Japan International Cooperation Agency (JICA)
Maritime Industry Authority (MARINA)

No.

The Study on Domestic Shipping Development Plan in the Republic of the Philippines

DSDP

FINAL REPORT

Summary

December 2005

ALMEC CORPORATION

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MARITIME INDUSTRY AUTHORITY (MARINA)

DSDP

THE STUDY ON DOMESTIC SHIPPING DEVELOPMENT PLAN IN THE REPUBLIC OF THE PHILIPPINES

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The exchange rate used in the report is:

J.Yen 110 = US$ 1 = Philippine Peso 56

(average during the study period)

PREFACE

In response to the request from the Government of the Republic of the Philippines, the Government of Japan decided to conduct the "Study on Domestic Shipping Development Plan" and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a team to the Philippines between November 2004 and October 2005, which was headed by Mr. KUMAZAWA Ken of ALMEC Corporation.

The team conducted the study in collaboration with the Philippine counterpart team including: formulation of domestic shipping development policies and strategies; drafting of a sustainable ship modernization scheme centered on public ship finance; conduct of feasibility studies of shipping business models; and holding of a series of discussions with concerned officials of the Government of the Philippines. Upon returning to Japan, the team duly finalized the study and delivered this report.

I hope that this report will contribute to the development of Philippines' domestic shipping and to the enhancement of the friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the concerned officials of the Government of the Philippines for the close cooperation they extended to the team.

December 2005

MATSUOKA Kazuhisa
Vice President
Japan International Cooperation Agency

December 2005

MATSUOKA Kazuhisa
Vice President
Japan International Cooperation Agency
Tokyo

LETTER OF TRANSMITTAL

Dear Sir,

We are pleased to formally submit herewith the final report of the "Study on Domestic Shipping Development Plan in the Republic of the Philippines".

This report compiles the results of the study which was undertaken both in the Philippines and Japan from November 2004 to December 2005, by the Team organized by ALMEC Corporation.

We owe a lot to many people for the accomplishment of this report. First, we would like to express our sincere appreciation and deep gratitude to all those who extended their extensive assistance and cooperation to the Team, in particular the Maritime Industry Authority (MARINA) of the Philippines.

We also acknowledge the concerned officials of your agency, the JICA Advisory Committee, and the Embassy of Japan in the Philippines for their support and valuable advice during the course of the Study.

We wish the report would contribute to the promotion and sustainable development of Philippines' domestic shipping.

Very truly yours,

KUMAZAWA Ken
Team Leader
The Team for the Study on Domestic Shipping Development Plan
in the Republic of the Philippines

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LIST OF ABBREVIATIONS

ABS	American Bureau of Shipping
AFI	Apex Financial Intermediary
AFMA	Agriculture and Fisheries Modernization Act
ARMM	Autonomous Region in Muslim Mindanao
ASEAN	Association of South East Asian Nations
ATI	Asian Terminal, Inc.
ATN	Aid to Navigation
ATO	Air Transportation Office
BSP	Bangko Sentral ng Pilipinas
BV	Bureau Veritas
CDO	Cagayan De Oro
CO	Certificate of Ownership
CP	Commercial Paper
CPA	Cebu Ports Authority
CPC	Certificate of Public Convenience
CPR	Certificate of Philippine Registry
DA	Department of Agriculture
DBM	Department of Budget and Management
DBP	Development Bank of the Philippines
DFO	Diesel Fuel Oil
DnV	Det Norske Veritas
DOTC	Department of Transportation and Communications
DPWH	Department of Public Works and Highways
DSDA	Domestic Shipping Development Act
DSDP	Domestic Shipping Development Plan
DSMP	Domestic Shipping Modernization Program
DSO	Domestic Shipping Office
DTI	Department of Trade and Industry
EIRR	Economic Internal Rate of Return
EO	Executive Order
F/S	Feasibility Study
FIRR	Financial Internal Rate of Return
FPP	Fish Processing Plant
GDP	Gross Domestic Product
GDS	Gross Domestic Savings
GOJ	Government of Japan
GOP	Government of the Philippines
GRT	Gross Registered Tonnage
GT	Gross Tons
IACS	International Association of Classification Societies
ILAF	Infrastructure and Logistics Assistance Facility
IMO	International Maritime Organization
IPP	Investment Priorities Plan
IRR	Implementing Rules and Regulations
IRR	Internal Rate of Return
ISO	International Organization for Standardization
ISO 14000	International Standards for Environmental Management
IRR	Implementing Rules and Regulations
ISM	International Safety Management
ISPS	International Ship and Port Facility Security
IT	Information Technology

JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JRTT	Japan Railway Construction, Transport and Technology Agency
KfW	Kreditanstalt fuer Wiederauf / a German International Bank Group
L/A	Loan Agreement
LGU	Local Government Unit
LR	Lloyd's Register of Shipping
MARINA	Maritime Industry Authority
MARPOL	International Convention for the Prevention of Pollution from Ships
MC	Memorandum Circular
MCT	Mindanao Container Terminal
MEC	Maritime Equity Corporation
MEPCOM	Marine Environment Protection Command
MIP	Maritime Industrial Park
MT	Metric Ton
MTPDP	Medium-term Philippine Development Plan 2001-2004
N.M.	Nautical Mile
NCR	National Capital Region
NDC	National Development Company
NDC-MEC	National Development Company- Maritime Equity Corporation
NEDA	National Economic Development Authority
NFPDP	National Feeder Port Development Program
NMEC	National Development Company – Maritime Equity Corporation
NOCOP	National Operation Center for Oil Pollution
NPL	Non-Performing Loans
NSM	National Safety Management
NSO	National Statistics Office
NSPS	National Ship and Port Facility Security
OD	Origin-Destination
ODA	Official Development Assistance
OECF	Overseas Economic Cooperation Fund (Now, JBIC)
OP-ODAAO	Office of the President's Priority Programs and Official Development Assistance Affairs Office
PAR	Philippine Area of Responsibility
PAGASA	Philippine Atmospheric, Geophysical, and Astronomical Services Administration
PCG	Philippine Coast Guard
PCPR	Provincial Certificate of Philippine Registry
PFI	Participating Financial Institutions
PGMA	President Gloria Macapagal Arroyo
PMO	Project Management Office
PPA	Philippine Ports Authority
PRS	Philippine Register of Shipping
PSB	Philippine Shipper's Bureau
PSY	Philippine Statistical Yearbook
PT.PANN	Indonesian Ship Leasing Company
PTSR	Philippine Transport Sector Review
RA	Republic Act
REC	Real Estate Collateral
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
ROPAX	RoRo - Passenger
RORO	Roll-on, Roll-off

RRTS	Road-RORO Terminal System
SBSR	Ship Building and Ship Repairing
SC	Steering Committee
SEC	Securities and Exchange Commission
SLDP	Sustainable Logistics Development Program
SOLAS	Safety of Life at Sea Convention
SPC	Special Purpose Company
SRNH	Strong Republic Nautical Highway
SSMS	Sustainable Ship Modernization Scheme
STRAMINDO	JICA Study on the Development of Domestic Sea Transportation and Maritime Industry in the Republic of Indonesia
SWOT	Strength, Weakness, Opportunity and Analysis
TEU	Twenty feet Equivalent Unit
VAT	Value Added Tax
WB	World Bank
WHV	Wooden-hull Vessel

EXECUTIVE SUMMARY

THE STUDY

The Study commenced in the memorial year of 2004 for domestic shipping development since the PGMA 10-Point Agenda pledged to develop the nationwide RORO-highway network and RA9295, so-called the Domestic Shipping Development Act, was enacted where MARINA is the competent authority. In the next year of 2005, Maritime Equity Corporation of the Philippines under NDC, a long waited institution among the administration and the industry, was created. It is well timed to have conducted the Study to draw a sector development framework.

The Study has analyzed the Philippine domestic shipping sector in a comprehensive way. The sector performance assessed by the Study, however, shows many of development issues despite the recent political enthusiasm. Aging fleets are a representative phenomenon, as typically indicated by the average age of trunkline Ropax fleet of 31 years. The Study has revealed that there are still improvement areas in fleet quality preservation such as ship management practices by the shipowner, periodical and ad hoc surveys and inspections by the classification society and the maritime administration although MARINA's continuous efforts are appreciated. In the feedering service, wooden-hull fleet is still dominant even though islanders and their economies desire for safe and stable shipping.

The JBIC's ship finance facility: DSMP has a history of 10 years. The Phase I contributed to domestic fleet modernization and ship safety enhancement to some extent in the late 1990s. The Phase II widened its coverage to port facilities and maritime education facilities as an overall maritime transport support program. As results, through the early 2000s, the Phase II has been underutilized with loan concentration towards large operators. There has been an expanding mismatch between vessel needs among operators and available second-hand vessels in the markets abroad, particularly Japan. There are also other reasons attributed to DBP including stringent real collateral requirement, requirement of IACS services in financing vessels, and inadequate loan marketing and management particularly to small to medium shipping companies. Therefore the 10 years' DSMP experience shows an incremental need to manage the public ship finance like DSMP under a new mechanism rather than indicating a downward finance need.

The Study is classified as a sector study where overall domestic shipping development needs have been assessed with putting focus on a sustainable ship modernization scheme. The Study has formulated the Domestic Shipping Development Plan (DSDP) towards the year 2015. The DSDP consists of a domestic shipping development framework (policies and institutions, maritime transport system development, shipping and maritime related industries, and ship finance) and relevant small feasibility studies to identify public development finance needs. The small FS consists of four (4) pilot projects: modernization of trunkline Ropax fleet on the Manila – Cebu route; RRTS development on the Central Nautical Highway; corn bulk shipping between Mindanao and Luzon; and Panay fish processing and cold chain development, and one organizational project to foster an public ship finance institution (i.e., MEC established by NDC).

CONCLUSIONS

It is understandable in the Philippines that domestic shipping will have to remain indispensable for supporting interisland and coastwise social and economic activities. The DSDP estimates its demand increase during the projection period 2003-2015: from 48 million tons to 70 million tons for cargo and from 32 million to 53 million for passengers. The fleet will also expand from 1.5 million GT to 1.9 million GT during the same period with some extent of modernization.[1]

In order to meet such growing traffic and fleet demands, the domestic shipping sector needs a drastic paradigm shift in development framework with addressing the present sluggish and some difficult situations. In the past, industry policy such as tax incentive preferred imported vessels rather than domestically built ones. From now on, there is a strong need to show the way for benefiting the shipping and shipbuilding industries, and the shipper/user in domestic shipping development. In outlining a paradigm shift, it must deal with many elements of the sector to be modernized in the following ways:

Shipping Industry – to get rid of a deep dependency on second-hand vessels: There is a strong need to improve ship investment capability. Shipping business management should be modernized. Enlargement of business scale through merger and controlling a logistics chain is quite effective.

Ship Management – to build a system to guarantee ship asset value: All technical experts' capability should be reinforced and strengthened, including improved services from operator's technical division, fostering of ship management company, reunification of domestic classification societies, and retraining of class surveyors and MARINA/PCG ship inspectors.

Shipbuilding Industry – to develop domestic shipbuilding capability: Since the existing capability is totally low in constructing domestic vessels, the industry should call for domestic and foreign investment with seeking for technical cooperation relationship with particularly advanced foreign shipbuilders. MARINA should map out a standardized and serial shipbuilding project for domestic operators and coordinate its implementation among relevant agencies including funding.

Inter-island Liner Service – to attract private investment in accordance with a shipping networking and service provision plan to be prepared by MARINA: The trunkline liner network will consists of Ropax and container vessels with clear role demarcation in the market. For instance, Ropax shipping will provide fast and seamless services to passengers and vehicles while container shipping offers economic services to unitized cargo. In the short-distance routes, RRTS will extend its network while wooden-hulled vessel operation will be gradually phased out.

[1] More precisely, average vessel scrapping ages are assumed to be 35 years in 2010 and 30 years in 2015, replacing with younger second-hand vessels or with newly built vessels particularly less than 500 GT.

Non-liner Service – to provide more efficient and scale of economy services: There will be an increasing need to design the entire stretch of a logistics chain and assign the most suitable vessel. Dry bulk shipping will be introduced in that way. Old single-hulled tankers will be replaced with the double-hulled progressively.

Ports – to ensure efficient ship operation and investment in modernized vessels: In this connection, the Study has identified port development needs only for domestic shipping operation such as installing quayside container cranes at 10 major ports, building dedicated Ropax terminals at four (4) hub ports: Manila South Harbor, Cebu, CDO and Davao, portside grain terminals at both Mindanao ports and Luzon ports and RORO terminals at local ports.

Logistics – to introduce efficient supply chain management by commodity as well as corridor: The Study has identified 16 cold chain corridors and major bulk haulage corridors where shipping is always centered in the logistics. Since logistics consists of six (6) operational sections (transportation, storage, loading and unloading, packaging, processing and information), government development initiatives including financial support must cover the entire elements to enable efficient supply chain management.

TABLE 1 SUMMARY OF DOMESTIC SHIPPING DEVELOPMENT INDICATORS

	2003/2004	2010	2015
Traffic Demand			
Cargo (MT, million)	48	61	70
Passenger (pax, million)	32	45	53
Fleet Tonnage			
For Liner (GT, million)	0.66	0.77	0.94
For Non-liner (GT, million)	0.82	0.94	0.94
Total (GT, million)	1.48	1.70	1.88
Fleet Procurement			
Total (GT, million)	0.70		0.71
Total (Peso, billion)	41		52
Average Ship Age			
For Liner	28	16	13
For Non-liner	21	18	13
Total	24	17	13

RECOMMENDATIONS

Firstly, it is recommended that MARINA as the competent authority utilize the DSDP as a planning document to technically support RA 9295 and its IRR.

The DSDP consists of 57 projects in total. To enjoy synergy effects of the sector development at the optimum level, it is recommended that all the proposed projects be orderly implemented during the timeframe 2006-2015. (Refer to Table 2)

The DSDP estimates that 930 billion pesos are needed to develop the domestic fleet until the year 2015 in order to meet traffic demand with a gradual shift of younger fleet age profile. It is MARINA that promotes such sizable investment by fully using its empowered incentives and regulations. As an important pillar of ship finance for domestic operators, public ship finance will be expanded together with improvement of its operation. In the next decade, external financial source such as JBIC-DSMP will be equally important as it was in the last decade.

In regard to operation improvement in public ship finance, the DSDP recommends to introduce new financing methods such as project loan finance and lease finance in addition to ordinary finance based on collateral. On the other hand, it is urgently recommended to DBP to pace up DSMP II disbursement until its termination of fund mobilization from JBIC in January 2007.

To realize the synergy effects of major players in the sector, the study has forged three (3) new approaches to Philippine domestic shipping development. There are:

1) **Shipping-cum-shipbuilding:** Individual shipyards' efforts to get shipbuilding orders and invest docks and equipment may take a long time. To address present predicament in tonnage development, more close coordination is necessary between the shipping and shipbuilding industries. Standardized and serial shipbuilding is an attractive way to deliver suitably designed vessels on the domestic waters in a short time with a reasonable price. Through a shipping-cum-shipbuilding project, the most suitable vessel can be designed for standardization and necessary units can be constructed in such an economic and efficient way.

2) **Alternative ship finance institution:** Although the Philippines has a ten-year experience of public finance, it has not practiced an alternative ship finance scheme unlike Japan and Indonesia. In principle, this new scheme requires no collateral and provides financial and technical assistance services from ship construction / procurement to operation phases. It is particularly good to small to medium shipping companies. In practice a publicly-owned and dedicated ship finance institution must be established. The DSDP expects NMEC to take this strategic role, applying a lease finance method.

3) **Integrated logistics corridor development:** Competitiveness in shipping service cannot be enhanced without adequate inter-modal connections and other externalities while socially subsistence service may be provided with minimal external conditions. In this sense, integrated logistics corridor development can offer dynamic solutions to provide competitive service, create domestic trade and eventually reduce regional disparity. The Study has identified such applicable areas like bulk haulage and cold chain. It recommends that a project finance method be applied to the project which can control an entire logistics chain with involvement of public and private sectors.

TABLE 1 OUTLINE OF THE DOMESTIC SHIPPING DEVELOPMENT PLAN

	DEVELOPMENT ISSUES	DEVELOPMENT POLICIES AND STRATEGIES
POLICIES & INSTITUTIONS	Re-examination of the Existing Package of Regulations and Incentives for Improving Shipping Services and Lowering Tariff Setting	・ Build a close dialogue relation between the operators and the shippers ・ Enhance fare monitoring and calculation capabilities of MARINA ・ Update and streamline franchising requirements and procedures ・ Relax regulatory regime to encourage new players & marketing approaches
	Provision of Incentives to LGUs for Developing Local Shipping	・ Devolution of regulatory powers over local shipping routes to LGUs ・ Provide infrastructure support for the development of municipal ports
	Enhancement of Maritime Safety, Protection of Marine Environment and Increasing Awareness in Maritime Security	・ Categorize Sea Areas ・ Rationalize areas of operations for wooden-hulled vessels ・ Institutionalize security measures for domestic shipping and ports ・ Designate an Admiralty Court
MARITIME TRANSPORT SYSTEM DEVELOPMENT	Upgrading of Trunk Liner Shipping Service	・ Provision of more competitive and diversified freight services ・ Implementation of the trunkline Ropax pilot project (Manila-Cebu) ・ Replacement of aging Ropax with a new-generation Ropax
	Expansion of Dry Bulk Shipping	・ Implementation of the corn bulk shipping pilot project (Gensan-Luzon) ・ Establishment of consolidation system and related facilities ・ Further introduction of large scale bulk shipping service
	Upgrading of Liquid Bulk Shipping	・ Enhance its transport efficiency and quality through renewal of tankers ・ Develop legal framework on the prevention of marine pollution ・ Promotion of domestic shipbuilding for double-hull tankers
	Development of Cold Chains	・ Implementation of cold chain pilot project for Panay fish ・ Development of 16 Nationwide Cold Chain Corridors ・ Examination of viability for each case of cold chain projects
	Effective Implementation of the Wooden-hull Replacement Program	・ Facilitate the introduction of RoRo operation to replace wooden-hull operation ・ Set clear directive regarding phase out plan and strictly enforce its regulations ・ Guide safe wooden-hull operation and prepare social safety net
	Development of Short-haul RoRo System	・ Formulation of overall development plan for RRTS ・ Implementation of the RRTS pilot project (Bicol-Cebu) ・ Fostering of RoRo operators and port operators ・ Delivery of new RoRo vessels
	Improvement of Public Port Operations	・ Improvement of major domestic shipping ports for full container vessels and Ropax ・ Development of RORO terminals
SHIPPING AND MARITIME RELATED INDUSTRIES	Facilitation of Modern Management in Shipping Business	・ Promote shipping industry restructuring ・ Further development of e-MARINA ・ Establishment of a MARINA Training Center (MTC)
	Introduction of Ship-management Service for Domestic Fleet	・ Enactment of a Ship Management Incentive Act ・ Fostering of competent superintendents under the proposed MTC ・ Reorganization of domestic classification societies ・ Publishing of surveyor's guidelines and checklists ・ Sharing of ship databases such as inspection and accidents ・ Preparation of a new NSM Manual ・ Establishment of a publicly-owned ship equipment procurement company
	Upgrading of Domestic Shipbuilding Capability	・ Facilitation of investment to increase domestic shipbuilding capacity ・ Upgrade and modernization of production processes and technology
	Providing Sufficient Ship Repairing and Ancillary Services	・ Develop ship repairing industry to become efficient & lucrative business ・ Develop the SBSR ancillary service industries with a network of other countries
	Facilitation of Supply Chain Management through IT	・ Conduct of periodical statistical surveys to gauge logistics costs & services ・ IT development and study for nationwide supply chain management
FINANCE	Sustainable Ship Modernization Scheme	・ Implementation of Fleet Procurement and Modernization Plan ・ Promotion of project finance and lease finance schemes ・ Revises scheme for public ship finance based on review of DSMP I&II ・ Implementation of the NMEC fostering program ・ Practice of standardized and serial shipbuilding projects ・ Practice of innovative financing with empowering local shipping ・ Relaxed REM requirement in ship finance ・ Facilitation of DSMP II Disbursement

MARINA IMPLEMENTATION STEPS

MARINA is fundamentally a regulatory body which administers shipping, SBSR and seafaring industries. To enable sustainable ship modernization, however, it is strongly felt that MARINA takes a more active role to show a new direction rather than conventional undertakings such as procurement of second-hand vessel and its conversion.

MARINA may not be allowed to act as a stand-alone organization to realize the DSDP. It must coordinate with relevant government agencies. The DSDP framework lists DOTC, port authorities, PCG, DILG and LGUs, DOF, Department of Justice DTI, DA, DBP and NMEC to share with the implementation responsibilities.

The DSDP framework is composed of various planning elements. For implementation, an authorization process within MARINA must come first, by incorporating some of them into MARINA's documents in a form of a 5-year development plan and others. Although internal efforts must be paid to all the authorized development plans, some of them could be implemented in a more dynamic and accelerated way when external sources would be utilized. In the Study, the latter are categorized as DSDP flagship projects which are described per component as follows: (Refer to Figure 1)

1) **Capacity building on shipping and shipyard management**: MARINA envisions its training center. In regard to capacity building, the Study gives priority to providing shipping management related training programs such as ship management and shipyard business management. Some excellent expatriate lecturers are prerequisite to prepare and operate the programs. Well-designed teaching materials are helpful for participants to acquire practical knowledge.

2) **New liner system development with new shipbuilding:** The Study has drawn two scenarios to graduate from the current deep dependence on imported second-hand vessels in line with new liner system development such as trunkline Ropax and RRTS. MARINA will coordinate shipping operators, shipbuilders and a ship finance institution to build new fleets at an affordable price and technically satisfactory level. Coordinated port facility improvement is also important to ensure efficient ship operation.

3) **Revised public finance scheme:** The Study recommends revising the current public ship finance scheme (DBP-DSMP) to promoting policy-led development projects and extending services to SME operators. To implement the revised scheme, it is necessary to obtain a new ODA fund. An Apex Financial Intermediary (AFI) is primarily responsible for project preparation. Since the revised scheme acts as a financial arm of shipping development policies, MARINA will collaborate on preparation and, during the fund disbursement phase.

4) **Practice of the alternative ship finance:** NMEC is also expected to act as a core institution under the revised public ship finance scheme as well as a practitioner of the alternative ship finance method. Therefore, MARINA should be given the role as regulatory and technical advisor to NMEC, and both institutions should hold close coordination.

5) **Integrated logistics corridors:** More development efforts should be paid to integrated logistics corridors for dry bulk haulage and cold chain. It is an opportunity for the domestic shipping sector to coordinate with its inter-connected logistics and transport providers. Therefore MARINA is recommended to give its

advocacy of shipping-centered logistics development and coordinate with relevant government agencies to promote logistics development projects to be submitted to such donor programs.

Finally, it is also recommended that MARINA do post-evaluation of the DSDP on the target year of 2015 and an intermediate year of 2010, using quantitative performance parameters such as domestic shipping fleet tonnage, share of domestically built tonnage, ship age profile by ship type, the number of routes where wooden-hull boats are replaced with modern RORO vessels, and so on.

FIGURE 1 MARINA IMPLEMENTATION STEPS FOR DSDP FLAGSHIP PROJECTS

		2006	2007	2008	2009	2010	Coordination with Other Government Agencies
Policy Interventions Empowered by RA 9295		Effective Implementation of Investment Facilitation Measures, Mandatory Fleet Retirement Program and Restriction on Imported Vessels					
DSDP Management		Inclusion of DSDP components into MARINA documents (e.g., 5-year plan)	Improvement of DSDP Management Capability through e-MARINA			Intermediate Post-evaluation of the DSDP framework and flagship projects	(Within MARINA)
DSDP Flagship Projects	Capacity Building on Shipping and Shipyard Management	Training Program for Ship-management					PCG
				Training Program for Shipyard Management			
	New Liner System Development with New Shipbuilding						DOTC, Port Authorities, DBP, NMEC, etc.
	(A) Trunkline Ropax System on Manila – Cebu Route	Ship Planning	Ship D/D	Ship Construction		Ship in Service	
		Terminal Planning	Terminal D/D	Terminal Construction		In Operation	
	(B) Collective Fleet Procurement for RRTS Development	Overall RRTS Development Plan (DOTC)	RRTS Fleet Procurement Plan (incl. Ship D/D)	Standardized and Serial Shipbuilding at Selected Shipyards			
					Ship in Service on the RRTS Network		
	Revised Public Finance Scheme	Conduct of F/S and Preparation of I/P	Signing of L/A and Selection of PMC	Preparatory Works	Fund Disbursement		DOF, Qualified GFI
	Practice of Alternative Ship Finance	Giving Regulatory and Technical Advice to NMEC and Holding Close Coordination under the Revised Public Ship Finance					NMEC
	Integrated Logistics Corridors	Coordinating of Shipping and Intermodal Transport Providers particularly for Applying DSMP and ILAF funds					DBP, DA, DTI

1 INTRODUCTION

Study Scope

1. The Philippines is an archipelagic country comprised of more than 7,000 islands and islets. Owing to its geographic features, maritime transport is understandably one of the most important basic transport service for the movement of goods and people as well as for the country's socio-economic development. The improvement of vessel safety and vessel operation is essential to the sustainable development of the domestic shipping sector in the Philippines.

2. In this context, it is therefore necessary to modernize domestic shipping vessels through an effective ship supply system which will promote the renewal of inefficient over-aged vessels based on a comprehensive domestic shipping development plan. The Government of the Philippines has requested the Government of Japan (GOJ) for a technical assistance to formulate a realistic plan and scheme. In response to this request, a preparatory study was undertaken by the Japan International Cooperation Agency (JICA) and the Implementing Arrangement for this Study was signed in July 2004.

3. The main objectives of the Study are:

(i) To formulate a Domestic Shipping Development Plan (DSDP, up to the year 2015) for the enhancement of reliability and sustainability of the domestic shipping business;

(ii) To conduct feasibility studies to delineate a Sustainable Ship Modernization Scheme (SSMS) that will continuously support the investment requirement of the DSDP; and

(iii) To provide relevant technology transfer to Philippine counterpart personnel during the course of the Study.

4. The study area includes all the territorial waters of the Philippines.

Study Activities

5. JICA: JICA selected and dispatched a study team organized by ALMEC Corporation between November 2004 and November 2005. JICA also organized an Advisory Committee for supervising the study team's activities.

6. Steering Committee: Steering Committee is composed of high-ranking officers of major related agencies, including MARINA, NEDA, DOTC, DPWH, DA, PSB/DTI, PPA and DBP in order to discuss and make decisions on key issues. In total, four (4) SC Meetings were held.

7. Counterpart Team: A Counterpart Team was formulated in order to discuss more about technical and practical matters during the course of Study. The Counterpart Team is composed of a Project Management Committee and a Technical Working Group by MARINA officials. Regular Study Team Meeting with the counterpart team was held every other week.

8. Field Surveys: The Study Team conducted a series of field surveys, primarily to visit various stakeholders and investigate the site outside of Metro Manila. In addition, the Study Team commissioned local consulting firms to conduct field surveys and case studies to augment its baseline data.

9. Workshops: In order to take a participatory approach among stakeholders in formulating various development plans and to disseminate interim results of the Study, workshops have been convened in Manila and Cebu, recording approx. 700 participants in total.

- February 2005: The First Introductory Workshop
- March 2005: The Second Workshop to assess the Philippine domestic shipping in comparison with Indonesian case. The technical workshop on ship safety was organized in Manila and Cebu.
- June 2005: The First Seminar to present the DSDP framework
- July 2005: The workshop on corn logistics was held
- August 2005: A series of workshops were held focusing on the DSDP feasibility studies on Cold Chain, the Ship Management, the Shipbuilding, and on NMEC Fostering Program.
- September 2005: The RRTS Workshop was convened.
- October 2005: The final seminar was held to present the outcome of the DSDP study

Relationship between DSDA and Domestic Shipping Development Plan (DSDP)

10. The Domestic Shipping Development Act of 2004 (DSDA), prescribed as Republic Act 9295, recognizes that shipping is a necessary infrastructure, which is vital to the economic development of our country. The DSDA compiles several policy tools to realize the recognition, including investment incentives, deregulation of the industry with authority of MARINA, shipping rates, compulsory insurance coverage, shipbuilding and ship repair and others. The MARINA prepared the implementing rules and regulations (IRR) for the DSDA and is pursuing the policies stipulated under the DSDA.

11. In relation between the DSDA and its IRR, the Domestic Shipping Development Plan (DSDP) can share the three objectives of the DSDA, namely:

- Bridge islands by ensuring safe, reliable, efficient, adequate and economic passenger and cargo service;
- Encourage the dispersal of industry and the economic development of our regional communities by ensuring the availability of regular, reliable and efficient shipping services; and,
- Ensure the growth of exports by providing necessary, competitive and economical domestic sea linkages.

12. To achieve such a strong and competitive domestic merchant fleet, on the other hand DSDA declares six (6) policies in total. The DSDP intend to elaborate and verify such policies from transport planning and economic/financial evaluation viewpoints. They are:

- To promote Filipino ownership of vessels operated under the Philippine flag;
- To attract private capital to invest in the shipping industry by creating a healthy and competitive investment and operating environment;
- To provide necessary assistance and incentives for the continued growth of the Philippine domestic merchant marine fleet;
- To encourage the improvement and upgrading of the existing domestic merchant marine fleet and Filipino crew to meet international standard;
- To ensure the continued viability of domestic shipping operations; and
- To encourage the development of a viable shipbuilding and ship repair industry to support the expansion and modernization of the Philippine domestic merchant marine fleet and its strict adherence to safety standards, which will ensure the seaworthiness of all seaborne structures.

Framework of DSDP

13. The Study has formulated the Domestic Shipping Development Plan (DSDP) towards the year 2015. The DSDP consists of a domestic shipping development framework and five (5) small feasibility studies to realize some priority development issues.

14. The domestic shipping development framework has planning areas including maritime transport demand forecast (Chapter 7), sectoral development policies and strategies (Chapter 8) including maritime transport planning, shipping industry and SB/SR industry development planning, legal and other institutional analysis, engineering analysis of domestic vessels and ports, and ship finance planning (Chapter 9).

15. The five (5) small feasibility studies encompass four (4) pilot development projects and one (1) organizational project. The pilot projects include trunkline Ropax fleet on the Manila – Cebu route (Chapter 10), RRTS development along the Central Nautical Highway (Chapter 11), corn bulk shipping between Southern Mindanao and Luzon (Chapter 12), and fish processing and cold chain between Panay and Metro Manila (Chapter 13). Lastly the practice of an alternative ship finance scheme by NDC MEC is proposed (Chapter 14).

2 APPRECIATION OF THE STUDY AREA

SOCIO-ECONOMIC DEVELOPMENT

Population

1. In year 2000, the population of the Philippines is about 76.5 million. During the last 20 years from 1980 to 2000, the population has increased as much as 60% or nearly 30 million. Although, the growth rate shows a declining tendency, it was about 2.2% in the period of 1995 to 2000, which is still one of the fastest growth rates in the ASEAN countries. The population in 2004 is projected as 82.7 million according to the NSO.

Table 2.1. Philippine Population

Year	Population (000 pax)	Ave. GR
1960	27,088	
1970	36,684	3.1%
1975	42,071	2.8%
1980	48,098	2.7%
1990	60,698	2.4%
1995	68,614	2.5%
2000	76,483	2.2%

Source: PSY 2003 and 1990

GDP

2. The Gross Domestic Products (GDP) of the Philippines was about 4.3 trillion pesos in 2003. About 53% of the GDP came from the service sector, while the industrial sector and the agricultural sector contributed 32% and 15% of the GDP respectively. Sea transport industry contributed 0.52 % of GDP in year 2003.

Economic Growth

3. GDP has been steadily increasing in real term, though there was a slight decline in 1998 as a result of the Asian Financial Crisis – resulting in declines in the agricultural and industrial sector. GDP expanded by 2.4% in 1999, and 4.4% in 2000, but slightly slowed to 3.2% in 2001, caused by a global economic recession, an export slump, and political and security concerns. GDP growth accelerated again to 4.4% in 2002 and 4.2% in 2003, owing to the continuous growth of the service sector.

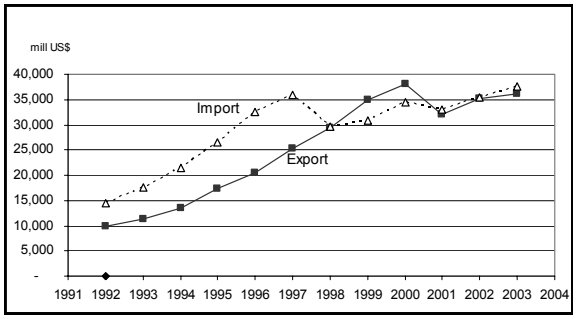
The GDP per capita in current prices was 43,863 pesos/person or US$802 /person in 2000.

International Trade

4. Export of Philippines has steadily increased during the decade in 1990's mainly owing to the rapid growth of manufacturing products. Import has been exceeding export for more than two decades till the year 2000, however, due to the rapid growth of export, the trade deficit has been remarkably reduced and in recent years export and import are almost balanced.

5. The primary exported goods are manufactured products such as electronics related products and transport equipments. With respect to imports, primary commodities are raw materials such as metal ore, mineral fuel, and refined petroleum in terms of tonnage.

Figure 2.1. Foreign Trade



Source: PSY 2004

Income, Expenditure and Poverty

6. Average annual family income in 2000 is about 140,000 pesos. Income in the Philippines is skewed, where 70% of families have incomes lower than the average.

7. Since 1997, there was a slight increase in the incidence of poor families. The number of poor families in the country increased by about 400,000. Regionally, there is a big variation in the incidence of poor families. Incidence of poor families is highest at the Bicol Region and Regions 12, 13 and ARMM in Mindanao.

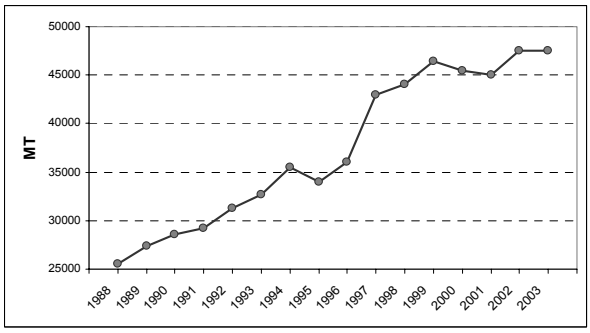
MARITIME TRAFFIC

8. Understandably, Philippines being a country of more than 7,000 islands is strongly dependent on maritime to facilitate the movements of good and people in support of its economy as well as to provide opportunities for the countryside to develop. Maritime transport handles most of the inter-island modes of transport in the country. It accounts for an absolute share of 99.9% of the total inter-island cargo carried and 83.2% of the inter-island passengers.

Inter-Regional Freight Demand

9. Domestic sea freight has been steadily expanding in volume from about 26 million MT in 1988 to nearly 48 million MT in 2003. There are three periods wherein growth was stunted and even regressed, viz, in the year 1995 when the agricultural output experienced a downtrend, in 1998 during the Asian Financial Crisis, and in 2001 when the industry sector recorded a negative growth. In the last five years, growth has been very weak at only 1.6% per annum.

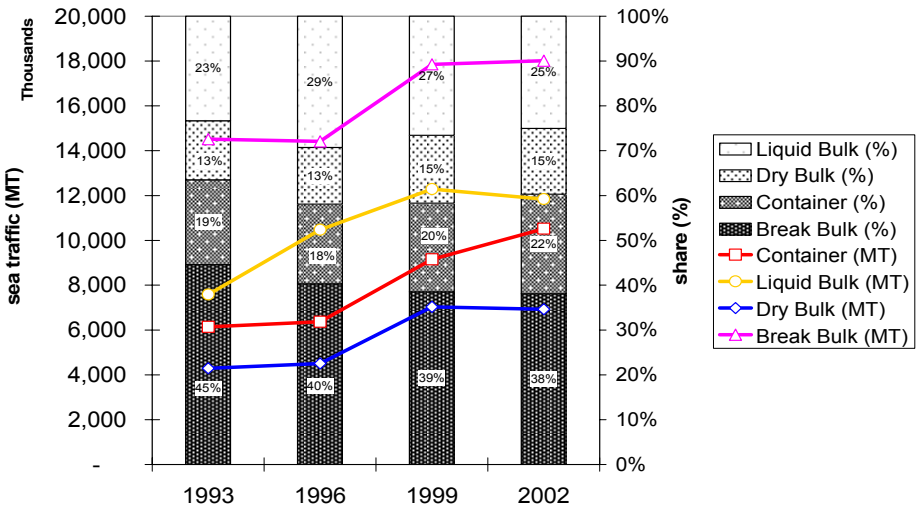
Figure 2.2. Domestic Freight Traffic Trend



Source: PPA and CPA Statistics

10. Figure 2.3 summarizes the trend in maritime traffic per package type. Currently, sea traffic is 25% liquid bulk, 15% dry bulk, 22% container traffic and 36% break bulk. In the last few years, there has been a slow down in liquid bulk, dry bulk and break bulk traffic. Only container traffic has been steadily increasing at 4.7% per annum since 1999.

Figure 2.3. Trend in Maritime Traffic per Type of Package



Source: PPA and CPA Statistics

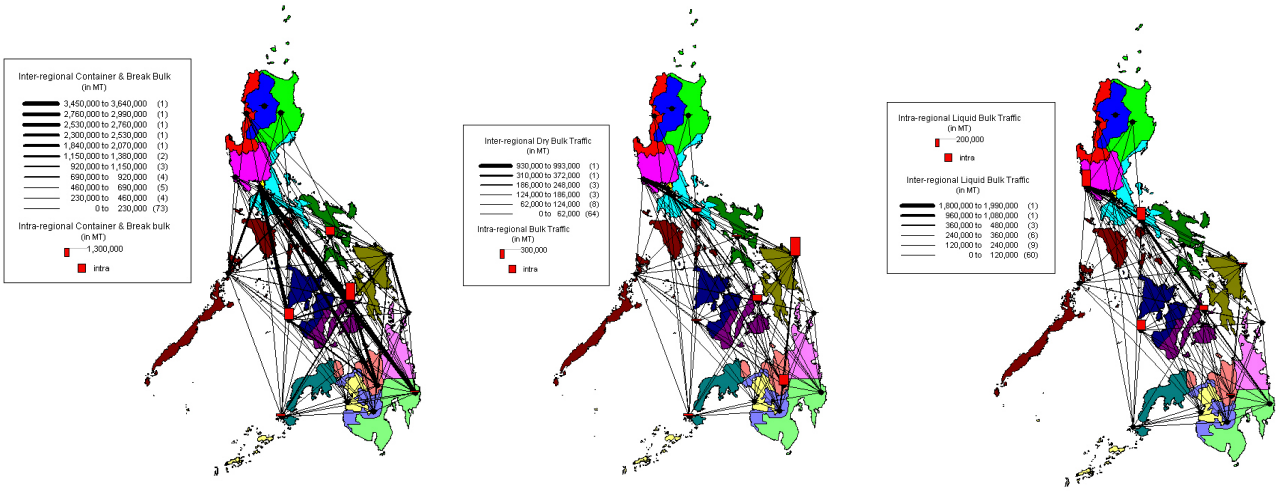
11. The National Capital Region (NCR) is the leading attraction and generation zone for maritime traffic in which 22% of total domestic throughput involves ports in the NCR. The next primary generator/attractor of traffic is Region VII which involves 17% of total throughput. While, the other primary attractors/generators are Region III and Region X.

12. Break bulk and container traffic: 23% and 20% of container and break bulk throughput involves the NCR and Region VII, respectively. Other primary generators/attractors are Region X and XI, both are located in Mindanao.

13. Dry bulk traffic: The primary destination of dry bulk is NCR which comprises of 30% of the total dry bulk traffic. On the other hand, the primary generator of dry bulk is Region III, which accounts for nearly 30% of the total traffic.

14. Liquid bulk traffic: The primary destination regions are the NCR and Region VII, which accounts for 30% and 17% of total liquid bulk traffic, respectively. The primary generators of liquid bulk are Region III and Region IV-A, which accounts for 48% and 30% of the total bulk traffic.

Figure 2.4. Inter/Intra-Regional Sea Freight OD Structure by Package Type (2002)

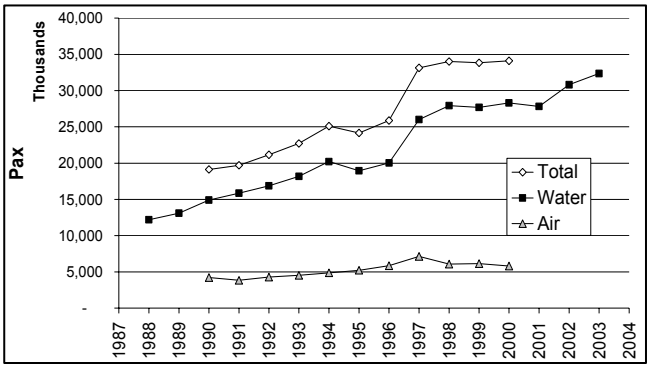


Container and Break Bulk *Dry Bulk* *Liquid Bulk*

Inter-Regional Passenger Demand

15. Currently, maritime passenger traffic is about 32 million, up from only 12 million in 1988 or an average yearly growth of 6.7%. During the period there have been three instances when growth stagnated – 1995, 1999 and 2001. For the period 1988 to 2003, the first 10 years experienced substantial growth of 8.3% p.a. during the first half and 9.3% p.a. during the second half of the period 1988-1998. However, in the next five years or in the period of 1999-2003, growth slowed down to only 3.0% p.a. In contrast, air passenger traffic grew by only 3.2% during the period 1990-2000.

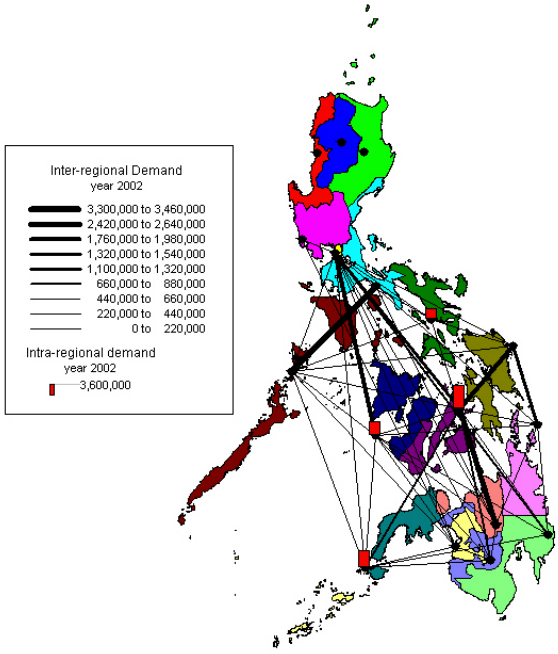
Figure 2.5. Trend in Domestic Maritime Passenger Traffic



Source: PPA and CPA Statistics; ATO Statistics

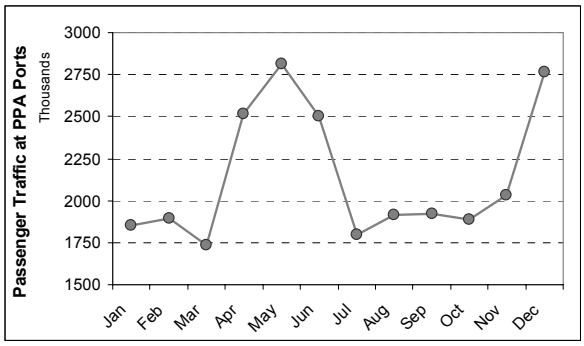
16. Figure 2.6 roughly shows the inter/intra-regional OD structure of domestic sea passenger traffic. The primary generator/attractor region is region VII, which accounts for 25% of total passenger throughput. While, the other primary generators/attractor is NCR (in Luzon), Region VI (in Visayas), and Region IX (in Mindanao) account for 11%, 12% and 11% of passenger throughput, respectively.

Figure 2.6. Inter/Intra-Regional OD Structure of Domestic Sea Passenger Traffic (2002)



17. Figure 2.7 illustrates the monthly variation of sea passenger traffic at PPA ports. The trend indicates that there are two peaks during the year, namely April-June and December. In all passenger traffic is very seasonal.

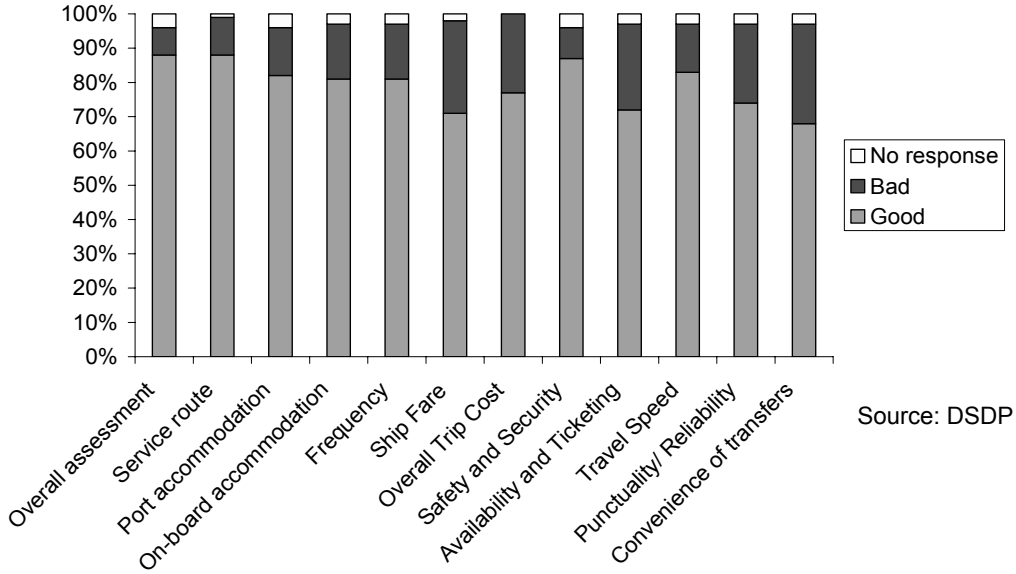
Figure 2.7. Monthly Variation of Passenger Traffic



Source: PPA Statistics (2003)

18. To supplement existing data on maritime traffic flow, a RoRo traffic survey was conducted. Surveyed data is intended to examine the socio-economic profile of trip makers, trip characteristics and opinions on RoRo service. The interviewed RoRo passengers mostly showed their satisfaction to the services. However some passengers or over 20% of the total respondents gave bad assessment to ship fare, availability and ticketing, and convenience of transfers.

Figure 2.8. RoRo Service Assessment by Passengers



Source: DSDP RoRo Survey

DOMESTIC FLEET

Registered Domestic Fleet

19. A total of 29,518 vessels comprise the Philippine-registered merchant fleet. Of these, 23,307 are fishing vessels. In terms of total gross registered tonnage (GRT), ships used to transport goods and passengers comprise 76.26% of the total. Table 2.2 shows the distribution of the merchant fleet as per the kind of ships. The number of vessels, as well as the corresponding total GRT per kind is also shown. "Others" include vessels used for pleasure and personal use.

20. There are a total of 4,183 commercially used vessels engaged in goods and passenger transport. While 2,503 units of these have wooden hulls, they account for merely 3.5% in terms of GRT. As to age distribution by ship type, Ropax/ RoRo vessels and general cargo vessels are relatively older (refer to Figure 2.10).

Table 2.2. All Philippine Registered Merchant Fleet

Kind of ship	Units	%	GRT	%
Fishing	23,307	79.0	288,306	14.4
Goods and Passenger Transport	4,183	14.2	1,525,908	76.3
- Container	28	(0.7)	108,974	(7.1)
- General Cargo	854	(20.4)	531,381	(34.8)
- Passenger Ferry	150	(3.6)	32,335	(2.1)
- Tanker	205	(4.9)	184,446	(12.1)
- Passenger Cargo	116	(2.8)	35,065	(2.3)
- Ropax	149	(3.6)	484,251	(31.7)
- Dry Bulk	178	(4.3)	96,715	(6.3)
- Wooden Hull	2,503	(59.8)	52,741	(3.5)
Others	2,028	6.8	186,677	9.3
Total	29,518	100	2,000,892	100

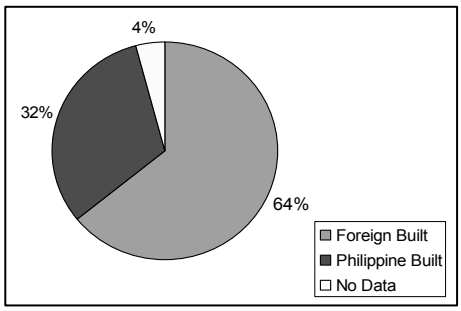
Source: 2003 updated MARINA database

Shipyard Nationality of Commercial Vessels

21. Of the 4,183 commercially-utilized vessels, 76% per cent were built in Philippine shipyards. The 17% foreign-built vessels come from different countries including Japan, Australia, China, and Vietnam just to name a few.

22. In terms of Gross Tonnage, Philippine built vessels account for 64% of the total GRT of commercial fleet. Foreign-built vessels account for 32%. Japanese imported and secondhand vessels are predominant, accounting for 87% of tonnage of all foreign built vessels. This is especially significant for Ropax/RoRo, where Japanese vessels account for 96% of tonnage of imported/secondhand Ropax/RoRo.

Figure 2.9. GRT Distribution as to Shipyard Nationality

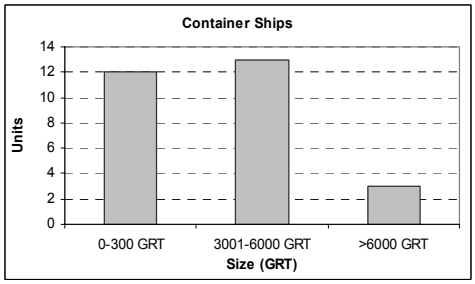


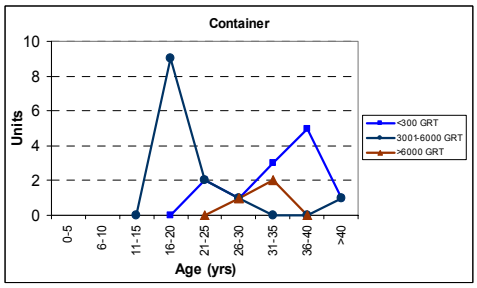
Source: 2003 updated MARINA database

Figure 2.10. Size and Age Profiles of Vessels per Type

(1) Container Ship

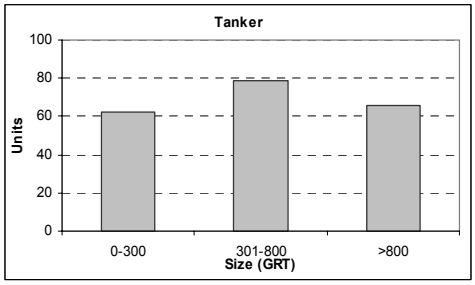
Ave. Size: 4,033gt
Ave. Age: 31.3

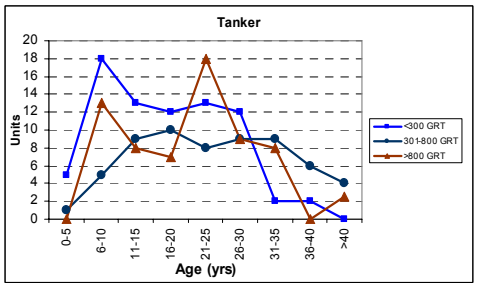




(2) Tanker

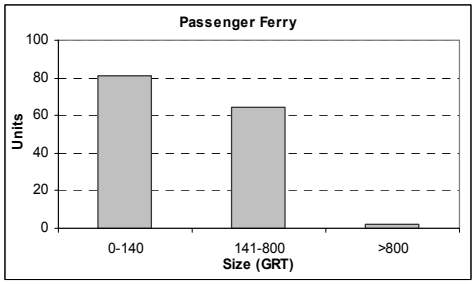
Ave. Size: 900gt
Ave. Age: 20.5

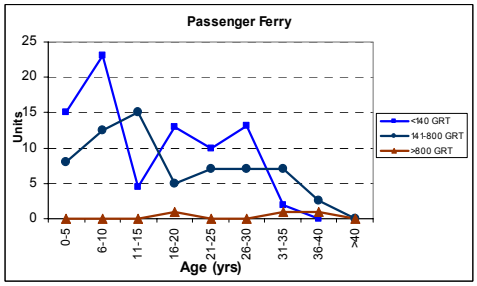




(3) Passenger Ferry

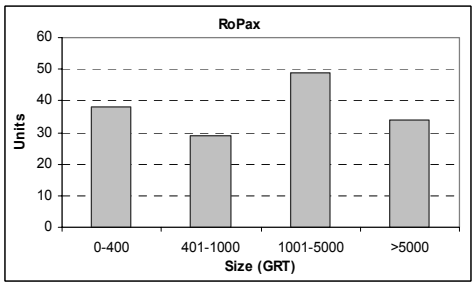
Ave. Size: 216gt
Ave. Age: 16.2

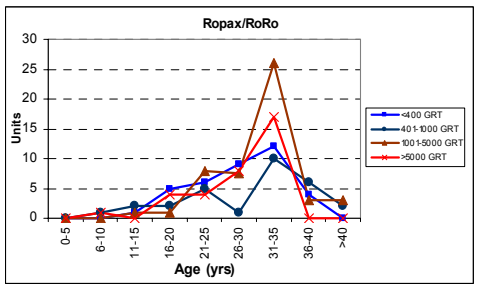




(4) Ropax / RoRo

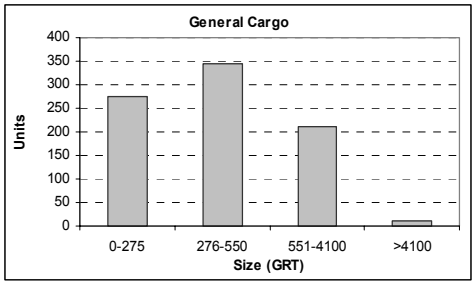
Ave. Size: 3,250gt
Ave. Age: 29.2

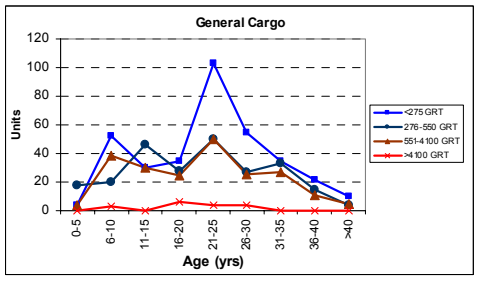




(5) General Cargo Ship

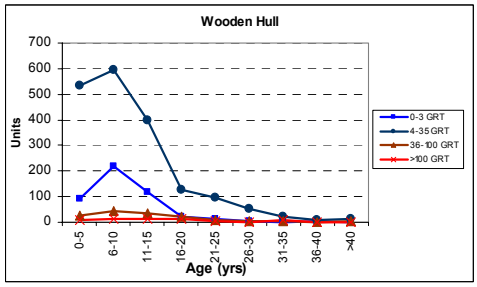
Ave. Size: 631gt
Ave. Age: 22.2





(6) Wooden Hull Ship

Ave. Size: 21gt
Ave. Age: 10.4



Source: 2003 updated MARINA database

PORTS

Philippine Port System

23. Today, the structure of the Philippine Port System can be divided into four major categories: (a) the PPA port system consisting of public and private ports; (b) ports under the jurisdiction of independent port authorities; (c) public ports devolved to the local government units (LGUs), including fishing ports/wharves; and (d) the recently-established Road RoRo Terminal System (RRTS).

24. PPA directly manages 114 ports, which consist of 21 "base ports" and 93 "terminal ports" as of February 2005. It should be noted that, according to PPA officials, PPA port system does not mean the ports under PPA's jurisdiction but indicates the priority of the investment of PPA. PPA has collected port statistical data not only on ports under its port system but also LGU ports as well as private ports.

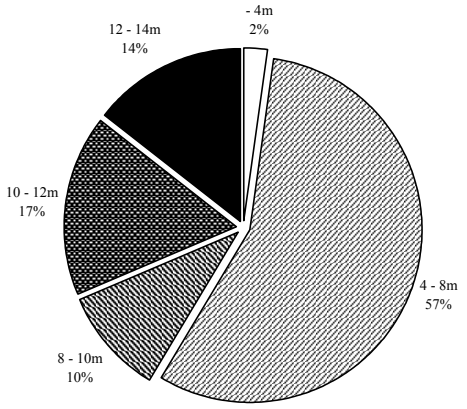
25. The PPA sets and collects its own revenues, and does not receive funding from national government, and is required by fiat to declare 50% of its net income as dividends to the government. Its ports handle domestic and foreign cargo (containerized and bulk) and passengers; and some of its ports have been modified to cater to RoRo operations.

26. RRTS ports are yet to be realized and remain on paper but are nonetheless an area of great interest in the sector. Due to it being a new paradigm, the Road-RoRo Terminal System (RRTS) is still unclear, and the roles of the different players are still evolving. In terms of infrastructure, the SRNH under the PPA umbrella is more extensive (i.e., current RoRo operation is being operated under the PPA Ports System). However, DOTC is designated as the lead government agency to oversee the successful implementation of the RRTS.

Port Facilities

27. Berth length is one of the basic information to know the scale of ports. Generally speaking, a berth whose depth is less than 8m is mainly used for domestic transportation while a berth whose depth is more than 8m can be used for international transportation. As Figure 2.11 shows, about 60% of berths at major public ports have less than 8m depth.

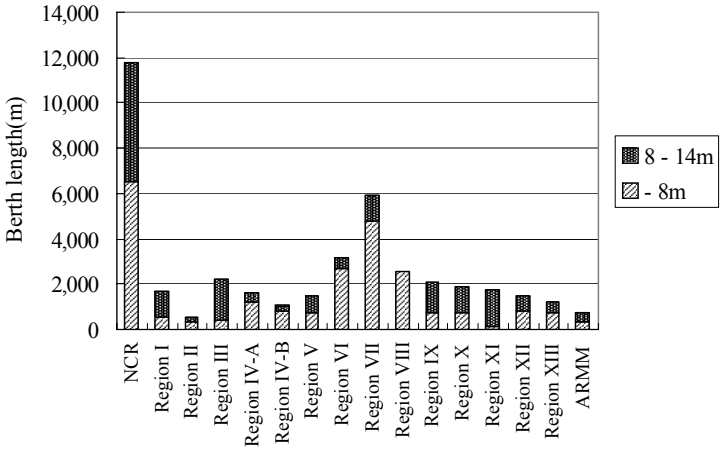
Figure 2.11. Nationwide Share of Berth Length by Depth



* Source: JICA Study on the Port Master Plan (2004)

28. The distribution of berths is, of course, not homogenous within the country. The total berth length in NCR is the longest followed by that in Region VII (See Figure 2.12). Deeper berths (i.e. more than 8m depth) are located mainly in the Luzon area, in particular in NCR, as well as in the Mindanao area. Among the berths whose depth is less than 8m, the majority is found in NCR and Visayas areas (i.e. Region VI - VIII). NCR also has the largest portion of berths greater than 8m depth, including deep berths of 12m–14m.

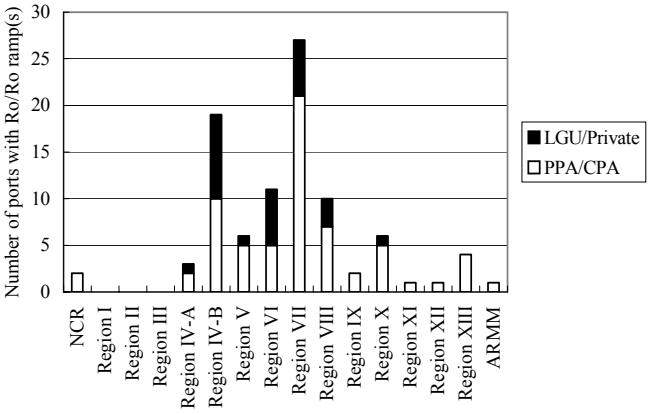
Figure 2.12. Berth Length of Public Ports by Region and Depth



* Source: JICA Study on the Port Master Plan (2004)

29. Figure 2.13 shows the regional distribution of ports with RoRo ramps. Many ports with RoRo ramps have been developed in the Visayas area (especially Region VII).

Figure 2.13. Regional Distribution of Ports with RoRo Ramps



Source: JICA Study on the Port Master Plan (2004)

Problems at Ports

30. Domestic ports have poor efficiency. Most of the major domestic public ports are old ports under the control of the PPA. They were not designed for modern cargo operations or for the kind of modern vessels that shipping companies may want to introduce. The result is unsafe and inefficient handling of cargo and passengers, leading to long turnaround times.

31. Productivity levels at ports handling domestic cargo are significantly low and is most critical at the North Harbor which is the center of inter-island traffic. Although there are many RoRo ferry vessels in this country, many of which are second hand, it is very rare to see real Roll-in / Roll-out operation at ports. Sometimes the RoRo ramp is not suited to the vessel hatch mainly because the size of vessels varies. At least two fork-lifts are employed for the operation. One is located outside the vessel while the other is in the vessel. Outside fork-lift carries cargo at the hatch of the vessel, and then inside fork-lift will bring it into the vessel. Moreover, shipping operators complain of shortened operation hours at ports. In nearly all public ports there is only one concessioned cargo handler, thus cargo handlers are indifferent regarding 24-hour operations, (preferring only 8-hour operations) resulting in long port time of vessels.

32. Another problem with domestic ports is the lack of sufficient depth to support larger sized vessels to achieve economy of scale. Though some ports have sufficient depths, it really would not matter as the primary ports of origin or destination – North Harbor and Cebu Port have very limited depth (6m and 7m respectively). Thus, the domestic shipping fleet operates small cargo vessels. The container vessels are only about 2000 GRT (less than 250 TEU capacity). While, general cargo vessels, many of which also carry containers, are even smaller at an average of less than 500 GRT. Given their small size, it is not surprising that inter-island shipping costs are relatively high.

MARITIME ENVIRONMENT AND MARINE SAFETY

Oceanographic and Meteorological Features

33. From 1948 to 2004, an average of nearly 20 tropical cyclones enters the Philippine Area of Responsibilities (PAR). However, not all of these tropical cyclones entering PAR actually cross the Philippines. An annual average of only nine tropical cyclones makes landfall for the period 1948-2004. The worst year was 1993 when 32 cyclones entered PAR and 19 made landfall. The quietest year was 1998, when only 11 cyclones entered PAR and the years of 1955, 1958, 1992, 1997 and 2002, when only four cyclones actually crossed the Philippines. (See Figure 2.14)

34. July is the month when most of the tropical cyclones come, with an average of nearly three cyclones per month for the last ten years. The months of August, September and October come closely behind. Sixty percent of the cyclones come during these four months.

Maritime Incidents

35. The Philippine Coast Guard (PCG) is the primary government agency concerned with the reporting, evaluation and investigation of maritime incidents.

36. A cursory evaluation of the number of maritime incidents between 1995 and 2004

would show that the Philippines still has a high annual maritime incident rate of 177.7 per year and a casualty rate more than 116 deaths per year.

37. For the ten-year period 1995-2004, the worst maritime incident recorded was the sinking of MV Princess of the Orient on 18 September 1998 off Fortune Island. This resulted in the untimely death of 150 people. During the same period, there were 23 incidents that resulted in 10 deaths or more. Of the 23 major maritime incidents, eleven involved the sinking of vessels resulting to 441 fatalities. The next categories are fire and capsizing, with five incidents each and 170 and 82 fatalities, respectively. Collision and disappearance have one major incident each involving the loss of 28 and 22 lives, respectively.

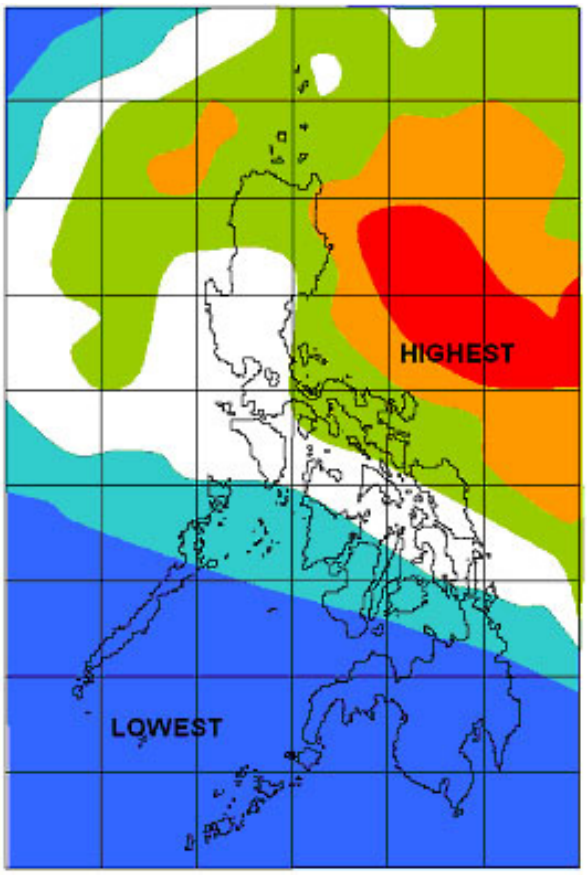
Marine Environmental Protection

38. The Philippine Coast Guard is the lead agency responsible for the prevention and control of pollution in Philippine territorial waters. The main command in the PCG given this task is the Marine Environment Protection Command (MEPCOM). The National Operation Center for Oil Pollution (NOCOP) is the focal unit of MEPCOM to handle the perils of oil pollution.

39. Oil spills occur both inland and out in the sea. MEPCOM keeps records of both types of oil spills. From the records kept by MEPCOM, a total of 71 oil spills involving more than 538,000 liters of pollutants were recorded for the 2000 – 2004 period. Of these 71 oil spills, thirty-seven, or a little more than half, were shipping related, i.e., caused by vessels. Volume-wise, shipping-related oil spills totaled more than 480,000 liters or nearly 90% of all the recorded oil spills.

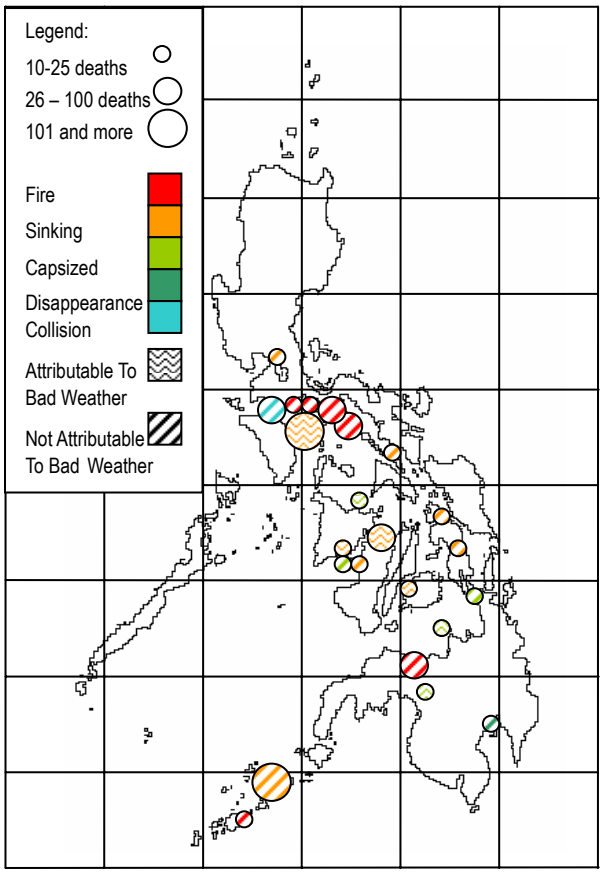
40. The biggest oil spill incident was recorded in January 2002 when M/T Trans Asia sunk off Bauan, Batangas, spilling around 400 metric tons (roughly 465,000 liters) of diesel fuel oil (DFO). The most common reason for an oil spill incident is discharging (illegal, accidental and simple discharging) accounting for 16 incidents. Next comes sinking with five incidents. These five incidents, however, account for almost 98% of the volume of spillage.

Figure 2.14. Frequency Analysis for all Tropical Cyclones in the Philippines, from 1948 to 2000



Source: PAGASA

Figure 2.15. Location of the Serious Maritime Accidents in the Philippines, 1995-2004



Source: Philippine Coast Guard