to Philippine flag international shipping, the MARSH Study must identify and assess the possibilities for MARINA assistance to the development and operation of Philippine shipping, in addition to the involvement which would already have been identified as desirable as a result of the MARSH Study's assessments of maritime safety and manpower development responsibilities. One possibility that must be assessed by the MARSH Study is that MARINA might provide recourse to Filipino shipping operators who are, or believe they are, being victimized by unfair trade practices.

In regard to shipbuilding, shiprepair, and shipbreaking industries, there are, broadly, three levels of government and MARINA involvement in the development and operation of the industries: no involvement at all; involvement only to the extent of ensuring that the industries serve the Philippine shipping sector satisfactorily; and involvement to ensure that the industries develop and are successful for their own sake. The MARSH Study must

examine the relative desirability of these government involvement options, and, provided that some level of government involvement is found to be desirable, must then identify the options for that involvement, including various possible roles for MARINA.

The Philippine Merchant Marine Rules and Regulations (PMMRR) are under review by the Philippine Government for possible revision. The MARSH Study must identify what role MARINA might desirably play in reviewing and revising the PMMRR, and the extent to which MARINA might desirably enforce and use the PMMRR, before and after revision.

Autonomy and Board of Directors. The MARSH Study must give consideration to the possible dissociation of SHIPPERCON and the DTI, identifying and assessing all of the advantages and disadvantages for SHIPPERCON and Filipino shippers of such a dissociation. If desirable either in the short or long term, the MARSH Study must analyze the options for bringing about the dissociation, and must recommend an optimal action plan for accomplishing this. The MARSH Study must also examine the make-up and functions of the Board of Directors of SHIPPERCON, and identify what desirable alterations might be made in the short and/or long terms in both the make-up and the functions of the Board, taking into account the possibility of SHIPPERCON and DTI dissociation.

Agency Working Arrangements. In identifying desirable working arrangements with other public sector and private sector organizations and associations, the MARSH Study must first identify the current role and extent of effectiveness of the SPAC, which potentially offers opportunities for MARINA and SHIPPERCON to coordinate with the Philippine Ports Authority (PPA) and the PCG. Thus, problems originating with port operations and aspects of maritime safety might best be handled (as recommendations to the Secretary of DOTC) in this forum. The MARSH Study must identify strategies and procedures for MARINA and SHIPPERCON to derive maximum benefits from their memberships with the SPAC, in dealing with problems afflicting the shipping industry and shippers. Beyond their shared membership on the SPAC with PPA and PCG, there may be needs, especially for MARINA, to develop closer day-to-day working relationships with PPA and PCG, and the MARSH Study must identify any such needs and how best they might be met.

Similarly, the MARSH Study will need to examine the role and past effectiveness of the ICME, and MARINA's role as a member of that committee, and to assess how MARINA's contributions might be increased and improved, within the limitations, however, of identified optimal MARINA responsibilities and functions in regard maritime manpower development. Depending on the scopes of these optimal responsibilities and functions, MARINA working relationships between MARINA and other individual members of the ICME may be desirable, and the MARSH Study must identify what these relationships might desirably be and how best they might be developed. Finally, where desirable MARINA manpower development functions are concerned, the MARSH Study must identify the useful extent of direct MARINA dealing with the maritime training industry, the manpower recruitment industry, and the shipping industry, for the mutual benefit of all parties. One possibility along this line, to be considered by the MARSH Study, is the brokering of agreements by MARINA for adequate shipboard training arrangements for those training to become ship's officers.

MARINA has had a close relationship with the interisland shipping industry in the past, but this should become an even closer relationship in the future, as the industry increasingly looks to MARINA for solution of its problems, much as shippers bring their problems to SHIPPERCON. The MARSH Study must identify how best the relationship between MARINA and the shipping industry, and especially the interisland liner shipping

industry, can and ought to be strengthened. SHIPPERCON, also, recognizing that to solve problems for the shipping industry is to solve problems for shippers, as well, needs to develop a closer working relationship with the shipping industry, and the MARSH Study must identify whether this might best be done directly, or indirectly, through development of a close working relationship with MARINA.

The MARSH Study must be especially thorough and accurate in regard to the working relationship to be developed between MARINA and SHIPPERCON. The study must address the question of exchange of information between the two agencies, and of compatibility of their information systems. The study must examine the possibility that, perhaps just in the short term, it might be desirable that SHIPPERCON representatives be stationed in MARINA regional offices. Specifically and precisely, the MARSH Study must identify how MARINA and SHIPPERCON are to jointly implement cargo rate deregulation over the 1993-1996 period. A more permanent arrangement for jointly dealing with problems of the shipping industry, including problems created by shippers, and for presenting a united front on matters of joint concern in the SPAC venue, must also be thoroughly examined, assessed, and recommended by the MARSH Study.

SHIPPERCON must establish entirely new working relationships, with the air transport industry, freight agents, insurance brokers, and others, and the MARSH Study must identify what all of these relationships might desirably be, and how best they might be established and developed.

Where MARINA is concerned, a relationship to a developing Philippine vessel classification society should be given consideration by the MARSH Study, but in this case the study must produce TOR for further investigation of the matter, and is not expected to make other recommendations regarding a working relationship between MARINA and a classification society during its developing and developed stages. The MARSH Study must also consider the needs for MARINA to deal with local governments (provinces and municipalities) in the case of ferry services operating out of ports not under PPA jurisdiction. Finally, to whatever extent that the MARSH Study may identify useful MARINA functions in regard to the shipbuilding, shiprepair, and shipbreaking industries, it is necessary that the study also identify desirable MARINA working relationships with these industries, and with other public organizations which would also have responsibilities in regard to the same industries.

Organizational Structures. The organizational structures of MARINA and SHIPPERCON will need to reflect their respective altered responsibilities and functions. MARINA's organizational structure must reflect the future decreased emphasis on regulation, generally, but also whatever increased emphasis the MARSH Study shall be recommending in regard to maritime safety. In MARINA's future expanded and strengthened role in regard to shipping sector development, greater emphasis will need to be placed on planning activities, and this must also be reflected in the organizational structure of the agency. The MARINA organizational structure will also need to be appropriate for whatever functions and responsibilities the MARSH Study will be recommending in regard to maritime manpower development, international shipping, maritime law, and the shipbuilding, shiprepair, and shipbreaking industries. Finally, the MARSH Study must consider the needs for such divisions, sections, or units within MARINA as public relations, internal audit, general services, and staff development.

SHIPPERCON will continue to do what it has done in the past, but will also take on other responsibilities and functions to assist and protect Filipino international and interisland

shippers. The agency's new concerns with quality and availability of sea transport services, and the availability, costs, and quality of air cargo services and the services of freight forwarders, freight consolidators, break-bulk agents, storage services, and cargo insurers, will necessitate changes in the agency's organizational structure, and the MARSH Study must identify what the optimal new structure for SHIPPERCON might be.

Regional Presence. As stated in the background section of these TOR, MARINA currently has six operational offices and three not yet operational outside of Manila; SHIPPERCON does not yet have any regional offices. In the short term, at least, SHIPPERCON might best establish a regional presence by occupying some space at MARINA regional offices. The MARSH Study must assess the desirability of such a scheme, and, if desirable for at least some brief period of years, must prepare an action plan for SHIPPERCON staff to move into MARINA offices. The study must identify, also, whether it will eventually be desirable for SHIPPERCON to move into offices of its own, including perhaps at locations where MARINA does not have a presence, and, if so, the study must identify an optimal scheme and schedule for accomplishing this transfer, as well. SHIPPERCON may actually have a greater regional presence need than MARINA, in terms of number of locations where the agency's presence would be desirable, although MARINA may have greater regional office staff requirements. The MARSH Study must attempt to identify the total number and locations where SHIPPERCON presence would be desirable, in order that the organization would be readily accessible to the majority of Filipino international and interisland shippers. Since MARINA's modus operandi in the regions is to seek, rather than be sought, MARINA can carry out duties in a number of ports working out of a single regional office. The MARSH Study must consider this method of operation, and assess its actual and potential effectiveness in carrying out the current and desirable future functions of the regional offices. The MARSH Study's regional presence analyses for MARINA and SHIPPERCON must conclude with recommendations for optimal schemes for the two agencies, indicating not only the designs of future operations, but also how those operations might best be brought into being.

Public Relations. The MARSH Study must identify the various types of information which MARINA and SHIPPERCON need to convey to the public in general and to various groups, and the preferable approaches to be taken to convey the information. MARINA may need to convey, for example, information on routes, service schedules, and rates, including seasonal schedules and rates, to the traveling public; route and service type market analyses to the shipping industry; information on maritime training opportunities to potential trainees; passenger service standard ratings to the public and to the interisland liner industry; and maritime safety information to the entire sea transport sector of the Philippines. The MARSH Study may identify still other types of information which MARINA may on a regular or occasional basis need to convey. The principal public relations effort of SHIPPERCON will be to make known its presence and the expanding scope of the agency's services to shippers. This may have implications for staffing regional offices, as at least one staff member of each office may need to be highly qualified in regard to communication skills, with the ability to speak to gatherings, such as meetings of the local offices of PCCI.

Staffing Levels and Job Descriptions. In line with MARSH Study findings in regard to optimal organizational structures and regional presence for MARINA and SHIPPERCON, the study must identify optimal staffing levels, overall, and for each location, division, office under a division, and sections and units that comprise offices and/or any other administrative units which the MARSH Study may deem desirable. Job descriptions must be written based on organizational functions and procedures, including internal and interorganizational working relationships, and based, also, on target productivity levels, as these shall be identified by the

MARSH Study. Job qualifications must be indicated by the study for each managerial, professional, and technical post.

Database Development. The MARSH Study includes a technical assistance assignment to aid SHIPPERCON in the development of its database, along lines recommended by the SRRS. In regard to MARINA, the MARSH Study must review work being done, in 1991 and 1992, outside of the study, and indicate how database design might need to be modified in light of any MARSH Study recommendations for alteration of MARINA's responsibilities, functions, interorganizational working arrangements, organizational structure and regional presence, and staffing.

Facilities and Equipment. The MARSH Study must give consideration to three options in regard to MARINA and SHIPPERCON offices in Manila: continuation in the existing offices for the foreseeable future, with possible low-cost remodeling to better serve altered organizational structures, staffing levels, and equipment; shifting to other existing facilities; and construction of a new Sea Transportation Building ("Seatrans") to house not only MARINA and SHIPPERCON, but also perhaps the headquarters of PPA and/or the PCG, the office of a new private sector vessel classification society, and shipping operator offices. In line with recommendations for MARINA and SHIPPERCON regional presence, the MARSH Study must also assess the adequacy of existing MARINA regional offices to serve MARINA's purposes, and perhaps also to serve the purposes of SHIPPERCON for some periods of years.

In addition to office facilities, the MARSH Study must identify all equipment needs, including land and sea transport equipment, computer systems, telecommunications equipment, equipment required for vessel inspection, and any other equipment which might be needed by either agency to ensure good staff productivity and effectiveness.

Staff Development. Having identified desirable staffing levels and job descriptions for MARINA and SHIPPERCON, as described above, the MARSH Study must then audit current staff of the two agencies to assess their qualifications to fill all specified posts of the respective organizations. To whatever extent the study might find that current staff are not completely adequate in numbers and/or qualifications, the study must make recommendations for staff recruitment, redeployment, and training or retraining. In regard to training, the study must consider the opportunities and advantages of staff participation in a number of shipping sector studies to be conducted in the Philippines during the 1992-1994 period. Other on-the-job training must also be given consideration by the MARSH Study, and the study must identify any needs to supplement on-the-job training with in-house and/or external formal training, considering also the costs of such training.

Technical Assistance. Despite efforts to upgrade MARINA and SHIPPERCON staff capabilities and to recruit new staff, as might be required, it is possible that for some period of time one or both of the agencies will need to supplement their staff capabilities with technical assistance. An example might be a vessel classification specialist attached to MARINA, for some period, to assist in the development of a Philippine vessel classification society. Technical assistance might also be needed by both agencies to provide in-house formal and/or on-the-job training. The MARSH Study must identify all technical assistance needs of MARINA and SHIPPERCON (beyond the MARSH Study itself and a MARINA database development project), and draft TOR for any recommended technical assistance assignments.

Action Plans and Studies. The MARSH Study must assist MARINA in the preparation of an action plan to bring all interisland vessels of 500 GRT and over into class. Action plan

design and implementation will also require the involvement of the Philippine Shipbuilders and Repairers Association (PHILSAR), the Conference of Interisland Shipowners and Operators (CISO), the Visaya Association of Ferryboat and Coastwise Service Operators (VAFCSO), the Southwestern Mindanao Shipowners Association (SMSA), and the Philippine Interisland Shipping Association (PISA). The MARSH Study must assist MARINA, also, in the preparation of TOR for a Fleet Replacement and Design Study (FRADS) to consider options for facilitation of vessel replacement by Philippine shipping operators.

Where SHIPPERCON is concerned, the MARSH Study should assist in the defining of the problem of overvaluation of cargoes by Filipino interisland shippers, and, to whatever extent the problem may be found to be significant, to assist in the development of a strategy for dealing with the problem, perhaps including the limitation of shipping operator liability for cargo damage or loss.

Budgets. All of the recommendations of the MARSH Study must be translated into their capital and recurrent budget implications for MARINA and SHIPPERCON, and the study must discuss optional strategies for meeting any anticipated budgetary shortfalls.

Schedule and Reports

The MARSH Study is to be conducted in two phases, with the first phase being of six months duration and the second phase being of five months duration. Since SHIPPERCON's responsibilities and functions are known (as stated in these TOR), work can begin immediately on the identification of the agency's optimal organizational structure, staffing, working relationships, database design, and facility and equipment needs. This work and other work associated with SHIPPERCON, including a four-month technical assistance assignment for database development, can be completed during the first phase of the study.

The first study phase will also include all of the study's investigative efforts in regard to government and MARINA roles in bringing about improvement of maritime safety, and possible roles in assisting the development, and in monitoring the operations, of Philippine flag international shipping, the maritime manpower training industry, and the shipbuilding, shiprepair, and shipbreaking industries.

The second phase of the study will get underway only after the Philippine Government has reviewed the findings and recommendations of the first phase of the study, and has reached decisions on the desirable scope of MARINA responsibilities and functions. Only when MARINA's responsibilities and functions have been clearly defined will it be possible for the study to identify the most appropriate organizational structure, working relationships, and staffing to permit the agency to effectively meet those responsibilities and carry out those functions.

The documents and reports that are to be prepared by the MARSH Study, during its first and second phases, and the due dates for their submission to MARINA, SHIPPERCON, and USAID are as follows:

- **Phase One Inception Report.** The report must be submitted within 30 days of MARSH Study phase one mobilization. The report must identify all of the issues involved with the possible MARINA functions under study, and must identify the methodology to be employed to assess the desirability of possible functions, and to precisely define the optimal responsibilities and functions of

MARINA, and a schedule must be proposed for completing the analysis within the first MARSH Study phase. The Inception Report must deal, also, with the work proposed to be carried out in connection with SHIPPERCON, and must present a schedule for its satisfactory completion within the first study phase.

- **Draft SHIPPERCON Functions and Organization Document.** This document must identify SHIPPERCON functions, the (recommended) organizational structure, and draft job descriptions for all management, professional, and technical posts, with indications of qualifications for each post. The document must be written in the manner on a SHIPPERCON internal document, and not in the style of a report. It must be submitted at the end of 3.0 phase one MARSH Study months.

- **Preliminary SHIPPERCON Functions and Organization Document.** The draft document should be thoroughly discussed and revised, as may be necessary, during the 4th phase one month, in order that the staff audit can proceed on the basis of agreed staff qualifications and job descriptions for all managerial, professional, and technical posts. (The document, at this stage, should be more-or-less finalized substantively, but will not yet have undergone technical editing.)

- **SHIPPERCON Staff Audit Report.** This report is to be completed and submitted by the end of the 5th phase one month. The report is to be highly confidential and to be submitted only to the Executive Director of SHIPPERCON.

- **Draft SHIPPERCON Institutional Development Plan.** This draft plan must be submitted by the end of the 6th phase one month. The plan must include all actions required to transform SHIPPERCON, as it will then exist, into an organization that is capable of fully and effectively carrying out its agreed functions (as specified in the finalized SHIPPERCON Functions and Organization Document). If the MARSH Study has identified that greater autonomy is desirable for SHIPPERCON and/or that the agency's Board of Directors might desirable be reconstituted, then these goals will be specified in the draft plan, and all actions necessary to achieve the goals will be indicated. Actions specified in the plan must also include any desirable staff recruitment, redeployment and training that might be necessary to upgrade staff capabilities, and all improvements of facilities and equipment that are needed to achieve target staff productivity.

- **Draft MARINA Functions and Responsibilities Report.** This report is to be submitted by the end of the 6th MARSH Study month. It will include all of the assessments of the desirability of MARINA responsibilities and functions in regard to Philippine flag international shipping, maritime safety, maritime manpower development, maritime law, and the development and operation of the shipbuilding, shiprepair, and shipbreaking industries, and will recommend the optimal involvement of government, generally, and MARINA in particular in each of these areas. (Government decisions on all of these matters will need to be taken before phase two of the MARSH Study can usefully get underway.)

- **Phase Two Inception Report.** This report is to be submitted within 15 days after phase two mobilization. The report will be similar to the SHIPPERCON portion of the Phase One Inception Report, except that it will deal strictly with

MARINA, and will specify the methodology to be employed in developing an institutional development plan for MARINA.

- **Draft MARINA Functions and Organization Document.** This report must be submitted at the end of the 2nd phase two month. The document will be similar to the document described above for SHIPPERCON.

- **Preliminary MARINA Functions and Organization Document.** As indicated above for the SHIPPERCON Functions and Organization Document, the MARINA draft document should be thoroughly discussed as soon as it is produced, and revised, as may be necessary on the basis of discussions, in order that an appropriately designed staff audit can then proceed. In the case of the MARINA document, it should be revised to its "preliminary" form by the end of the 3rd phase two month.

- **MARINA Staff Audit Report.** This report will be submitted only to the MARINA Administrator. It must be completed and submitted by the end of the 4th phase two month.

- **Draft MARINA Institutional Development Plan.** This plan must be similar in scope to the SHIPPERCON Institutional Development Plan, described above, and must be submitted by the end of the 5th phase two month.

- **Final Report.** This report will be in four volumes, including the finalized (edited) versions of the MARINA and SHIPPERCON Functions and Organization Documents and the finalized versions of the MARINA and SHIPPERCON Institutional Development Plans. Finalization of the latter two volumes must be on the basis of comments on the draft versions received from MARINA, SHIPPERCON, and USAID, and the Final Report must be submitted within 45 days of MARSH Study consultant receipt of the last of these comments.

In addition to submission of the above-listed reports, all of which are solely the responsibility of the MARSH Study consultants, the MARSH Study team must assist MARINA and SHIPPERCON, during the course of the study, to produce the following:

- An action plan to bring interisland vessels of 500 GRT and above into class.

- TOR for FRADS.

- A SHIPPERCON assessment of the problem of overvaluation of interisland cargoes, and, if necessary, TOR for follow-on investigation on how best to deal with the problem.

Manpower

Consultants will be employed for designing the MARSH Study, providing technical input to the study, and preparing all study reports, as these are identified in the preceding section of these TOR, and will be responsible for the quality and thoroughness of the study. The Philippine Government, nevertheless, sees the MARSH Study as being primarily a government effort, to be assisted by consultants, and considerable government attention will be given to the study in order to ensure its usefulness upon completion. Specifically, the

managements and staffs of MARINA and SHIPPERCON will be heavily involved with conduct of the study from start to finish, and officials of the DOTC and the DTI will make their time available to the study as might be required, and particularly in the making of decisions that will permit the study to proceed expeditiously. The SPAC and the ICME will also cooperate, as required, on those portions of the study which will deal with their functions and the responsibilities of their individual members.

Consultant manpower inputs, in terms of person-months (p/m) of effort, are to be as identified below.

- Transport Planner/Project Director - 5.0 p/m
- Maritime Sector Specialist/Team Leader - 11.5 p/m
- Institutional Specialist - 5.0 p/m
- Manpower Development Specialist - 4.0 p/m
- Data Systems Specialist - 5.0 p/m
- Legal Expert - 1.5 p/m
- Architect - 1.0 p/m

- Total Consultant Input - 33.0 p/m

INTERISLAND AGRO-TRANSPORT STUDY

Terms of Reference

Background

In November 1990, rates for interisland liner shipping movements of reefer (refrigerated) boxes and livestock were deregulated. The Interisland Liner Shipping Rate Rationalization Study (SRRS), conducted in the Philippines in 1991, identified from its surveys, conducted approximately one-half year after reefer and livestock shipping rates had been deregulated, that rates had climbed considerably whereas, shippers complained, services had neither expanded nor improved. The liner shipping operators countered that they did not know wh . the potential might be for shipment by reefer box, and, because such containers are quite expensive, the operators would not invest in them until they knew more about the market. Where livestock are concerned, the SRRS found that some of the continuing problems are created by the shipper themselves, not all of whom provide sufficient feed for their animals, but it is also true that neither the shipping industry nor the Philippine Ports Authority (PPA) know enough about market potential to invest in appropriate facilities and equipment for the handling and shipment of livestock.

The SRRS recommended reclassification of fruits and vegetables to permit higher charges to be imposed for shipment of these commodities, and thereby to induce operators to acquire the ventilated boxes needed for shipment of many of these commodities (most could also be accommodated in reefer boxes at cool, rather than freezing, temperatures, but such accommodation would be more costly than what is required for the majority of fruits and vegetables). Currently, there are very few ventilated boxes in interisland shipping, and shippers of fruits and vegetables often resort to use of air transport, at much higher charges, in order to ship their produce. The SRRS concluded, however, that even if the reclassification recommendation were acted upon by the Maritime Industry Authority (MARINA), which is responsible for liner shipping industry regulation, it would probably require a period of years for the full introduction of ventilated containers, unless a thorough ventilated container market analysis could be done very early.

The air transport option, besides being costly, has also not been satisfactory for shippers of fruits and vegetables, partly due to their own inattention to, or inexperience in, proper packaging. Whereas shippers complained of insufficient air cargo capacity for their produce, Philippine Airlines (PAL) was disinclined to provide services because inadequate packaging created handling problems and, more seriously, corroded the cargo holds of PAL aircraft. Freight forwarders have, to some extent, taken on the function of repackaging shipper produce (including fishery products as well as horticultural commodities) to induce PAL to continue to provide air cargo services. Air transport has also been a less than entirely satisfactory transport option for perishable commodities because not a single airport in the archipelago has cold storage facilities, and spoilage frequently occurs as freight is awaiting loading at airports. Late in 1991, the private developer that has provided the Cebu airport (Mactan) with the first air cargo terminal in the Philippines will be opening cold storage facilities within the terminal. The same developer has programmed development of air cargo facilities on the peripheries of the Manila and Davao airports (at Cebu, the facilities are within the airport area, constituting a terminal, that serve aircraft directly). Up to 1991, there is a great deal of tuna spoilage at Davao because there is no cold storage at the airport for tuna shipments, which often must wait for several hours for available cargo space in an aircraft.

Problems of interisland shipment of agricultural commodities extend to grains shipments. These are chiefly from the Mindanao ports of Cagayan de Oro, Davao, General Santos and Polluc/Cotabato to Manila (mainly yellow corn) and Cebu (mainly white corn). Mindanao producers and traders have not been well organized, and as a result have created most of their own problems. The principal problem has been peaking at the ports, without adequate treatment or storage of grains. A second problem is the poor quality of bags which frequently break in transit. Tramper barges are often employed for interisland shipment of grains, in which case bags are slit open in the ports of loading and the contents are dumped into the barges for transport and delivery in bulk (Manila consignees prefer receiving grains in bulk in any case). Because of the peaking of shipments, barges have been insufficient to accommodate much of the grain awaiting transport. Partly for this reason, but also because official liner shipping rates have been kept artificially low, and liner shipping containers reduce grain loss due to bag breakage, shippers seek to ship much of their grain by liner service. Liner shipping operators do not refuse these cargoes as backhaul container traffic, but because the traffic is basically unremunerative to liner operators, they have not made efforts to provide the capacity that would be needed to meet total demand.

Besides the needs for improved accommodation of some agricultural, agro-industrial, and fisheries products, PPA identifies a need to develop a system for the transport of fertilizers. One possibility would involve the extension of Indonesia's system of bulk urea fertilizer transport and handling to all or some portion of the Philippines. This sort of arrangement would, in fact, be in line with the five development projects that were adopted by the Association of Southeast Asian Nations (ASEAN) more than a decade ago to foster economic cooperation among the (then) five nations comprising ASEAN. Indonesia's "project" was the development of its urea fertilizer industry to achieve export capacity; Indonesia has, in fact, accomplished that goal, but the anticipated internal ASEAN trade in fertilizers (mainly Indonesia and the Philippines) has yet to be realized.

An investigation into interisland transport of agricultural commodities must consider not only the needs and problems of the recent past and present, but also the changes that could occur that would greatly affect the nature and levels of agricultural commodity flows in the future. Two concerns are critical: what is grown, and where and to what extent it is processed. Agricultural diversification out of sugarcane is already proceeding in some areas of the Philippines, and the question must be addressed whether some diversification out of corn and rice might not also be in the interest of the country. An on-going regional planning study for the Western Visayas, being financed by the Asian Development Bank (ADB), and another study, of southern Mindanao development, to get underway in 1992 with financing from the United States Agency for International Development (USAID), will be examining the potentials for, and the desirability of, agricultural diversification. It is an objective of the Department of Trade and Industry (DTI) to expand agro-processing in areas of production, thereby increasing the value added in these areas. The two regional development studies just identified will be assessing potentials for agro-processing in the Western Visayas and in southern Mindanao, respectively.

Limited development of agro-processing in areas of production could mean that a network of four or five port bulk grain facilities would be desirable in the Philippines, with specialized bulk vessels to transport grains between shipper and receiver ports also being required. Livestock might be handled at just a few ports, as well, with holding pens at each of the ports, and one or a few specialized vessels needed for livestock accommodation at sea. Fairly large numbers of reefer and ventilated boxes would be needed to accommodate shipments of live, frozen, or fresh fisheries products, and fresh fruits and vegetables.

Extensive development of agro-processing, on the other hand, could mean the shipment of feeds, bagged and containerized, rather than the shipment of bulk grains; the shipment of livestock products, maybe in reefer boxes, or perhaps canned, and in conventional containers; and the shipment of canned, bottled, or otherwise packaged processed fruits and vegetables, probably in conventional containers, or, if frozen, in reefer boxes.

Objectives

The broad objective of the Interisland Agro-Transport Study (IATS) is to develop the optimal schemes for processing and interisland shipment of several agricultural commodities and of fertilizer. For the purposes of the study, agro-processing options shall include the option of no processing in the production area, prior to interisland shipment. Commodities, in addition to fertilizer, of concern to the IATS include grains, milled and unmilled, and processed grain products, livestock and livestock products, processed and unprocessed fruits and vegetables, and processed and unprocessed fisheries products. Specifically, the objectives of the IATS are to:

- Analyze the agriculture sector of the Philippines to identify desirable agricultural diversification, and the probable changes in structure of the agricultural sector, particularly the relative emphasis on expanding production of grains, horticultural and floracultural crops, tree crops, and other field crops, and reforestation efforts (including fast-growing trees), livestock development, and aquaculture development; and project production and consumption levels, for each region of the Philippines, of each type of grain, fruit, vegetable, livestock, fishery product, and fertilizer, to the year 2005.

- Identify and analyze the marketing and agro-processing options for all regional surpluses of grains, fruits, vegetables, livestock, and fisheries products.

- Identify and analyze the transport constraints and considerations affecting the choice of possibly desirable marketing and agro-processing options for all regional surpluses of grains, fruits, vegetables, livestock, and fisheries products, and identify and assess options for providing adequate and appropriate transport.

- Identify and analyze the fertilizer constraints to bringing about desirable improvements in agriculture, and identify and assess realistic delivery options, including alternative sources of required plant nutrients, and alternative methods of delivery.

- Prepare an optimal action plan for the production, marketing, processing, and interisland transport of grains, fruits, vegetables, livestock, fisheries products and fertilizer in the Philippines, to be implemented and monitored over the 13-year period, 1993-2005.

Work Scope

The IATS work items to achieve the objectives specified in the preceding section of these terms of reference (TOR) shall include, but not necessarily be limited to, the following:

Agricultural Sector Evaluation. The IATS evaluation of the Philippine agricultural sector is expected to rely to a large extent, but not wholly, on reports of other studies and on the policies and programs of the Department of Agriculture (DA). The regional development studies, identified in the first section of these TOR, covering the Western Visayas and southern Mindanao, should provide to IATS important insight into the possibilities and desirability of agricultural diversification out of sugar and grains, and will provide IATS, also, with considerable analysis of agro-processing possibilities. The IATS must take the findings of these and other studies, as well as pertinent DA policies, programs, and pronouncements, to develop probable forecasts of agricultural diversification and production by Philippine region and major island (Luzon, Samar, Leyte, Mindoro, Masbate, Mindanao, Bohol, Cebu, Negros, Panay, and Palawan). The IATS must take into account not only what might be desirable in regard to agricultural diversification but also any impediments to implementation, such as inadequate or uncertain agricultural inputs delivery; farmer tradition, preferences and knowledge limitations; political considerations, such as land reform and disinclinations to achieve provincial economic integration; health and infestation concerns (such as might prevent resuscitation of the fast-growing tree industry); financing and privatization concerns; inadequate marketing infrastructure and know-how, and market uncertainties; and any other impediments to the diversification of agriculture.

In regard to grains, the IATS must address the principal questions of whether it is in the interest of the Philippines to attain yellow corn, white corn, and palay/rice self-sufficiency, and perhaps even to produce for the export market, and whether grain processing should be shifted, to some extent, from Manila and Cebu to the island of Mindanao. The IATS analysis of the grains subsector will be interdependent with the livestock sectoral analysis both in regard to identifying feed availability and regional grains surpluses, and in the assessment of livestock feeds agro-processing opportunities.

In regard to fruits and vegetables the IATS must consider separately all those fruits and vegetables which are, or might potentially become, of importance in the interisland and/or international trade of the Philippines, such as bananas, pineapples, mangoes, and papayas.

In regard to fisheries products, the IATS must identify the overall production constraints of marine fishing, and, where overfishing has occurred, and thereby has reduced fish populations to levels below what would be naturally sustainable in Philippine waters, the study must identify a strategy and program for the regeneration of optimal fish and other aquatic animal populations. The IATS must also assess inland fisheries production potential, including from natural watercourses and from the development of aquaculture. The Western Visayas regional development study, identified above, will include investigations into aquaculture diversification, and marine and inland fisheries development and production, and should be quite useful for the purposes of the IATS.

Marketing and Agro-Processing Options. Broadly, the work scope of the IATS, in regard to marketing and agro-processing options, consists of two efforts:

- To identify everything that might desirably be done in terms of marketing, if production areas are to continue shipment of fresh produce.

- To identify agro-processing options for regional agricultural production surpluses, and to assess their costs and implementation difficulty, and compare them not only relative to each other, but also to the option of shipping fresh produce from the production area.

The desirability of introducing agro-processing in a production area depends in part on preferences of intended markets. Tropical countries such as the Philippines may have modest advantage only over temperate zone countries in producing processed products such as canned juices and fruit preserves, but they have the considerable advantage of being able to provide fresh produce during temperate zone winter and spring seasons. It is important, therefore, that any decision to introduce agro-processing for an export market be made with full awareness of the alternative returns from well-managed sales of fresh produce. The IATS must investigate current efforts to market Philippine fresh produce to identify what would need to be done to make these efforts more effective and profitable. Actions that may need to be taken include improvement of the organization of prospective shippers to enable their association to orchestrate the entire marketing effort; establishment of a commodities exchange; improvement of sorting and quality control; increasing or otherwise improving production area storage capacity; and improvement of packaging. The Latin American country of Colombia has become the world's second ranked exporter of cutflowers (the Netherlands is first) not because it has any marked advantage in flower production, but because of the thoroughness and sophistication of its (private sector) marketing effort. The IATS must ensure that agro-processing possibilities are compared to the best achievable performance in shipment of fresh produce.

The IATS must also ensure identification of the optimal agro-processing option. This entails identification of both processed products and optimal scales of operation. The economic trade-off when examining alternative scales of agro-processing production is generally the incremental inland transport costs of moving produce to a large mill or plant from a broad hinterland versus the lower unit costs of production of the large mill compared to two to several smaller processing sites. Transport costs of processed products are generally in favor of the large mill option if the principal market is outside the area of production. If livestock feeds are to be produced in areas of both grain production and feed consumption, such as might be the case in parts of Mindanao, then transport costs of processed products might favor the smaller mill option. The IATS must examine all of these considerations, and the implementability of all options, in arriving at recommendations regarding the preferable options.

Transport Constraints and Options. As indicated in the first section of these TOR, interisland transport has been a constraint on the movement of grains, horticultural crops, bananas, livestock and fisheries products. The problems have been due to inadequate planning and preparation for shipment on the part of shippers, inadvisable regulations of liner shipping services, and infrastructure inadequacies, much more than to any failure on the part of the interisland shipping and air transport industries. The SRRS and a follow-on study, the Liner Shipping Route Study (LSRS), are identifying how interisland liner shipping cargo rate regulation should be adjusted and liberalized to eliminate the adverse effects which regulation has had on availability of appropriate services in the past. The IATS will need to look into the possibility that steps should also be taken to liberalize air transport services.

Other than these regulatory considerations, the chief transport concerns of the IATS are:

- Needs for specialized facilities and areas in ports for bulk handling of grains and fertilizer, and for the accommodation of livestock.
- Needs for bulk shipping services for grains and fertilizer.

- Needs for reefer and ventilated containers for shipment of livestock and fisheries products, and fruits and vegetables.

- Needs for improved shipping accommodation of livestock, perhaps with specialized vessels.

- Needs for air cargo terminals, with cold storage areas, at airports.

The IATS will identify the minimum bulk grain system, and then compare incremental systems to it, to determine the optimal system. The minimum system (probably bulk grain terminals in Cagayan de Oro and either or both of the ports of Cebu and Manila, with a single bulk carrier plying between the ports) would expand the hinterland of the Mindanao port, and the IATS will need to identify the extent to which this would occur. The incremental systems would include bulk terminals at one or two additional Mindanao ports (probably, among Davao, Polluc, and General Santos), with two receiver ports (Cebu and Manila).

In examining the needs for reefer and ventilated boxes, the IATS must not only identify the fresh and processed agricultural products which might be accommodated in such boxes, but also the potential for backhaul traffic in the same boxes. Only by extending the analysis in this manner will the IATS be able to compute shipping rates and profitability to shipping operators. This, in turn, must be done in order to compare the shipping and air transport options, and to identify whether investments in reefer and ventilated boxes might become attractive to liner operators.

The IATS must analyze the current problems of livestock weight loss and mortality in interisland shipping, and identify actions that might be taken in the very near future to correct each of these problems. The study must also identify and assess options for improved accommodation of livestock at ports, perhaps in specialized holding areas, and shipping options, including one or more designs for dedicated livestock vessels.

Fertilizer Requirements and Delivery. The IATS must identify requirements for fertilizer, taking into account what would be desirable, with identification of diminishing returns from incremental applications of each type of fertilizer, and, also, what is achievable, considering both Philippine production constraints and foreign exchange constraints. IATS estimates of commercial fertilizer requirements must take into account, also, plant nutrients to be provided by other means, including livestock manure, plowed under plant residues and nitrogen-fixating plants, and intercropping with nitrogen-fixating trees, such as the ipil-ipil. Commercial fertilizers to be considered by the study will include urea, other nitrogenous fertilizers, such as ammonium sulphate, phosphatic fertilizers, complex fertilizers, potash, and any other fertilizers which IATS might identify as being required in significant quantities.

Unless intercropping with ipil-ipil (or other nitrogen-fixating tree) can be widely reintroduced in the Philippines, it is likely that urea will be the principal type of commercial fertilizer used in the Philippines, and therefore the type most likely to be handled, stored and transported in bulk. The IATS should examine the potential for the Philippines to become self-sufficient in the production of urea, and, if the potential is found to exist, should then assess the desirability of attaining self-sufficiency, on the basis of the relative costs of production and importation. One importation option which must be considered by the IATS is the extension of the Indonesian fertilizer bulk distribution system to sales at one or more ports in the Philippines; one of the major points of Indonesian urea production is in

Kalimantan (the Indonesian portion of the island of Borneo), not far to the west of Mindanao. (The Indonesian urea industry already has its export markets, but it may be good economics, as well as being in line with ASEAN policy, for the Indonesian industry to extend its internal bulk fertilizer transport system to the Philippines, whenever one or more Philippine ports would be prepared to receive such shipments, and Indonesia's other export commitments would permit.)

Where phosphatic fertilizer is concerned, it was in fact the Philippines' ASEAN "project" to develop its phosphatic fertilizer industry to serve not only its own needs, but also some of the needs of the other ASEAN member countries. Thus, a recommitment on the part of Indonesia to meet a considerable proportion of the Philippine urea requirements could necessitate a quid pro quo commitment on the part of the Philippines to produce and trade surpluses of phosphatic fertilizer. The IATS must examine, therefore, not only the potential for Philippine self-sufficiency in phosphatic fertilizers, but also the country's potential to produce for export.

Action Plan for Achieving Optimal Development. The various work efforts described in the preceding paragraphs of this section of the TOR are all interrelated, and the IATS must prepare an optimal, fully-integrated development program, with needs prioritized on the basis of anticipated economic and financial returns, but also considering the degree of difficulty and probable time requirements for implementation of individual actions. The program must identify in detail all of the actions and actors to implement the program, and the optimal timing of all actions. In some cases the "actors" will be entire industries, such as the freight forwarding industry or the fruit growers industry. Actors will include, but not necessarily be limited to, the DA, the DTI, the Department of Transport and Communications (DOTC), PPA, MARINA, the interisland shipping industry, the Philippine Shippers' Council (SHIPPERCON), the air transport industry, private investors in agro-processing ventures and grain storage facilities (and perhaps port facilities), the fertilizer industry, the fishing industry, the banking and credit sector, provincial governments, agricultural producer groups and buyer groups, the Air Transportation Office (ATO), the Civil Aeronautics Board (CAB), freight forwarders, cargo consolidators, and the Philippine Chamber of Commerce and Industry (PCCI).

Schedule and Reports

The IATS is to be conducted over a period of 10 months, to submission of the draft final report. The reports which are to be submitted by the IATS, with dates of submission are identified below:

- *Inception Report.* This report must be submitted 45 days after start-up of the study. It should present a review of all available materials pertinent to the IATS, and identify all information gaps, with proposals for filling these gaps. The report should highlight any high-level government policy directives, in regard to agricultural development options and trade options, that might be required by the study to accomplish its objectives. A full description of the intended IATS work plan should be presented in the report.

- *Agricultural Sector Evaluation Report.* This report must be submitted and presented at the end of the 6th IATS month. It must complete (in draft) the accomplishment of the first-listed objective in the second section of these TOR. (Comments on this portion of IATS work will be needed by the IATS team, to

ensure that other work efforts, all of which will be based on the sector analysis, are proceeding in useful directions.)

- ***Draft Final Report.*** Submission must be by the end of the 10th IATS month, and the report should comprise the following three volumes:
  - Evaluation of Agricultural Commodity Marketing, Processing and Transport Options
  - Philippine Fertilizer Needs and Production/Delivery System Development
  - Action Plan (1993-2005) for Development of a Production and Marketing System for Several Major Agricultural Commodities
- ***Final Report.*** This report must be submitted within 60 days after IATS consultant receipt of comments on the draft final report. The final report must be in four volumes, including finalized versions of the three volumes of the draft final report and the finalized version of the agricultural sector report.

Manpower

The IATS will require inputs at high levels of the DA and the DTI because of the importance of both agricultural development policies and international trade policies. Both the DA and the DTI should also assign planning staff to the study team, and it would be useful if the DOTC, PPA, MARINA, SHIPPERCON, CAB, and ATO each assigned one staff member to the study team. Consultants will be required, however, and will be responsible for the overall quality of the IATS team effort, as well as for submission of all reports. Despite the involvement of government staff, the broad geographical and technical scope of the study, and the intended thorough investigation and detailed nature of IATS reports, necessitate a large consultant team, with a combined total effort of 85 person-months (p/m). Consultant staff and individual inputs will include:

• Project Director (regional, agricultural, or transport planner)	6 p/m
• Field Leader (agricultural or agro-processing planner)	11 p/m
• Agricultural Marketing Specialist	8 p/m
• Agro-industrial Engineer (or Economist)	6 p/m
• Fertilizer Industry Specialist	6 p/m
• Livestock Processing Industry Specialist	6 p/m
• Livestock Specialist	3 p/m
• Aquaculture Specialist	6 p/m
• Marine Life (Population) Specialist	3 p/m
• Fisheries Processing Industry Engineer	3 p/m
• Agricultural Economist	6 p/m
• Dry Bulk Ports and Shipping Specialist	6 p/m
• Air Cargo Terminal Engineer	2 p/m
• Transport Economist	8 p/m
• Fast-growing Tree Specialist	3 p/m
• Agricultural Credit Specialist	2 p/m
• Total Consultant Input	85 p/m

INTERNATIONAL PORTS AND CONTAINER TRANSPORT STUDY

Terms of Reference

Background

The Philippine Ports Authority (PPA) is responsible for planning, developing, and operating the public commercial port system in the Philippines. This system comprises 19 base ports, 59 terminal ports (or subports), and 85 other, smaller ports. Besides the PPA system, there are more than 200 private ports in the Philippines, the large majority of which are dedicated (own-account) ports, and there are also many small, municipal ports. The Bureau of Customs (BOC) has designated 38 of PPA's ports as "ports of entry"; each of these has a BOC office, and is permitted to accommodate export and import cargoes. Most of these 38 ports, however, do not accommodate much international traffic.

The largest port in the Philippines is the port of Manila. This port accommodates nearly 10 million tons of domestic cargo per year, and international cargo at the port has climbed to more than 7 million tons per annum. Only the port of Manila, of Philippine ports, has a full container terminal, the Manila International Container Terminal (MICT), which now accommodates more than one quarter of the port's international traffic. Other international traffic is accommodated at the South Harbor, except that much of the imported grain is handled at anchorage. The North Harbor accommodates virtually all domestic cargo at the port, including the transshipment of international cargo to and from other domestic ports. In 1991, major projects to expand the capacity and otherwise improve the North and South Harbors of Manila are getting underway.

Except for petroleum traffic, Manila is the dominant port of the island of Luzon. Until now, the port of Batangas, to the south of Manila on the west coast of Luzon, has been of importance only for petroleum and for ferry traffic (between Luzon and Mindoro). For a decade, however, consideration has been given to developing the port of Batangas as an international port, primarily to relieve the port of Manila. A decision was finally taken to implement a Batangas port project, and implementation is expected to begin in 1992.

No other major port projects are currently scheduled in the Philippines. It is particularly critical for the port of Cebu, the second largest port in the Philippines, however, that expansion and improvement be planned and implemented in the short to medium term. The island of Cebu is experiencing an unprecedented economic boom, and the port must be adequate to accommodate rapidly expanding traffic (passengers as well as cargo) if the boom is to continue. The port now accommodates more than 4 million tons of domestic cargo and more than 4 million passengers per annum (the passenger figure is nearly twice the volume at the port of Manila), and the port is increasingly accommodating international transshipment cargoes with ultimate origins or destinations elsewhere in the Philippines.

Other Philippine ports which regularly accommodate more than one million tons of non-petroleum cargo per annum are the port of Iloilo on the island of Panay in the Western Visayas, the port of Cagayan de Oro on the north coast of Mindanao, and the port of Davao on the Mindanao south coast. The port of General Santos, also on the Mindanao south coast, accommodates over 800,000 cargo tons per annum. Another Mindanao port, Zamboanga, has annual cargo throughputs nearly as high as General Santos, but much of the traffic is short-distance traffic, as Zamboanga is the principal Mindanao port serving the offshore islands of the Sulu Archipelago. The Mindoro port of Calapan reached the cargo traffic level of 700,000

tons, in 1990, but nearly all of that traffic was short-distance, ferry traffic. Besides these few ports, none of the other commercial ports of the Philippines serve as much as one-half million tons of non-petroleum cargo per annum.

Beginning in the late 1970s, cargo containerization proceeded rapidly in the interisland trade of the Philippines, especially between the principal ports. In 1990, the port of Cebu accommodated more than 1.4 million tons of containerized domestic cargo, and more than half of the 600,000 tons of international cargo handled at the port were also containerized. The port of Davao accommodated more than 800,000 tons of containerized cargo, in 1990, and the port of Cagayan de Oro accommodated over 600,000 tons of containerized cargo. Iloilo and General Santos, in the same year, each accommodated about 400,000 tons of containerized cargo.

It would neither be possible nor economic to develop the ultimate international port system of the Philippines during the decade of the 1990s. The ports that might desirably be substantially developed, during that period, will include some or all of those that already are accommodating considerable volumes of cargo, or ports, like Batangas, that are needed to relieve already congested ports. In the longer term, it may be desirable that other Philippine ports than only these few be brought up to international port standards, to directly serve substantial volumes of international traffic. An example might be Tacloban, which is well located for eventually serving the entire principal islands of Samar and Leyte. Development of the economies and of the road networks of these islands is lagging, however, so that major development of the port is not immediately necessary or useful. PPA points out that the port of Iligan, on the north coast of Mindanao, and the port of Tabaco, in the Bicol area of Luzon, are deepwater ports, and may have good long-term potential for that reason. Another long-term possibility might be further development of one of the ports along the north coast of Luzon.

Containerization has grown rapidly despite the fact that the ports of the Philippines have not been developed for efficient accommodation of containers. Until now, containers aboard containerships and conventional vessels have been moved between ship and shore through the use of ship's gear. Roll-on roll-off (RORO) vessels have also been employed for the shipment of containers, but most ports do not have RORO berths, so that containers have been moved between ship and shore by forklift trucks working in tandem (that is, one on board and one on shore handing containers between them). Also, stacking areas have not been adequate at the ports.

The Interisland Liner Shipping Rate Rationalization Study (SRRS), conducted in the Philippines in 1991, concluded that there is an urgent need for several port system decisions, including decisions in regard to:

- The optimal international port system. Except for the recently studied ports of Manila and Batangas, the long-term roles of individual Philippine ports are not known. This circumstance makes it difficult for PPA to carry out even limited planning and investment projects with assurance, and may result in under-investment in some ports coupled with over-investment in others. Specifically, PPA needs to know how the port of Cebu should best be developed to serve both international and domestic traffic, and whether the ports of Cagayan de Oro, Davao, General Santos, and/or Iloilo should also be developed as international ports, and, if so, what would be the optimal schemes for their development. The optimal system need not necessarily include only ports and

port facilities that are administered by PPA; for example, at Davao, an existing private commercial port might be developed to play an important role in serving future international traffic, and at Bacolod (across a strait from Iloilo) another private commercial port may have potential for an important future role. Especially in the cases of the three Mindanao ports, decisions on future development could affect considerably the sizes of the port hinterlands, with implications for the development needs of other, currently competing ports.

- **The optimal scheme for accommodating containers.** The three basic options include the continued reliance on ship's gear; the provision of shore-based handling equipment at principal ports, thereby permitting shipping operators to acquire cellular containerships sans on-deck handling gear; and reliance on RORO vessels for accommodating containers, perhaps on trailers, for rapid loading and unloading. The scheme must extend to the identification of optimal stacking areas, including possibilities for storing containers at inland terminals.

- **The optimal scheme for accommodating agricultural commodities in interisland transport.** Some of these commodities have not had sufficient or appropriate transport in the past (as identified by the SRRS and earlier studies), and there have been and continue to be problems of spoilage, theft, and (where livestock are concerned) weight loss. Consideration needs to be given to the possibilities that bulk terminals might be useful for some commodities, such as grains and fertilizer, and other specialized facilities, such as cold storage areas and livestock holding areas, might be desirable at a few ports.

- **The optimal scheme for accommodating passengers at ports.** Passengers are currently accommodated by interisland shipping aboard combined passenger and cargo vessels, including conventional vessels, a few containerships, and RORO vessels. Only some ferry services operate dedicated passenger vessels. In ports, the employment of combined passenger and cargo vessels results in interference of passenger boarding and deboarding activities with cargo-handling operations, at some risk to the passengers. There is a need to reexamine the desirability and potential profitability of employment of full-passenger vessels, and, whatever decisions might be made in regard to such vessels, there is a need to identify how best passenger traffic is to be accommodated at the principal ports of the Philippines.

Besides the above-identified major system decisions which need to be made, the SRRS identified needs to rationalize operations at ports, particularly cargo handling and the various regulations which affect port entrance and departure by vessels. The SRRS recommended that the Shipping and Ports Advisory Council (SPAC) provide guidelines on the nature and language of contracts between PPA and private cargo handlers, and review all existing contracts to ensure that they are in accordance with the guidelines, or are amended to be in accordance. The SRRS also recommended actions to eliminate or reduce any adverse effects on interisland shipping efficiency of port entrance and departure regulations. Regardless of what port investments might be made, actions to ensure that shipping operators are permitted to translate port improvements into shipping operations improvements are essential if potential gains of port investments are actually to be realized.

Besides being the only full container terminal in the Philippines, the MICT is the only current example of contracting out PPA port facilities for operation by the private sector. The

Government of the Philippines is seeking to privatize a number of heretofore public sector operations, including several in the transportation area, and PPA is inclined to consider proposals for build-operate-transfer (BOT) projects, and to enter into leasing arrangements for some of PPA's existing port facilities. One possibility may be that the interisland shipping industry would invest in ports; since the types and sizes of vessels to be acquired by the industry in the future will depend to a significant extent on the facilities that are to be provided in the principal ports of the Philippines, it could be to the advantage of the industry to have some control over implementation of improvements. The Conference of Interisland Shipowners and Operators (CISO), the members of which accommodate around 85 percent of interisland liner shipping cargoes, as well as the major portion of non-ferry passenger traffic, has, in fact, made an investment proposal to the Government for Manila port development (although the proposal is not now to be implemented). The real potential for accomplishing this privatization of port facilities needs to be identified, and an action plan is needed to permit PPA to realize potentials for privatization and rapid port system development.

In order that PPA might better move in the directions identified by the SRRS as desirable, including defining the international port system, making the important system decisions, improving the operations of ports, and privatizing the ports, the SRRS prepared terms of reference (TOR) for four studies that the study deemed desirable or essential to achieving progress in these directions. The present TOR define the International Ports and Container Transport Study (IPACTS). The other studies are the Liner Shipping Route Study (LSRS), the Interisland Agro-Transport Study (IATS), and the Interisland Liner Shipping Passenger Accommodation Study (ILSPAS). There are yet two other, on-going studies which have important implications for the development of some ports. One of these is the Nationwide RORO Transport System Development Study (NRTSDS), which will identify how RORO ferry operations might best develop in the Philippines, and might have port traffic and development implications for a number of Visayan ports, and perhaps for other ports, as well. The other on-going study is a master planning effort for the port of General Santos.

Objectives

The broad objectives of the IPACTS are:

- To identify how best containers might be accommodated by interisland shipping and the port system in the Philippines.
- To define the medium-term international port system of the Philippines, and to prepare preliminary master plans for ports recommended for inclusion in the system (other than Manila and Batangas).
- To identify the implications of development of the international port system for other ports of Mindanao and the Central and Western Visayas, and for the interisland liner shipping industry and Philippine exporters and importers.
- To assess prospects for attracting private investment in specialized new port facilities, including container terminals, on a BOT or other basis, and to devise an optimal scheme for realizing potential investment in ports of the international port system.

In regard to the first of the above-listed objectives, the IPACTS must thoroughly examine the three basic options for accommodating containers by interisland shipping, namely, continued reliance on vessels with on-deck gear for moving containers between ship and shore; converting to reliance on cellular containerships and shore-based handling equipment; or increased reliance on RORO vessels, with the difference (from the present) that there would be appropriate accommodation of these vessels in ports, thereby permitting roll-on roll-off operations for containers. IPACTS must also consider stacking options at principal ports, including possibilities for rapid movement of containers out of port areas. Although the study is not concerned with Manila North Harbor in regard to master plan preparation, IPACTS concern with container transport is to extend to the domestic port of Manila, including the needs for a dedicated and equipped terminal and for domestic container stacking areas inside and outside of the port.

Preliminary master plans must be prepared by IPACTS for Cebu, Cagayan de Oro, and Davao, and perhaps also for the port of Iloilo or Bacolod, depending on the conclusions of the study in regard to the potential importance of these ports in directly serving international traffic. In regard to the port of General Santos, the study must review and comment on the findings and recommendations of the on-going master planning effort whether or not IPACTS shall be recommending that port for inclusion in the medium-term international port system of the Philippines. Master plans will be for the 1993-2000 period. Master plans are not expected to be detailed; costing need be preliminary only; and only sketch drawings need be prepared by the study. IPACTS must provide, however, for each Visayan and Mindanao port of the recommended system, with the exception only of the port of General Santos (should that port be recommended for the medium-term system), TOR for the investigations required to produce final, detailed and fully-costed plans for 1993-2000 development.

If a few ports are provided with full container terminals and other specialized facilities, and serve larger proportions of the international shipping traffic of the Philippines than at present, then some of these ports might be expected to expand their hinterlands, perhaps not only for international traffic, but for interisland traffic, as well. The implications of such hinterland expansion for Filipino exporters and importers, for domestic shipping cargo volumes and patterns, and for ports not included in the international port system must be identified by the IPACTS. This aspect of the study will provide guidelines to PPA for the development of other ports of Mindanao and the Central and Western Visayas.

The IPACTS objective in regard to identification and assessment of privatization possibilities is intended to require thorough investigation. The study must consider different types and degrees of private sector involvement, extending, broadly, to the options of full private sector development and ownership, on a BOT or some other basis, joint venture investment with the PPA, leasing of PPA-owned facilities, or operating under a management contract. Assessment of privatization options must include thorough financial analysis of each option, and identification of the optimal schemes for attracting private investment, and of the probabilities of achieving investment and operations targets.

Work Scope

The work scope of the IPACTS will include, but not necessarily be limited to, the work items indicated below.

Container Traffic. An extensive and thorough survey and analysis of existing interisland transport of containers must be made by IPACTS. The survey will identify volumes and sizes of containers moved by CISO members to all ports served by these members, and will identify contents (by major commodity or commodity group, and movements of empty containers), and locations of stuffing and unstuffing (at ports, inland freight terminals, or at shipper and consignee locations). The survey will identify the type and efficiency of all container handling, storage and clearance operations at the dozen or so CISO-served ports that accommodate significant volumes of container traffic, and will assess the adequacy of interfacing with road transport for inland movement of containers. An effort must be made by the study to identify the ultimate points of origin and destination of containers and ,if different, their contents. Both the financial and the economic costs of container transport must be identified, including inland transport costs, port handling and storage costs, and interisland shipping costs. To whatever extent container stacking within port areas may create economic congestion costs for other port traffic, including ships waiting in the harbors and port-related road traffic, this must be identified by the study.

Trends of international and domestic container traffic in the Philippines must be identified and analyzed by the study, and projections of "normal growth" container traffic must be made for each year of the 1992-2010 period (that is, projections must be made of the container volumes that would occur in the absence of any significant improvement of container transport, which could act to increase the containerization of domestic and international cargoes). Projections must be by type and size of boxes, and in terms of twenty-foot equivalent units (TEUs), by shipping route and CISO-served port.

IPACTS must identify how traffic growth would affect port and shipping operations in the absence of any measures to more effectively and efficiently accommodate container traffic, and must compute all of the economic costs associated with this scenario. Possible low-cost measures to improve operations and lower container transport costs should be identified by the study, for example round-the-clock operations where one-shift or two-shift operations may exist currently, or restricting more severely and strictly the periods of container storage at ports. The effects of any low-cost measures must be estimated by IPACTS, including any reductions in the costs of transport of containers.

IPACTS must examine the desirability of going to employment of cellular containerships and shore-based handling equipment in ports with sufficient container traffic to warrant the introduction of such equipment. In examining this option, IPACTS must take into account not only the investment that would be required at ports, but also the investment required in vessels, given the actual CISO and other liner operator fleets which shall exist, in 1992, during the conduct of IPACTS. The study must make an assessment of the real potential for fleet changeover, considering the availability of suitable vessels on the world secondhand market, the financial wherewithal and acquisition inclinations of Philippine interisland liner shipping companies, and the options for use or sale of the vessels which would be replaced by new acquisitions.

IPACTS must examine the desirability of relying to a much greater extent than at present on the use of RORO vessels and port RORO operations for the accommodation of containers. This option would necessitate the provision of bona fide RORO berths at ports, that would permit the easy movement of vehicles, including container trailers, on to and off of vessels. IPACTS must compare the suboptions with reliance on RORO vessels, including loading containers on trailers (in which case stacking would no longer be possible, and therefore space would not be fully utilized, but loading and unloading would be rapid) and

continued stacking of containers, without trailers. The study must identify how far the RORO option for container transport might be able to proceed just with the existing interisland liner fleet, and what other vessels might need to be acquired, over the 1992-2010 period, to extend the use of RORO vessels to the maximum extent desirable.

The optimal scheme for accommodating containers in interisland and international trade must be identified by IPACTS. This scheme may stress heavy reliance on a few ports with full container terminals, or the study may identify that continued reliance on vessels with on-deck gear and on RORO vessels would mean that only modest investments in individual ports would be needed with the optimal system. In between these extremes are various hybrid possibilities for the future development of the interisland and international container accommodation system of the Philippines. The optimal scheme must be selected by IPACTS on the basis of all technical, economic, financial, and implementation considerations.

Port Master Plans. IPACTS is to produce master plans for three or four ports, depending on the potential importance of developing either Iloilo or Bacolod, in the short to medium term, to directly serve sizable volumes of international shipping traffic. Whether a master plan is prepared for a port or not, all six of the ports, i.e., including Cebu, Cagayan de Oro, Davao, and General Santos, as well as Iloilo and Bacolod, must be thoroughly investigated by the study. To whatever extents may be desirable, IPACTS should not, in each case, be limited to consideration for improvement of areas and facilities under the administration of PPA, but should consider private sector commercial port facilities, as well, and even entirely new facilities in the vicinities of the individual ports. Essential elements of each of the master plans to be prepared by IPACTS include the following:

- Port hinterland and traffic analysis. The IPACTS analysis of port hinterlands must take into account the results of the study's own analysis of container traffic, and the results of the IATS, especially in regard to the provision of specialized facilities at any of the six ports under IPACTS master plan investigation. It is quite possible that the provision of full container terminals and/or other specialized facilities at ports will enlarge the hinterlands of the ports for the types of traffic that would be accommodated at those facilities. Thus, an individual port, developed in accordance with recommendations of IPACTS and the IATS for specialized facilities, might experience sizable expansions of its hinterland for one or more types of traffic, while retaining essentially its original hinterland for other traffic, as, for example, non-containerized general cargo. The IPACTS analysis of hinterlands must take into account all planned road improvements, as land access to ports is of considerable importance in defining the areas which ports can economically serve. The projections of traffic at each port must include profiles of the international and interisland vessels expected to call at the port. These profiles must indicate the types of vessels and their key dimensions (length, beam, and draft).

- Port area and location analysis. IPACTS will consider each port from the standpoints of adequacy of land and water areas and access by both land and water. The assessment of adequacy will consider the long-term needs for port development, taking into account future possibilities for port-assisted industrial development, possible interference of port-related road traffic with urban development and operation, limitations on vessel drafts, rates of sedimentation, protection from wave action, future traffic volumes and capacity considerations,

and any other concerns which would significantly affect the relative desirability of existing public and private port sites and areas vis-a-vis each other and other possible sites for port development (IPACTS is expected to give consideration to such other sites, i.e., new sites, for port facilities, only if all existing public and private commercial port sites and areas appear undesirable for long-term development). Even if a port site, for technical and/or economic reasons, may appear unsuitable for long-term development, IPACTS must give consideration to the possibility that it may deserve development efforts in the short to medium term, while planning continues to identify the optimal scheme for the accommodation of cargo in the long term. Where the port of Cebu is concerned, IPACTS must give consideration to the problem of the existing Mactan Island-Cebu Island bridge, and the possible need to replace the bridge if the port is to be developed to accommodate large vessels.

- **Water depth and dredging analysis.** IPACTS will review all available information on port water depths, sedimentation rates, underlying materials, and dredging records for the six ports considered for possible inclusion in the international port system of the Philippines. For the purposes of the IPACTS, available information should not need to be supplemented by any extensive survey work, but limited work might be needed to confirm other information, or to assess the needs to conduct new surveys for preparation of detailed, final master plans subsequent to completion of IPACTS. Estimates of dredging requirements must distinguish between maintenance and capital dredging, and cost estimates should reflect this distinction.

- **Existing facilities analysis.** Broadly, the engineering analysis of the IPACTS will divide existing facilities into three groups, namely, useful facilities in good condition, useful or potentially useful facilities in poor condition, requiring rehabilitation, and facilities to be replaced whatever their current condition. IPACTS must specify, and estimate the cost of, all rehabilitation work which should desirably be done over the 1993-2000 period.

- **Layout and operations analysis.** At this stage of the IPACTS analysis, IPACTS will have available to it the results of its own analysis of container interisland and international transportation and Philippine Government comments on the IPACTS' findings and recommendations in regard to containers, as well as the completed final reports of the IATS, the General Santos master plan study, and the NRTSDS and Government comments on these studies. On the basis of all of these, IPACTS will know what specialized facilities might be desirable in each of the six ports under study, including the possibilities that full container terminals, RORO ferry terminals, other RORO berths, dry bulk facilities for grain, sugar, and fertilizer, and livestock holding areas might be desirable in one or more ports. The layout analysis must take into consideration needs to separate international and domestic cargo operations, while at the same time facilitating transshipment. It is desirable that passenger and cargo operations also be separated, and the IPACTS must take this objective into account, as well (it is uncertain whether the results of the ILSPAS might also become available to IPACTS at this juncture in its work, but the results of ILSPAS and Government comments on that study's findings and recommendations will become available for any follow-up work to IPACTS to produce final port master plans). An aspect of this portion of the IPACTS master plan analysis will be the

identification of the types, specifications and numbers of all equipment required for optimal operations of the individual ports.

- **Management analysis.** IPACTS must identify how best the international ports of the Philippines might be managed, to ensure that all of the potential benefits of port investment are, in fact, realized, and that port operating costs are minimized, while at the same time good maintenance of all facilities and equipment is assured.

- **Implementation analysis.** IPACTS must identify all of the essential steps for development of the medium-term international port system of the Philippines, including drafting detailed TORs for all technical investigations necessary to prepare final, detailed, and fully-costed master plans for the ports which the IPACTS is recommending for inclusion in the international port system. IPACTS must identify, also, any actions to be taken by PPA, the BOC, or any other government organization to better ensure effective implementation of master plans and efficient port operations. To whatever extent private ports shall constitute portions of the international port system envisioned by IPACTS, the study must provide clear and sufficient guidelines for working relationships between the PPA and such private port operators.

Ramifications of Port System Development. The defining and developing of a system of international ports can be expected to have important ramifications for the development of other ports, for the interisland shipping industry, and for the export-import and domestic trade of the Philippines. In regard to other port development, IPACTS must identify the extent to which some of these ports are likely to suffer reductions in the sizes of their hinterlands and declines in traffic volumes, resulting from traffic diversion to newly provided specialized facilities in international ports. The implications of these changes for investment in these same ports must also be identified by IPACTS, by comparing the capacities of these ports with reduced traffic expectations.

The development of other international ports than only Manila and Cebu will tend to reduce the needs for transshipment at these two ports, and especially the transshipment volumes at Manila might be expected to decline. This diminution of transshipment volumes could mean substantial shipping cost savings for Filipino exporters and importers, and these savings must be identified and projected by IPACTS, for each year from the start-up of specialized port facility operations through the year 2010. The study must also identify transport cost savings for domestic shipping as a result of port development. Inland transport costs, however, can be expected to rise as a result of the greater concentration of shipping at a few ports, and the study must identify and compare these incremental transport costs to the projections of total shipping cost savings. Net reductions in total transport costs each year must be used by the study in assessing the desirability of port investments, and in identifying the optimal schedule of investment.

The reduction of volumes of transshipment cargoes will alter the pattern of interisland cargo traffic, and the IPACTS must identify how this pattern will change, and what this will mean in terms of required route capacities and optimal sizes of vessels. The study must consider, also, the desirability of permitting the domestic liner industry to engage in eastern Asia regional services, including especially the movement of Philippine international cargoes to transshipment points outside of the Philippines, such as Singapore, Hong Kong and Kaohsiung.

Financial Analysis and Privatization. IPACTS will have available to it, by this juncture of the study,the assessment of the IATS of prospects for attracting private investment to provide specialized facilities at ports to accommodate major agricultural commodities, and that study's action plan based on its assessments. IPACTS will need to review the IATS findings and recommendations, and government and other comments thereon. If in the view of IPACTS, adjustments in the IATS recommended action plan are desirable, this view must be well supported by analysis presented by IPACTS. IPACTS will also need to consider all other facilities of the ports under master plan consideration. Where new facilities are concerned, IPACTS must thoroughly assess the possibilities for private sector investment under a variety of arrangements, certainly including the BOT option; joint venturing between the PPA and the private sector would be less desirable from the standpoint of stated government policy in favor of BOT arrangements, but the study must nevertheless consider the joint venture option, if the BOT and other full-private-ownership options appear at all doubtful of near-term implementation. If the IPACTS should conclude that any private investment in one or more desirable facilities appears doubtful, then the option of PPA investment and subsequent leasing or management contract must be considered (this is, in fact, the nature of the MICT arrangement, but is nevertheless less desirable than options with greater private sector financial involvement, given government current policy, and the overall constraint on public funds).

For each option for each new facility, IPACTS must do a complete financial analysis, identifying all charges, revenues, operating costs, and debt servicing. These will be shown as pro forma profit and loss statements and statements of sources and uses of funds, for each year from the commencement of operation of individual facilities through the year 2010. Financial internal rates of return will also be derived by the study for each proposed major new facility (i.e., excluding minor facilities such as transit sheds).

Where existing facilities are concerned, IPACTS will consider the leasing option, and will identify the optimal rental charges from the standpoints of providing satisfactory returns to both PPA and the private operators of the facilities, while also protecting shipping operators, shippers, and passengers from excessive charges.

Schedule and Reports

The IPACTS is to be conducted in two phases. The first phase will be in 1992, and will require a period of eight months. The second phase will be conducted in 1993, after the comments of the government and others on the IPACTS first phase have become available, and the final reports of the IATS, the LSRS, the General Santos master plan study, and the NRTSDS have also all become available for the completion of IPACTS. The draft report of the ILSPAS may not yet be available when the IPACTS second phase gets underway, but should become available during the year. The IPACTS second phase, to be based largely on the findings of all of these studies, will require just six months to submission of the draft report.

The first IPACTS phase will include the full investigation of container transport, as well as the physical surveys of ports and their facilities and equipment. The second phase will consist of master plan preparation for three or four ports, and detailed comment on the findings and recommendations of the General Santos master plan study.

Reports and their due dates, in terms of months after first and second phase mobilization, are as follows:

- **Phase One Inception Report.** This report must be submitted and presented within 45 days after mobilization. The report must evaluate the adequacy of available information to complete all phase one work, and identify what efforts will be necessary to fill any information gaps or to test the validity and accuracy of information in hand. All intended phase one methodology must be identified and clearly explained, especially any changes that are proposed from these TOR or the selected proposal. A detailed schedule for carrying out all phase one work must also be provided.

- **Container Transport Draft Report.** This report must be submitted by the end of the seventh IPACTS month. The report should cover all aspects of the container transport surveys and subsequent analysis, and should provide a detailed action plan for implementing the recommended container interisland and international transport system.

- **Port Survey Report.** This report must be submitted at the end of the first phase work, eight months after mobilization. The report will be mainly a compilation of engineering information on the six ports under master plan investigation, but the report will also make the important recommendations concerning the desirability of including the ports of General Santos and Iloilo or Bacolod in the medium-term international port system of the Philippines.

- **Container Transport Final Report.** This report is to be finalized within 45 days after consultant receipt of government comments on the draft report, and at least 15 days before start-up of the IPACTS second phase. As the report shall have been revised to reflect government comments, it will serve as one of the bases for development of port master plans during the second IPACTS phase.

- **Phase Two Inception Report.** This report must be prepared and submitted within 45 days after mobilization for the IPACTS second phase effort. The report must assess the usability of findings and recommendations of other studies, including the IATS, the LSRS, the NRTSDS, and ILAPAS, for the purposes of preparing preliminary master plans for three or four ports. The report must identify all additional work that should be carried out during the second phase in regard to these ports. This report should also assess the completed General Santos master plan, both from the standpoint of system considerations and in regard to specific improvements proposed for that port, and should identify what further work efforts, if any, might need to be made by IPACTS in connection with the port.

- **International Port System Draft Report.** This report will be due at the end of the second IPACTS phase, six months after second phase mobilization. The report will incorporate, as appendices, the information of the Port Survey Report (perhaps revised and/or enhanced on the basis of comments on the earlier report and additional, second phase investigation). The main text of the report must identify, and present justification for, all development which should take place in the ports being recommended for inclusion in the international port system. The report must also present the analysis and conclusions regarding ramifications

of the recommended system development, as that analysis is specified in the preceding section of these TOR. An action plan for implementation of all recommendations and TORs for the further technical investigations necessary to prepare final master plans must also be incorporated within the report.

- **International Port System Final Report.** The draft report must be finalized within 45 days after consultant receipt of government comments on the draft.

Manpower Resources

The IPACTS will be a very important study for PPA, and it is therefore highly desirable that PPA assign at least three staff members to the study on a full-time basis. These staff members should include at least one permanent member of the PPA planning staff, and two engineers experienced in water depth surveying and dredging, and in the existing facilities of the ports to be included in the master plan investigation. It would be useful, as well, if at least one member of the planning staff of the Maritime Industry Authority (MARINA) were to join the IPACTS team for the first seven months of the study, and for about three months during the second phase.

The IPACTS team leader should be an expatriate port operations specialist, with extensive experience in a number of countries, preferably including the Philippines. The team leader should be capable of making substantive contributions to the work required in connection with the layout and operations and port management analyses, as well as effectively supervising all other work of the study, and finalizing the two draft reports. The team leader will have a total input of 16 months, including one month each for finalizing the Container Transport and International Port System reports.

Other team members will be either expatriate or Filipino consultants. These consultants, and their inputs to the study, in terms of person-months (p/m), are indicated below:

- Port Planner for 14 p/m
- Transport Economist for 14 p/m
- Port Design Engineer for 14 p/m
- Dredging Engineers (2) for a combined 14 p/m
- Container Terminal Specialist for 8 p/m
- Shipping Specialist for 4 p/m
- Port Equipment Specialist for 3 p/m
- Road Engineer for 3 p/m
- Bridge and Tunnel Engineer for 2 p/m
- Urban Traffic Planner for 3 p/m

The combined total consultant input to the study, as identified by individual expert, above, would be 95 p/m. With the involvement of three PPA personnel and one MARINA planning staff member, the total manpower resources for the study would be 147 p/m.

INTERISLAND LINER SHIPPING PASSENGER ACCOMMODATION STUDY

Terms of Reference

Background

The interisland liner shipping industry of the Philippines accommodates each year several million passengers. All of these passengers are accommodated aboard vessels that are performing both passenger and cargo services; the majority of vessels that are employed to accommodate both types of service together are conventional vessels, but there are also a number of roll-on roll-off (RORO) vessels being employed in this manner, and some of the liner industry containerships also carry a few passengers. From time-to-time in the past, and most recently in 1990, one or another liner shipping operator has attempted to provide services employing passenger vessels, but none of these services have been financially viable.

Liner shipping operators provide First, Second, and Third Class services, and some operators break down one or more of these classes of passenger services into subclasses. Rates for First and Second Class services are not regulated by the Maritime Industry Authority (MARINA), but Third Class rates are regulated. The liner operators are required by law to reserve at least 50 percent of the passenger capacity of each vessel performing passenger services for Third Class passengers. This requirement is not now an onerous one for the liner industry, because large proportions of their passenger markets comprise passengers for whom cost is the paramount consideration, and these individuals could not easily be induced to convert to Second Class services; most operators, therefore, provide much more than the mandatory 50 percent of passenger capacity for the accommodation of Third Class passengers.

The members of the Conference of Interisland Shipowners and Operators (CISO) perform most of the interisland liner shipping services between the principal ports of the Philippines. The members of the Visaya Association of Ferryboat and Coastwise Service Operators (VAFCSO) perform most of the other liner services among the Visayan Islands, and between those islands and Mindanao. The third interisland shipping conference is the Southwestern Mindanao Shipowners Association (SMSA), the members of which serve the western coast of Mindanao and the islands of the Sulu Archipelago. There are, in addition to the liner operators who are members of these three conferences, a number of unaffiliated liner operators. CISO indicates that the cargo services of its members generally subsidize their cargo operations. One reason why this might generally have been the case in the past was that Philippine Airlines (PAL), which competes with CISO members for passenger traffic between the principal ports of the Philippines, has historically subsidized its domestic operations with its international operations. In recent years, however, PAL has been making efforts to phase out these subsidies, which has gradually tended to increase the demand for CISO member First and Second Class passenger services. Passenger services are relatively more important for VAFCSO and SMSA members, than for members of CISO, and the absence of any significant air transport competition, over the shorter-distance VAFCSO and SMSA routes, may have permitted these services to be more generally profitable.

The principal ports of the Philippines serve substantial volumes of both passenger and cargo traffic. Generally, these ports do not have any specialized facilities for passengers, and passengers board and deboard at the same berths where the cargo, that is aboard the same vessels as the passengers, is to be handled. For an individual vessel, there may be little or no interference between passenger and cargo operations while the vessel is in port, but

passenger boarding and deboarding activities do interfere with cargo handling operations at adjacent berths. One reason why few of the larger ports have dedicated passenger berths for passenger accommodation is that the liner operators employing passenger/cargo vessels to perform passenger services are opposed to a port modus operandi that would require three docking operations for vessel turnaround (that is, docking first to permit passenger deboarding, then docking at a cargo berth, and, finally, redocking at the passenger terminal to permit boarding).

Philippine interisland shipping has a poor safety record, over a period of many years, with hundreds of passengers and crew members dying in the average year. Reasons for the bad safety record include vessel manning with insufficiently qualified officers, unsatisfactory condition of vessels (vessels not in class), passenger overloading, inadequately equipped vessels, and inability to provide accurate and timely storm warnings. MARINA is attempting, in 1991, to enforce a requirement that all vessels of 500 GRT and above be in class, but it is likely to take a period of a few years before this can be accomplished completely. Even when it has been accomplished, there will remain a need to better ensure that smaller vessels are in seaworthy condition.

During 1992 and 1993, a number of studies will be conducted that should lead to improvement of the interisland shipping sector of the Philippines. The on-going National Roll-on Roll-off Transport System Development Study (NRTSDS) will be completed in 1992, and should identify the extent to which roll-on roll-off (RORO) ferry services might desirably be developed in the Philippines. The Liner Shipping Route Study (LSRS) will be conducted during 1992, and is expected to lead to less stringent regulation of the liner industry, with attendant improvement in service efficiency; where passenger services, specifically, are concerned, the LSRS may make recommendations leading to improvement of service standards, and to better tailoring of service schedules to seasonal fluctuations of demand. The Interisland Agro-Transport Study (IATS) and the International Ports and Container Transport Study (IPACTS), both of which are expected to be conducted during 1992-1993, should help to lead, especially, to the improvement of principal port operations, and may also lead to some improvement in the appropriateness of liner shipping cargo capacity, and in the efficiency of shipping operations. The Maritime Training Industry Study (MTIS) could lead indirectly to improved maritime safety and shipping operating efficiency, by helping to improve the quality of maritime training, and perhaps also the capacity of the training industry to graduate larger numbers of qualified ship's officers, and so solve a serious problem for the interisland shipping industry. The Maritime Safety Infrastructure Organization Study (MSIOS) should represent an important step toward improving the dismal safety record of Philippine domestic shipping.

None of these study efforts, however, will identify how best interisland passenger traffic might be accommodated by the liner industry and at ports. There is a need therefore for the conduct of a study which has interisland passenger travel as its focus. These terms of reference (TOR) for an Interisland Liner Shipping Passenger Accommodation Study (ILSPAS) are to fill that perceived need.

Objectives

Broadly, ILSPAS has two objectives, namely, to identify how best interisland passengers might be accommodated at sea and to identify how best they might be accommodated at ports. Objectives of the study subordinate to these two broad objectives include the following:

- To identify the current and future mixes of passengers by class, or outes wit different characteristics.

- To assess the potential for achieving passenger service profi ɔility wit continued employment of conventional passenger/cargo vessels nd RORC vessels.

- To analyze the potentials for acquiring suitable secondhand ve: ɜls on th world market for conversion to full interisland passenger service ı routes (different characteristics, and to assess the potential for achieving ɔrofitabilit with these vessels.

- To analyze the potential for constructing full passenger vessels of c 'erent size in the Philippines, or of collaborating with the Indonesian shipbuil ŋg indust to construct passenger vessels, suitable for Philippine interislar passeng services, from the standpoints of meeting demand for services, ope ting safel and achieving profitable operations.

- To analyze the effects of interaction of passenger and cargo operat ns in por of different sizes and traffic profiles, and to identify and assess pc ibilities f reducing any adverse effects of interaction at ports through change n port ar vessel modi operandi.

- To identify and assess the options for providing specialized passe er facilitie in ports of different sizes and traffic profiles. Where internatio l ports a concerned, ILSPAS must specifically consider the facilities whi might l appropriate for the ports of Manila, Batangas, Cebu, Iloilo, Baco d, Cagaya de Oro, Davao, and General Santos, and must consider the accor ıodation international passengers, as well as interisland passengers.

- To identify the optimal scheme for accommodating interisland pas ıger traffi including the identification of optimal vessels by type of ro ɜ and tl identification of associated, optimal port facilities.

- To prepare an action plan for implementing the preferre passeng accommodation scheme, including preparation of TORs for any re ired furth study.

ILSPAS is not expected to consider all liner routes in the Philippines, or Philippi ports. As indicated above, ILSPAS must consider all international ports, howev and cou furnish important input to the international port system investigation to be c ied out l IPACTS. In addition to these eight large ports, ILSPAS should include in its in stigation port facility needs three sets of ports that serve the two ends of routes with ntermedia levels of both interisland cargo and passenger traffic , and three other sets of pc ; that ser mainly passenger and baggage traffic. Route investigations will be limited to ni ɜ, includi three routes between principal ports, as well as the two sets of three routes as ciated wi the intermediate-sized passenger/cargo ports and passenger ports. The ILSPAS ana ɜes of the 20 ports and 9 routes must cover the period of 1992-2005.

It is not an objective of ILSPAS to investigate interisland liner passenger service standards, in terms of passenger comfort and satisfaction with the services being provided. Some investigation of service standards has been done by MARINA and by the SRRS, and the LSRS, in 1992, with undertake, inter alia, to complete this work on service standards. This is certainly not to say that the efforts of ILSPAS will not redound to the benefit of passengers. By identifying for MARINA and for the interisland shipping industry the potentials for employing a variety of vessels not currently employed in passenger services, the study should be contributing to the development of both service type/quality and cost competition. Similarly, the identification for port operators of the optimal manner of accommodating passengers at ports, should not only help to relieve port congestion, but, for the passengers themselves, should help to make vessel boarding and deboarding more convenient and more nearly risk free.

Work Scope

Passenger Demand Analysis and Projection. The study will obtain complete information on the liner passenger services offered on the nine routes under study, and on traffic characteristics, including volumes and load factors, by class of service, and traffic seasonality. Much of this information should be available to ILSPAS from the LSRS, but limited needs for ILSPAS team field surveys are likely. In projecting traffic, by route and class, the study must identify and take into consideration possibilities for improving real levels of household incomes in the various hinterlands of ports, and possible changes in the relative competitiveness of alternative transport modes (that is, air and road/ferry transport options vis-a-vis sea transport). Projections must not only be of passengers, but also of Third Class passenger baggage (which must be accommodated elsewhere on vessels than in passenger cabins).

Assessment of Potential for Future Profitability of Present Type of Operations. Much of the information required for this ILSPAS' analysis will be obtained from the LSRS, but the latter study will not have considered the potentials for cross-subsidization of Third Class services with First and Second Class services (the LSRS will only be concerned with regulated rates, and rates for First and Second Class services are not regulated). ILSPAS, therefore, will need to do this analysis, for each of the nine routes under investigation, and for two types of vessels, namely conventional passenger/cargo vessels and RORO vessels (although some passenger volumes are accommodated aboard containerships, these constitute only a small proportion of the total traffic, and the SRRS, in any case, has already identified that it is highly unremunerative for shipping operators to utilize space aboard containerships for passenger accommodation).

Assessment of Potential for Future Profitability With Utilization of Passenger Vessels. Basically, there are three options which ILSPAS must examine in connection with the introduction of passenger vessels into interisland liner shipping services, namely, the acquisition of secondhand vessels from outside the Philippines, the acquisition of new vessels from outside the Philippines, and the construction of new vessels inside the Philippines. Within each of these broad options, however, there are a number of sub-options, that is, a variety of possibilities in regard to vessel types and sizes. ILSPAS must provide an assessment of the 1992 or 1993 world secondhand market for passenger vessels and for vessels which might be converted to passenger vessels, and must forecast world market prospects for such vessels to the year 2000. Prices must be provided and projected by the study, and the costs of any necessary conversion of vessels must also be estimated and projected. ILSPAS must, as one possible option for obtaining suitable vessels, explore the possibilities for suitable vessels to

be obtained from Indonesia, and the possibility of Philippine joint venturing with Indonesian shipbuilders to build passenger vessels for the combined Indonesian/Philippine market must also be thoroughly explored by the study. ILSPAS must explore, too, the possibilities that the Philippine shipbuilding industry might commence building passenger vessels on its own, without Indonesian or other foreign involvement. In all of these cases, the study must provide preliminary drawings and cost estimates for any new passenger vessels worthy of careful consideration. ILSPAS must not only explore optional vessels thoroughly, but must give consideration to, and thoroughly discuss, the mode of operations, to ensure high operational efficiency and minimization of the costs of operations. Finally, ILSPAS must provide thorough financial analyses, with projections of profit and loss and sources and uses of funds to the year 2005, for each vessel option worthy of consideration for each of the nine routes under study.

Analysis of Traffic Interaction at Ports. This analysis will require both interviewing and field survey techniques to identify, firstly, whether there is a direct inverse correlation between passenger and cargo operation interaction and cargo handling productivity rates, and, secondly, whether the interaction causes significant inconvenience and/or risk to passengers. Should problems requiring redressing be identified at some of the ports under study, ILSPAS must attempt to identify whether there are simple, low-cost measures that could be taken to reduce or eliminate the problems. Any such possible measures must be assessed by the study, and recommendations must be made based on the estimated net effects of the measures.

Analysis of Possible Specialized Passenger Facilities at Ports. For those ports which will not, at the time of ILSPAS conduct, have any specialized passenger facilities or any plans to provide such facilities, ILSPAS must identify options for providing such facilities. Even in the case that ILSPAS will have identified at one or more of these ports, without specialized passenger facilities, that such facilities are not essential for eliminating any existing problems deriving from passenger and cargo traffic interaction, passenger facilities may yet be desirable for some positive benefits to passengers and their well-wishers, and/or to preclude the possibility that traffic interaction could prove undesirable in the longer term. ILSPAS must do both economic and financial analysis, as well as technical analysis, in regard to any passenger facility proposals of the study. The financial analysis should determine whether costs of providing facilities can be recovered from the passengers and well-wishers served. Where the international ports are concerned, ILSPAS must give consideration to possibilities that international passengers, as well as interisland passengers, might be accommodated at the ports, and the implications which such traffic would have for the interisland traffic. For example, if international passenger traffic, by itself, would necessitate provision of a passenger terminal at one or more of these ports, then the accommodation of interisland traffic at the same terminal might be done for low incremental costs.

Identification of Optimal Schemes for Passenger Accommodation. The optimal schemes for passenger accommodation at international ports must take into account all of the results from ILSPAS' analyses, and must also consider the findings of the IATS and IPACTS in regard to other development at these ports. ILSPAS inputs could, in turn, be important for the master planning efforts of IPACTS. ILSPAS should attempt to identify the extent to which its findings, for specific ports and routes, might be more generally applicable for interisland shipping and liner ports of similar characteristics. The schemes for individual routes and ports must include estimates of all vessel acquisition and conversion costs, and port development costs.

Preparation of an Action Plan. The action plan must identify all actors that will need to be involved, and all actions which will need to be taken, with indications of timing, in

order to bring about the optimal schemes for accommodating passengers at the ports and on the routes studied by ILSPAS, and to replicate changes in passenger accommodation elsewhere or, if necessary, to conduct further study in regard to other interisland ports and liner routes.

Schedule and Reports

ILSPAS is to be conducted over an eight-month period, primarily in the Philippines, except that some investigation of passenger vessel acquisition possibilities might need to be done in Indonesia and/or other countries of eastern Asia. Reports and the schedule for their submission will be as follows:

- **Inception Report.** This report must be submitted within 30 days after ILSPAS mobilization. The report should assess the usefulness of information, findings, and recommendations available from other studies, including especially the NRTSDS, the LSRS, the IATS, and IPACTS. The report must also provide a detailed plan for carry out all work of the study and meeting all study objectives, as these are specified in these TOR. The report must be as specific as possible in the identification of the intended investigation of the international market for used and new vessels, and for exploring the possibility for Indonesian and Philippine cooperation in the matter of building and marketing passenger vessels suitable for interisland operations in both archipelagic countries.

- **World Passenger Vessel Market Report.** This report should be submitted at the end of the 5th ILSPAS month, and should present all of the information that the study is able to obtain on current and prospective future availability of passenger vessels or other vessels suitable for conversion to passenger vessels. The report should also assess all purchase possibilities from the standpoints of appropriateness for interisland passenger travel demand and potential profitability.

- **Draft Final Report.** This report must be completed and submitted by the end of the 8th ILSPAS month, and must respond to all objectives of the study.

- **Final Report.** This report will contain revisions of the drafts of both the world market report and the draft final report, on the basis of comments received on these drafts, and must be submitted within 45 days after receipt of the last comments to be received.

Manpower

ILSPAS will be conducted by a 3-person team of consultants, and will require a total consultant input of 26 person-months (p/m). The team leader must be a port planner with extensive experience with passenger terminals at ports. He will be assigned to the study for a total of 9.5 months, including 1.5 months for preparation of the Final Report. A vessel specialist will be assigned to the team for the first 5.0 months of the study, and will rejoin the team for 1.0 month to assist in preparation of the draft report, and again for 1.0 month to assist in preparation of the Final Report. A transport economist/financial analyst will be assigned to the study for 9.5 months.

MARITIME TRAINING INDUSTRY STUDY

Terms of Reference

Background

There are about 60 educational institutions that provide maritime training in the Philippines. Ten of these are government schools, the most important of which are the Philippine Merchant Marine Academy (PMMA) in Manila and the National Maritime Polytechnic (NMP) in Tacloban, Samar. The other 50 or so institutions are in the private sector, and include 11 institutions that strictly provide maritime training. A few institutions provide only a six-month course in basic seamanship, but most provide training courses leading to an associate marine engineer certificate, and more than 30 institutions also offer a degree program in nautical studies. The majority of these institutions, however, do not have adequate facilities and equipment for maritime training, and very few are able to provide the shipboard training that is essential for the development of fully-qualified ship's officers and crew.

Despite the shortcomings of the maritime training industry, Filipino seamen are in demand by the world shipping industry. Until 1990, virtually all of the graduates of the PMMA were, upon graduation, immediately hired by foreign shipping. This hiring practice, however, contributed to a problem of severe shortages of qualified ship's officers to serve interisland shipping, and a legal requirement to defer any foreign hiring of PMMA graduates until at least two years after graduation therefore became necessary, and went into effect in 1990. By 1991, the required two years of interisland service by PMMA graduates, reportedly, had already improved the situation somewhat for the interisland shipping industry, but a shortage of qualified ship's officers nevertheless persisted. The Maritime Industry Authority (MARINA) indicates that the retention of PMMA graduates to serve the interisland sector for two-year periods cannot effectively deal with the shortage problem, since the need is really for experienced officers. The effects of interisland shipping operation without full complements of fully qualified officers was identified by a Presidential Task Force (PTF) on interisland shipping, in 1989, as the number one cause of an egregious maritime safety record in the Philippines. The shipping industry, itself, agrees with the PTF finding, and notes that inadequate numbers of qualified seamen also results in high operating costs for the industry, particularly because poorly trained officers do not give sufficient attention to vessel and equipment maintenance, with the result that avoidable, costly repairs are frequently necessary; such repairs not only add to costs, but also reduce revenue, and lower service standards.

It is not only the Philippine shipping sector, but also the Philippine Overseas Employment Administration (POEA) and the manning industry which are concerned about the lack of sufficient numbers of qualified Filipino ship's officers. There is still some level of unmet demand for Filipino seafarers in world shipping, and it is important to the Philippines that actions be taken to ensure that this demand be met. Employment of Filipinos benefits the country in two ways: the remittances of seamen boost the country's foreign exchange; and employment reduces the levels of unemployment and underemployment in the country, thereby helping to reduce the amount of civil unrest. Because of these benefits that redound to Philippine society, and the financial benefits earned by the manning industry through recruitment of seamen for employment in world shipping, it may be justified that the Philippine Government and the manning industry contribute to training costs, thereby reducing costs to trainees and training establishments, and increasing numbers of trainees while improving the quality of training.

The Japan International Cooperation Agency (JICA) financed a Philippine maritime safety study, in 1991, that examined the maritime training industry from the standpoint of maritime safety. The study identified that there are needs to improve industry teaching ability and facilities and equipment of training institutions, and there is a serious need to greatly expand shipboard training opportunities. The Interisland Liner Shipping Rate Rationalization Study (SRRS), financed by the United States Agency for International Development (USAID) and also conducted in 1991, recommended that shipboard training opportunities be expanded in two ways:

- By the maritime training industry entering into agreements with the Philippine Interisland Shipping Association (PISA), the Conference of Interisland Shipowners and Operators (CISO), the Visaya Association of Ferryboat and Coastwise Service Operators (VAFCSO), and the Southwestern Mindanao Shipowners Association (SMSA), whereby trainees would be assigned to vessels for round-trip voyages or for some specified periods of weeks or months.

- After vessels not in class are taken out of service, in compliance with a 1991 requirement of MARINA to the effect that all interisland vessels of 500 GRT or larger must be in class by the end of the year, these could be sold at low prices by members of PISA, CISO, VAFCSO, and SMSA to the training industry for training purposes, provided only that MARINA would exempt vessels used for training from the requirement that vessels be in class.

MARINA indicates that the Philippine Association of Maritime Institutions (PAMI), representing the maritime training industry, "initialized" an agreement with CISO in April 1989, whereby CISO vessels are to be used to provide some on-board training. A continuing problem in regard to implementing this agreement, however, is the matter of financial arrangements for on-board training, as CISO members take the view that long-term benefits to themselves as a result of improved training are uncertain, and many of the potential trainees may continue to be employed by world shipping. MARINA points out that, even if the PAMI/CISO arrangement becomes effective, only a portion of on-board training needs can be met in this manner, and other arrangements will also be needed if all requirements for on-board training are to be met. MARINA indicates, also, that it is unwilling to permit training in vessels to be taken out of commercial service because they are not in class and cannot be brought into class at acceptable costs.

Some shipboard training is being provided (beginning in 1990) through a Seafarers Training Scheme in Japan, but it is unclear whether any trainees from this program might become available to the Philippine interisland shipping sector at any time soon.

Norway is about to implement a project to improve maritime training in the Philippines. The project involves establishing a new training center at some location in the Visayas. Intended training will emphasize maritime safety, including training in sea rescue and in fire fighting. Provided only that the project is successful, Norway is intending to replicate the project at locations on the islands of Luzon and Mindanao.

Although all of the recent and scheduled investigations of maritime training in the Philippines are or will be useful for improving the quality of training and the number of seamen trained, there is need for a broader and more in-depth examination of the maritime training industry. In particular, none of the completed or scheduled studies has or will

identify the overall potential for employment of Filipino seafarers, and the potential for meeting the total demand for seafarers. None of these study efforts have or will examine the financial implications, nor will they provide an action plan for expanding training opportunities and upgrading the quality of training throughout the training industry. These terms of reference (TOR) for a Maritime Training Industry Study (MTIS) are an attempt to fill the need for a broader, more in-depth study.

Objectives

The broad objective of the MTIS is to develop a desirable strategy and optimal action plan for improving the capacity and effectiveness of the Philippine maritime training industry to graduate fully-qualified ship's officers. Specifically, the MTIS must:

- Examine the limitations on attracting suitable trainees, including especially financial considerations, and identify and recommend how best training can be made more widely available to interested individuals with the requisite basic education for entering the training programs.

- Identify needs for program upgrading, including possible improvement of industry program designs and contents, strengthening of teaching abilities, improvement of institution facilities and equipment, and expansion of opportunities for shipboard training, and identify and recommend how best desirable improvements might be brought about.

It is not expected that the MTIS will address the needs of each individual institution in the maritime training industry, but a sufficient number of individual institutions must be investigated to ensure that the study's assessments of industry capacities and problems are accurate and that recommendations are appropriate.

Financial aspects of the study are very important. On the one hand, training must be affordable to interested and otherwise qualified trainees, and, on the other hand, the training industry must be enabled to acquire desirable training equipment and materials, and to hire qualified instructors to conduct classes at suitable facilities. The investigation of financial options must extend to the possibility that the Government and/or the manning industry might desirably cover some portions of the costs of training qualified ship's officers.

Work Scope

The MTIS must attempt to identify the total markets for qualified Filipino seamen, including both international and domestic shipping, and, on the basis of identified market potential, to identify, as well, the optimal numbers of annual graduates to be produced by the training industry. The MTIS must then assess the prospects for attracting sufficient numbers of trainees to the opportunities for training and subsequent employment, disregarding in this portion of the analysis the present capacity and quality constraints of the maritime training industry. The MTIS must also identify any impediments to attracting optimal numbers of suitable trainees, such as lack of information regarding available opportunities and prospective trainee financial constraints. To obtain much of this information, the MTIS must conduct extensive interviews with graduates, trainees, institution staffs and administrators, and officials of several government bodies, including especially MARINA, the Department of

Education, Culture, and Sports (DECS), the POEA, and provincial governments, particularly of provinces in the Visayan Islands. The study is not expected to be able to provide precise figures on employment potential or on the potential for attracting suitable trainees, but the analyses must be sufficiently careful and accurate for the Philippine Government to understand the needs for improvement strategies and the prospects for success of the strategies.

To provide a basis for an industry improvement plan, the MTIS must not only identify inadequacies of the maritime training industry, but must also identify how those inadequacies translate into training capacity limitations and limitations on graduate qualifications. The study must assess the SRRS recommended options for expanding shipboard training opportunities and other possible options, and must recommend the preferable option or options. The MTIS must, also, prepare an action plan for implementing the preferred option or options, and for implementing all other desirable improvements of the training industry. This action plan must identify all potential sources and uses of funds, although it is not expected that precise estimates of the costs of training capability upgrading can be identified by the study, nor are precise estimates of the amounts to be obtained from each funding source expected from the study. Rather, the study must produce a detailed strategy for implementing all identified desirable improvement, with precise funding needs and arrangements to be agreed upon by all interested parties after the study has been reviewed and discussed.

Schedule and Reports

The MTIS is to be carried out by an expert in the maritime training field, over a five-month period in the Philippines, with the assistance, for two months, of a specialist in education finance. Both experts will subsequently be employed for a single month in the United States to produce a final report. The draft report must be submitted and presented at the end of the maritime training expert's five-month assignment in the Philippines, and the finalized version of the report must be submitted to the Philippine Government within 45 days after the study team has received the Government's comments on the draft.

MARITIME SAFETY INFRASTRUCTURE ORGANIZATION STUDY

Terms of Reference

Background

Maritime safety is of serious concern in the Philippines, as in the average year there are more than 100 maritime accidents involving loss of life. In 1989, a Presidential Task Force (PTF) on interisland shipping was formed because of two very serious accidents within a short period of time, each accident resulting in the loss of hundreds of lives. The PTF identified that the single greatest cause of unsafe interisland shipping operation was the shortage of fully qualified ship's officers to serve the interisland shipping industry, and the industry's resultant reliance on many officers who are not fully qualified. Other important causes of maritime accidents were found to include the operation of vessels which are not seaworthy (not in class) and hazardous sailing conditions. The latter are caused, in turn, by outdated survey information and mapping of sealanes, inadequate numbers of navigational aids (navaids), inadequate shore-to-ship communications, insufficient dredging operations, lack of attention to the salvaging of sunk and grounded vessels, inadequate weather forecasting (especially storm warnings), and inadequate sea traffic control.

The legal responsibility for maritime safety resides primarily with the Department of Transport and Communications (DOTC) and its subordinate agency, the Maritime Industry Authority (MARINA). This responsibility, however, was shifted from the Department of Public Works and Highways (DPWH) as recently as 1987, and no effort has yet been made by the government to development MARINA institutionally, in order that the agency might then be able to effectively take on maritime safety responsibilities. The Philippine Coast Guard (PCG) had responsibility for maritime safety when it was first established, in 1967, but it, too, was never developed to effectively carry out all of the necessary safety functions. The PCG does carry out some duties in regard to maritime safety, however, as the government, recognizing MARINA's lack of capability in the maritime safety area, designated PCG to assist MARINA. The PTF, noting that the division of maritime safety responsibilities between MARINA and the PCG was unclear, recommended only that MARINA and the PCG should work out the optimal division of responsibilities between themselves.

In the view of the DOTC, it (and not MARINA) is "responsible for the planning and programming of aids to navigation", but must do this "in coordination with the PCG", and PCG is "responsible for the construction and maintenance of aids to navigation". It remains true, however, that neither the DOTC nor the PCG have been developed to effectively carry out these planning, programming, and implementation responsibilities in regard to maritime safety infrastructure, and that the required "coordination" between a department of the Philippine Government and an agency under another department is difficult to achieve.

The Interisland Liner Shipping Rate Rationalization Study (SRRS), conducted in the Philippines in 1991, recommended that MARINA should be developed to handle all of those maritime safety functions related to vessels and their operation, which would include ensuring that vessels are seaworthy, that they are manned by full complements of fully qualified ship's officers and crews, that the vessels are in compliance with the international maritime safety conventions of which the Philippines is a signatory, and that vessels do not operate overloaded. In the view of the SRRS, however, MARINA is not by its nature an infrastructure organization, and it would be detrimental to the effectiveness of MARINA in carrying out its

current functions, if an effort were made to develop MARINA into an infrastructure organization.

Accordingly, the SRRS recommended that the Shipping and Ports Advisory Council (SPAC), of which both MARINA and the PCG are members, should advise the Secretary of the DOTC on the desirable division of maritime safety responsibility between MARINA and a maritime infrastructure organization, which could be the PCG. The SRRS also recommended that an institutional development study be conducted, in 1992, to provide direction to the development of MARINA and to the Philippine Shippers' Council (SHIPPERCON). The first phase of the MARINA and SHIPPERCON Study (MARSH Study) will, inter alia, investigate and recommend on the maritime safety responsibilities that desirably should reside with MARINA, and the optimal limitations to MARINA's responsibility for maritime safety; before the second phase of the MARSH Study can proceed, decisions will need to be taken by the Philippine Government on the scope of MARINA's responsibilities and functions in a number of areas, including with regard to maritime safety. Provided only that the Government does not decide that responsibility for maritime safety should reside solely with MARINA, there will need to be subsequent decisions made in regard to the maritime safety responsibilities and functions not taken on by MARINA.

The SRRS recommended that a single organization take on the responsibility for maritime safety infrastructure. Such a maritime safety infrastructure organization (MSIO) would be responsible for surveying and mapping of sealanes and harbor entrances; carrying out maintenance dredging operations (at least outside of ports); salvaging of wrecks and grounded vessels; developing and maintaining navaids; developing, maintaining, and operating coastal communications stations; and developing and operating emergency services, including search and rescue services and fire-fighting at sea.

Currently, the National Mapping and Resource Information Authority (NAMRIA) is responsible for surveying and mapping sealanes, but is decades behind in these duties. Although no longer having any legal responsibility for navaids, DPWH continues to assist in their maintenance, and PCG also plays a role in their maintenance, but 30 to 50 percent of navaids are nevertheless not in operation at any one time, and there may also be a need for a significant increase in the total number of navaids. The PTF noted that no government agency has responsibility for ensuring that wrecked or grounded vessels are salvaged. The DOTC indicates that the PCG has responsibility for actual vessel salvaging operations, but cannot effectively undertake such operations, because there is as yet no admiralty court to deal with the legal aspects of salvaging. Dredging operations are ostensibly the responsibility of the Philippine Ports Authority (PPA), but PPA has not been able even to keep up maintenance dredging requirements within the harbors and approaches of its own ports; moreover, the responsibility may be inappropriate for PPA, which is charged with operating its ports as a commercial entity. PCG operates some coastal communications stations, but without adequate equipment. From all of this, it is clear that the proposed shifting of maritime infrastructure responsibilities to a single MSIO would not conflict with anything that is currently being done properly by another organization.

One option for development of the MSIO would be conversion of the PCG. This option has much to recommend it. To begin with, it would be in accord with the original objectives in establishing the PCG. More importantly, the PCG already is involved with some of the functions of the proposed MSIO; as noted above, the PCG, however inadequately at the present time, is assisting in navaid maintenance and operates some coastal communications stations. Another advantage of developing the PCG into the proposed MSIO is that it would

be useful for the MSIO to have police authority, in emergency situations for example, and in combating the vandalism that is one of the principal causes for navaids being out of service. Police authority would be essential if the MSIO were also to take on responsibility for shipping traffic control.

A disadvantage of the PCG option for development of an MSIO is that the PCG is under the Department of National Defense (DND). This is a disadvantage mainly because of the interference which national defense responsibilities might be expected to have with the responsibilities for maritime safety infrastructure. There might also be an problem of obtaining foreign assistance to develop the MSIO if it is to be under the DND. It is generally believed, for example, that it is because the PCG is under the DND that financial assistance to provide the PCG with search and rescue vessels has not been forthcoming. These anticipated problems with the PCG option could be avoided if the PCG were shifted to a civilian department; the DOTC would be appropriate if this were to be done, since the DOTC is already charged with responsibility for maritime safety, and to better enable the PCG to develop a close working relationship with MARINA, which would then be a sister agency under the DOTC.

If for whatever reason, PCG cannot be shifted to a civilian department of the Philippine Government, it is still possible that development of the PCG into an MSIO would offer the best MSIO option. Another possibility that would need to be examined, however, would be the establishment of an entirely new organization, probably under the DOTC, that would have maritime safety infrastructure development, maintenance, and operation as its raison d'etre. Because such an organization would not have the PCG's police powers, it would need to develop a close working relationship with the PCG, to effectively carry out some of its functions.

These terms of reference (TOR) for a Maritime Safety Infrastructure Organization Study (MSIOS) are to identify the investigation that will be required should the MARSH Study, in 1992, recommend that MARINA not take on any responsibilities for maritime safety infrastructure and should the Philippine Government concur with that recommendation.

Objectives

The MSIOS has the following three broad objectives:

- To determine whether it would be preferable to develop the PCG into an MSIO, or whether the MSIO might preferably be an entirely new organization.
- To determine the optimal scope of, and limits on, the responsibility of the MSIO for maritime safety.
- To prepare an institutional development plan for the MSIO.

Work Scope

Identification of the Preferable MSIO Development Option. The study must consider three development options, namely, developing the PCG into the MSIO while the PCG remains under the DND, shifting the PCG to the DOTC or other civilian department for its

development into the MSIO, or establishing an entirely new organization under the DOTC. It is not expected that the study would make a precise quantification of the advantages and disadvantages of these three options relative to each other, but the analysis must be sufficiently thorough to ensure that the preferable option is clearly identified. To select the preferable option, the study must assess the prospects for achieving substantial improvement of maritime safety in the short and long term, and the costs and risks of each option.

Determination of the Optimal Scope of MSIO Responsibility for Maritime Safety. At a minimum, the MSIO will bear all responsibility for navaids (lighthouses, beacons, and buoys), including the identification of locations where navaids not now in existence are needed, and the installation of any such additional navaids. With all MSIO development options, the minimum scope of MSIO responsibilities should also include the salvaging of wrecked and grounded vessels, since otherwise no agency of the government has any responsibility for salvaging. If PCG is to be developed into the MSIO, then the minimum scope of responsibility will include, as well, the development and operation of coastal communications stations, since PCG is already in the process of developing these, and they are in any case necessary for policing and shipping traffic control functions, responsibilities that will reside with the PCG whether or not it is developed into the MSIO. If the study concludes that the new organization option for MSIO development would be preferable to any PCG option, then the study must determine exactly what should be the future responsibilities of both the PCG and the MSIO in regard to coastal communications stations.

With any of the MSIO development options, the study must determine, on the two bases of effectiveness potential and political implementability, the extent to which the scope of MSIO responsibilities should include sealane surveying and mapping, maintenance dredging activities, and the provision of emergency services. To whatever extent the study might recommend that any of these responsibilities be shared between the MSIO and another government organization, the study must be precise as to the delineation of responsibilities, and the working relationships that will be required in order to ensure that all responsibilities are effectively met.

Preparation of an Institutional Development Plan. The plan must identify the target organization, with specification of functions, organizational structure, staffing, and working relationships, and must provide an action plan for attaining the institutional target, with identification of necessary legal steps, staff recruitment and training, facility and equipment acquisition, and capital and recurrent budget levels for MSIO development and operation.

Schedule and Reports

The MSIOS is to be conducted in two phases. The first phase will be of four months duration, during which period the first two MSIOS objectives must be completed; that is, the study must identify the preferable MSIOS development alternative, including whether the PCG should be developed into the MSIO or a new organization should be established and developed, and what the optimal scope of MSIO responsibilities for maritime safety would be. The MSIOS Phase One Report must be submitted in draft and immediately presented at the end of the 3rd MSIOS month, and the final phase one month should be used for whatever discussion might be required prior to finalization of the report, and then for finalization itself.

Phase two can get underway only after the MSIOS Phase One Report has been finalized, since the design of the institutional development plan would not be the same for

different MSIO development options. Phase two will also require four months to complete, to submission of the MSIOS draft Final Report. The Final Report must comprise two volumes:

- **MSIO Functions and Organization Document.** This should be written as an internal MSIO document, specifying functions, organizational structure, internal and external working relationships, and job descriptions. In the event that PCG development under the DND is adopted as the preferred MSIO development option, the Functions and Organization Document should nevertheless exclude any national defense functions of the organization, but policing and shipping traffic control functions should be included in the document.

- **Action Plan for MSIO Development.** Whereas the functions document would not be markedly different for the different MSIO development options, the action plan could be quite different. If a new organization is to be developed, the action plan should contain a draft legal instrument for establishment of the organization. If the PCG is to be developed, little effort may be needed to lay a legal groundwork, but considerable effort might be required for the identification of staff recruitment, redeployment, and training needs. The action plan, in addition to legal aspects and staff development, must deal with budgets and facility and equipment requirements for the effective functioning of the MSIO. To whatever extent further study is required for implementation of the recommended institutional development program, for example, for final design and costing of office facilities, the MSIOS must include TORs for these services in the draft plan.

Within 30 days of MSIOS consultant receipt of Philippine Government comments on the draft, the consultants must complete and submit the finalized version of the report.

Manpower

The MSIO will be conducted by a team of consultants with a total consultant input of 20 person-months (p/m). This input total will be the same whatever MSIO development option is selected as preferable, but a legal expert would be needed for a longer period if a new organization is to be established, whereas the PCG development options would have greater needs for a manpower development specialist. Allowing for flexibility in the allocation of inputs among team members, within the overall total of 20 p/m, the consultant inputs would be approximately as shown below:

- Economist/Institutional Specialist - 9 p/m
- Maritime Safety Infrastructure Engr. - 6 p/m
- Manpower Development Specialist - 1-3 p/m
- Legal Expert - 1-3 p/m
- Architect - 1 p/m

- Total Consultant Manpower Input - 20 p/m