

Pacific Regional Transport Study

Final Report Volume 1

June 2004

Disclaimer

The recommendations set out in this report are those of the Technical Team alone and do not necessarily reflect the views of the Australian Government or any of the persons and agencies interviewed.

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Abbreviations

ACCC	Australian Competition and Consumer Commission
ADB	Asian Development Bank
ANL	Australian National Line
ASPA	Association of South Pacific Airlines
CAF	Currency Adjustment Factor
CASA	Civil Aviation Safety Organisation (Australia)
CEO	Chief Executive Officer
CCS	Chief Container Service (Swire)
CICA	Convention on International Civil Aviation (Chicago Convention)
DWT	Deadweight Tonnage
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FAA	Federal Aviation Authority (USA regulatory agency)
FIC	Forum Island Country
FEU	Forty-Foot Equivalent Unit
FOC	Flag of Convenience
FSM	Federated States of Micronesia
ICAO	International Civil Aviation Organisation
IMO	International Maritime Organisation
ISPS Code	International Ship and Port Facility Security Code
LCC	Low Cost Carrier
LLDCN	Lloyd's List Daily Commercial News (Industry newspaper)
MRO	Maintenance Repair and Overhaul
NZCAA	New Zealand Civil Aviation
NZCC	New Zealand Commerce Commission
PASO	Pacific Aviation Safety Office
PATA	Pacific Asia Travel Association

Pers. Comm	Personal Communication
PIASA	Pacific Islands Air Services Agreement
PFL	Pacific Forum Line
PICs	Pacific Island Countries
PIF	Pacific Islands Forum
PNG	Papua New Guinea
PNG CAA	Papua New Guinea Civil Aviation Authority
POM	Port Moresby
PRTS	Pacific Regional Transport Study
PSC	Port Service Charge
RTA	Royal Tonga Airlines
RTW	Round the World
SOLAS	International Convention for the Safety of Life at Sea
SPC	Secretariat of the Pacific Community
SPTO	South Pacific Tourist Organisation
STCW 1995	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
TEU	Twenty-Foot Equivalent Unit (the standard ISO container)
THC	Terminal Handling Charge
USOAP	Universal Safety Oversight Assessment Program
VFR	Visiting Friends and Relatives
VMA	Vanuatu Maritime Authority
VSA	Vessel Sharing Agreement (between container lines operating in Australia-North America trade)
WTO	World Trade Organisation
9/11	Refers to events of September 11 2001

Executive summary and recommendations

Introduction

This study results from a proposal put forward by the Australian Prime Minister. During the Pacific Island Forum (PIF) Leaders' meeting in Auckland, New Zealand in August 2003, Pacific Island Forum Leaders agreed to support a Pacific Regional Transport Study (PRTS) covering both aviation and shipping.

The major objective of the PRTS as stated in the Terms of Reference (TOR), was to identify and bring forward as soon as possible for Leaders' consideration, practical recommendations to improve the efficiency and effectiveness of air and shipping services.

The Study team was required to examine possible regional responses that could involve pooling of scarce regional resources as well as to review issues and make recommendations that related to individual Forum Island Countries (FICs).

Regional transport impediments

Whilst there are characteristics of the region that will always make transport in the region difficult, the study found a number of major impediments to the efficient operation of the transport sector in the Pacific region that are within the control of governments. These are summarised below:

- *Government involvement in commercial activities:* In both aviation and shipping sectors there is extensive direct government involvement in commercial activities. This often results in poor financial management, political intrusion in commercial decisions and losses in efficiency (e.g. excess staff numbers and inefficient use of resources).

Not only does the involvement of government in commercial activities often create operational inefficiencies in these activities, but it also creates instability in the general management of the government's financial resources.

- *Poor infrastructure decisions:* Governments in the region often find it difficult to make infrastructure decisions and in some cases important decisions on infrastructure are not fully evaluated.

Governments also have related problems with the management of infrastructure. Often acquisition of infrastructure can be achieved through a donor agency. However the problem of maintaining the infrastructure, which requires outlays of recurrent expenditure that usually must be recovered from users or internally generated through the domestic tax system, is a much more difficult problem. Maintenance problems are apparent in such areas as ports, both air and sea, and vessels.

- *Pricing of services that fail to cover true cost of service delivery:* This is a particular problem in shipping where vessels are sometimes provided by donor agencies and then operated with a pricing structure to users that does not cover the cost of service delivery. Since the operator is then unable to maintain the vessel the inevitable result is that the vessel becomes unserviceable and donors are then approached to fund a replacement.

These arrangements are clearly unsustainable and require permanent external financial support.

- *Service providers that fail to consult with users:* An important component of the design of statutory authorities that deliver transport services is that there should be involvement with users either actually on the board of management or in some other advisory capacity.
- *Exploitation of monopoly positions:* Some monopolies are legislated monopolies. These occur where governments in the region have acted to provide a monopoly position to a particular operator. There are also other de facto monopolies. In these cases many of the situations arise in markets that can be regarded as contestable. Because they are contestable markets, the threat of potential competition from new entrants will impose limits on the extent to which current operators can exploit markets without risking the entry of new competitors.
- *Inappropriate institutional structures:* Most medium to large government controlled transport service providers in the region should have a corporate and organisational structure that gives the institution managerial independence whilst at the same time imposes good governance principles and financial discipline. In many cases the institutional structure does not deliver these basic features.
- *Inadequate capitalisation of commercial entities.* In many cases transport agencies required to perform commercial activities are not adequately capitalised, making success extremely difficult. Inadequate capitalisation biases many agencies towards investment choices that require relatively low up front capital and relatively high operating costs and this bias can be seen in many of the leasing choices made for aircraft. Inadequate capitalisation also encourages poor maintenance practices as expenditure on maintenance receives a low priority when funds are limited.
- *Lack of financial expertise to manage government and part government owned commercial enterprises.* This problem exacerbates many of the impediments mentioned above. In general, there is a serious lack of appropriately qualified and experienced local financial professionals in the region. The problem is magnified in the local context because qualified professionals, where available, tend to join private industry rather than government institutions, which pay less. Consequently, accounting departments in a number of airlines are staffed by unqualified and inexperienced local staff in an industry that is volatile at best and there is a reluctance to invest in appropriate manpower (such as expatriates) and training in that area. As a result, current financial information is not readily available, and where available, not necessarily reliable.

The lack of current reliable financial information affects feasibility studies prepared for important investment decisions and in the preparation of Business Plans and projections, which affect long-term strategic decisions. These feasibility studies have proved to be disastrously unreliable tools for management and Board decisions and they are an underlying factor in the poor infrastructure decisions referred to above.

Another area where the lack of accounting expertise falls well short of accepted international standards is in the setting of proper budgets and costings in order to set revenue charges. Where budgets are not reliable, or where a costing is not done properly, for instance by including unrealistic costs for maintenance and depreciation charges for plant replacements,

the revenue charges are understated (for example in passenger ferry charges) and there is no adequate fund for the replacement of plant (such as ships).

This study takes stock of these issues and attempts to explore ways to improve the transport sector in the Pacific. The study makes a series of recommendations, which are based on a certain key themes:

The need to accept change

Recommendations made in this report are based on the assumption that Leaders in the region are willing to accept change and implement a transport reform program. The recommendations cannot be implemented without a general acceptance by countries in the region of the need for change.

It is impossible to insulate the region from change and the imminent advent of Low Cost Carriers (LCCs) into the regional aviation system represents the latest challenge. Some countries, at the behest of their national carriers, have adopted a defensive approach to this challenge. They look to ways that will delay the challenge or reduce its competitive threat, while others in the region see LCCs not as a challenge but as an opportunity. It is clear that LCCs will increase tourism and accommodation demand in the region and within the transport area, will increase the demand for feeder services from the major hubs.

It is accepted that many of the reforms recommended in this report will be difficult to implement – notably decisions on governance reforms, privatisation, and removal of legislative arrangements designed to protect domestic interests. Leaders will face entrenched domestic interests that are opposed to the recommended changes. However it needs to be recognised that those countries that embrace these changes, rather than seek to prevent them will, in the final analysis, be in the best position to benefit.

The role of government in the transport sector

A major theme of this study is that, wherever possible, government should avoid entering areas of the economy that are better operated through private sector involvement. Indeed, many of the problems of the transport sector in the region identified above are a direct result of government intrusion into commercial decisions. Accordingly, this study includes recommendations that are intended to assist the governments to constructively withdraw from specific activities.

The major responsibility of the government in the transport area is to administer the regulatory system and manage supporting infrastructure. Again, the study team present recommendations designed to improve the operation of the regulatory system.

In administering the regulatory system the government should act in the interests of the community as a whole. The more government becomes involved in the commercial operations of the system through owning and operating airlines and shipping companies, and providing infrastructure that can be supplied through the private sector, the more difficult it will be to fulfil its regulatory role and the more difficult it will become to separate wider community responsibilities from narrow commercial concerns.

Within the region there will continue to be a requirement for government involvement in on-ground infrastructure, such as ports, which are used by all operators. This usually requires

government involvement both in the regulatory system and in actual day-to-day management. Recommendations designed to ensure that in these areas the quality of governance will be improved have been made.

A regional approach to transport issues

Countries in the region typically have small, widely dispersed populations, and tight financial constraints on government spending. For some transport functions a regional approach provides an efficient way of delivering services that may be beyond the resources of individual countries.

Whilst the study team have specifically rejected proposals for a regional airline and have reviewed the difficulties encountered when previous attempts were made to establish a regional airline and shipping line, there are areas where a regional approach has been recommended.

The study team have made recommendations that would allow the PIF to provide a regional resource pool that individual countries could access when faced with technical and administrative transport problems requiring skills and resources that are unavailable domestically.

In aviation we have proposed ways to facilitate cooperative ventures between FIC airlines and ways to develop the regional market. The concept of a regional safety agency is, with some reservations, supported. In shipping the study team have proposed greater regional collaboration in specific areas where individual countries are currently facing difficulties. In particular the study team have proposed a regional arrangement so that countries can seek advice and support to meet their safety and security obligations.

The need for external support

Reform of the transport sector will require external support and many of the recommendations are based on the assumption that external support will be available.

Previously in the region, external support has often been for ad hoc specific projects and there are instances where such support has related to funds for infrastructure that are beyond the capacity of the individual country to maintain. For this reason, the study team have recommended that there should be agreement on a general strategy on which interventions can be based and priorities established. That strategy should be broadly based on the achievement of good governance, privatisation, corporatisation and institutional strengthening with institutional strengthening of transport agencies receiving a high priority.

External support should be conditional on domestic reform as it is evident that without domestic reform, the objectives of external support will not be achieved. In recognition of this, the study team have made recommendations for conditionalities to be attached to external support.

Finally, the study team have noted the need for potential donors to recognize the limited capacity of FICs, both in terms of finance and skills, when providing external aid. Most of the smaller FICs do not have the capacity to service large transport sector loans, even at concessional rates of interest.

Recommendations

Aviation

International aviation

Recommendation R1: Efforts should be made to encourage and support privatisation of certain government owned aviation companies in the region¹. Resources in the form of technical support (including financial and legal) should be made available through the PIF.

Recommendation R2: Pacific Forum Members should renew efforts to obtain a workable and strengthened Pacific Islands Air Services Agreement (PIASA) that is supported by all countries in the region. Negotiations to achieve a workable agreement should be conducted through the PIF.

Recommendation R3: Association of South Pacific Airlines (ASPA) should be supported in a formalised activity to review existing airline schedules and seek to integrate them more effectively as a system, including connectivity, complementarity and joint pricing. As a first step this will assist in developing better mutual understanding of:

- The extent to which there is already cooperation between airlines, bilaterally and multilaterally, on connectivity and price linkages; and
- How existing individual route systems can be improved in a wider network.

Recommendation R4: PIF should consider an Aviation and Tourism Summit with a carefully defined agenda. The summit should involve government/tourism bodies and airlines at the highest levels.

Main issues to be covered would include:

- Joint product development, including establishment of a variety of through fares and ground packages, along with schedule coordination and connectivity to enhance the opportunities for multi-stop travel;
- Joint budgeting and promotional marketing; and
- Improving connectivity at each of these levels with the French Territories and their airlines.

Air freight

Recommendation R5: An economic appraisal of the proposed communication system (potentially across web-based platforms) on the scheduling and availability of air freight capacity over what are currently multi-airline networks and often involving transshipment should be implemented². If warranted, the design and implementation of a system should be carried out to harness potential benefits in improved cooperation, coordination and communication between exporters, freight forwarders and air freight companies.

Recommendation R6: Introduce an air freight clearance system that allows freight forwarders to notify customs if they believe cargo may not comply with customs regulations. Implementation should be targeted at FICs experiencing delays in customs clearance of air freight imports.

¹ These matters are addressed in detail in the relevant Country Reports where the financial position of each of these airlines is discussed separately.

² Recommended in the *Sashimi Air Freight Study*, Centre for Asia Pacific Aviation for Forum Fisheries Agency, 2001.

Recommendation R7: Exporters and forwarders should offer reliable and reasonably predictable loads and should consider the proposal for aviation companies to require a non-refundable deposit when booking space. While potentially politically unpopular, the proposal should be treated as a commercial decision for aviation companies and not be influenced by governments. This is an issue that should be progressed through ASPA.

Domestic aviation

Recommendation R8: FICs should examine the possibility of moving to a concept of regional cabotage in order to promote more services and greater competition in domestic markets. This issue should be for PIF discussion.

Recommendation R9: In the case of uneconomic routes for which the government is prepared to provide a subsidy to ensure service provision, there should be a transparent franchising or competitive tendering process that would determine the operator for the route and the level of subsidy.

Aviation infrastructure

Recommendation R10: Certain airports in the region require substantial new investment to upgrade facilities. Minor airports in the region also require upgrading and rehabilitation. Any financial and/or technical support for specific FIC aviation systems should be accompanied by, and conditional upon, appropriate institutional strengthening of airport management. Any proposed work should also be subjected to a benefit cost assessment and be conditional on the implementation of a credible maintenance program.

Aviation safety and security

Recommendation R11: The study team support the concept of a regional air safety organization and believe that Pacific Aviation Safety Organisation (PASO) can fulfil this role. Action should be taken in four areas before any funding decisions are made³:

1. Reaching agreement on the scope of services to be provided. The study team support the principle that the safety office should provide full (jet and non-jet services) for as many countries as possible. The study team are of the view that PASO should have responsibility for all jet services in the region.
2. All member states that will use PASO services should formally agree to pass standardised civil aviation laws that are in compliance with International Civil Aviation Organisation (ICAO). This legislation should also have a mandatory requirement for the Minister for Civil Aviation (or designated person) to act on PASO instructions;
3. Agreement to a legally binding document signed by all member states that formally recognises the PASO constitution and the Council of Directors. This will also involve the preparation of a Constitution that guarantees the independence of PASO and its professional staff; and
4. PASO should examine the possibility whereby PASO clients could sub-contract inspection services required under PASO regulations. These services would be carried out by approved agencies working to PASO requirements.

³ PASO Interim General Manager, Mr John Gratton, has stated that these issues are in the process of being addressed.

Shipping

Shipping services

Recommendation R12: FICs with potential to benefit from services and greater competition in shipping should allow regional cabotage.

Recommendation R13: In the case of uneconomic outer-island routes for which the government is prepared to provide a subsidy to ensure service provision, there should be a transparent franchising or competitive tendering process that would determine the operator for the route and the level of subsidy.

Recommendation R14: Certain FIC member governments should consider commercialising (corporatisation or privatisation) the remaining coastal and inter island-shipping services operated by government shipping lines.

Maritime infrastructure

Recommendation R15: FIC member governments should give first priority to maximising the benefits obtainable from existing port infrastructure. Greater resources should be allocated to asset management and planned maintenance of existing infrastructure.

Maritime safety and security

Recommendation R16: Member governments need to take urgent action to implement the ISPS Code. A component of the Regional Maritime Assistance program fund could enable countries to obtain technical support to meet their compliance obligations.⁴

Maritime administration and port management

Recommendation R17: FIC governments should introduce measures to increase the autonomy of government owned ports. This could include corporatisation. Opportunities for private sector participation should be introduced where possible, and support provided to assist with transfer in countries where privatisation plans are at an advanced stage.

Recommendation R18: FICs should review port service charges, including stevedoring charges, which vary widely between ports in the region.⁵ The pricing of port services should encourage efficient use of port facilities and port pricing should encourage shippers to clear cargo from wharves as efficiently as possible.

Recommendation R19: The Regional Maritime Assistance Program should be strengthened under the auspices of the PIF. Member governments should be able to obtain resources through this program for development of compliance strategies and institutional strengthening of maritime authorities.

Recommendation R20: Under the auspices of the PIF, member governments should reintroduce annual maritime sector ministerial meetings aimed at developing a coherent regional approach to maritime policy.

⁴ It is worth re-iterating that the deadline for compliance is 1 July 2004.

⁵ The country studies show that relatively high stevedoring charges are associated with stevedoring monopolies and relatively low charges are associated with more competitive systems.

Maritime training

Recommendation R21: PIC members should undertake an audit of Regional Maritime Training Institutions aimed at achieving a limited number of better-equipped and coordinated institutions, resulting in Class 1 and Class 2 Watch-keeping officer and Watch-keeping rated training being concentrated in one or two regional maritime training institutions. The coordinated program should be linked to the Australian Maritime College so as to provide overall guidance.

Maritime Issues requiring further investigation

Recommendation R22: There are regional maritime issues peripheral to the PRTS, requiring further investigation beyond the immediate scope of study:

- FIC governments should set up a committee of experts to advise on the costs and benefits of developing a regional ship repair capability. If possible this should be owned and operated by the private sector. No support for rehabilitation of ship repair facilities should be considered until the possibility of a regional facility has been explored.
- FIC governments should set up an expert committee to report on the costs and benefits of developing standard vessel designs for coastal and inter-island shipping.
- Under the auspices of the PIF, FIC governments should establish a committee to consider the costs and benefits of setting up a Regional Ship Replacement Fund to finance ship acquisition/replacement.
- FIC member governments should establish an expert committee to advise on the costs and benefits of setting up a regional hydrographic service. Consultations with the Royal Australian Navy should be initiated.

Institutional strengthening (aviation and shipping sectors)

Recommendation R23: To assist FIC members to make key commercial decisions, a Transport Technical Support Fund should be set up within the PIF. This fund should service requests from FICs for short-term technical support in areas such as administrative reform, and economic, financial and legal analysis associated with management decisions.

Donor coordination (aviation and shipping sectors)

Recommendation R24: Greater Donor coordination needs to be achieved. Donors and FIC leaders should work towards an agreed coordinated response to transport issues in the region including a general strategy on which interventions can be based and priorities established.

Recommendation R25: Strong performance conditions should be attached to external support provided donors could present a unified front. Financial and other quantifiable performance covenants could be included as conditions for external support and donors would need to be prepared to withdraw support if conditions were not met.

1. Objectives of the study and conceptual framework

Introduction

This is the Final Report of the Pacific Regional Transport Study (PRTS) undertaken December 2003 to May 2004.⁶

1.1 Background to the study

This study results from a proposal put forward by the Australian Prime Minister. During the Pacific Island Forum (PIF) Leaders meeting in Auckland, New Zealand August 2003, Pacific Island Forum Leaders agreed to support a Pacific Regional Transport Study (PRTS) covering both aviation and shipping.

The major objective of the Pacific Regional Transport Study (PRTS), as stated in the Terms of Reference (TOR), was to identify, and bring forward as soon as possible for Leaders' consideration, practical recommendations to improve the efficiency and effectiveness of air and shipping services.

The technical team was required to examine possible regional responses that could involve pooling of scarce regional resources as well as to review issues and make recommendations that related to individual Forum Island Countries (FICs).

Volume 1 contains the regional issues addressed together with proposals and recommendations. Volume 2 contains individual country reviews and recommendations.

1.2 Methodology

The study approach involved an initial review of previous studies in the area and discussions at a group level with officials in the region likely to be involved initially as information sources, and in the final analysis, as implementers of reforms potentially resulting from the Final Report. An undertaking was made at this stage for the technical team to visit all FICs.

The approach involved detailed interviews with governments, regulatory authorities, aviation and shipping service suppliers, and service users. These interviews were conducted in all FICs with the exception of Niue⁷ with the majority of interviews being conducted over the period February to April 2004. For most agencies, interviews were conducted separately while in certain cases users were brought together in small group discussions.

On completion of interviews, a Transport Symposium was held in Suva where all participants were provided with a presentation of how the Study team viewed the sector, based on the information collected from the interviews. Participants were invited to comment on the information collected and observations made they were also able to suggest possible recommendations resulting from the data. The interviews and the Symposium results subsequently formed the basis of this study.

⁶ The Technical Team comprises: Richard Filmer: Team Leader/Transport Economist, Peter Harbison: Aviation Specialist, Keith Trace: Shipping Specialist and Bhashkar Bhindie: Finance Specialist.

⁷ For Cook Islands, Federated States of Micronesia, Republic of Marshall Islands, and Palau, AusAID officials carried out interviews and the notes of these interviews were provided to the technical Team.

As part of this study, information was collected that has not previously been available, the most important of which relates to the financial condition of key national airlines in the region. Much of this information was supplied as commercial in confidence and should be kept confidential by the client. Summary data extracted from the detailed financial accounts collected has been provided in this Volume. Volume 2 contains the detailed financial information attached to the relevant country report. Other information contained in this report that has not previously been widely available includes comparisons of some shipping charges in the region and aviation activity statistics.

1.3 Conceptual framework

In order to make judgements about the operation of the transport sector and the scope for reform it is necessary to develop a common conceptual framework that can be used for both the appraisal of shipping and aviation services. The TOR requires that the appraisal should be in terms of efficiency and adequacy of transport services. The framework developed and described here is used as a basis for the subsequent analysis in the remainder of the Report.

1.3.1 Efficiency

Appraisal of efficiency conventionally involves three aspects: technical, allocative and dynamic efficiency.

- **Technical efficiency** involves an examination of the direct cost of delivery of a given service. In shipping this involves items such as the cost of delivering a service over a particular route or the cost of loading or unloading vessels. Issues such as airport operation, airline operation, and capacity utilisation of aircraft affect technical efficiency in aviation.
- **Allocative efficiency** involves considerations of the way that resources are allocated to provide services. For example an aviation company may provide technically efficient services over a particular route, but because they employ inappropriate aircraft, the costs may be higher than would otherwise be the case. Similarly a technically efficient port might be able to lower costs by using different infrastructure for loading and unloading vessels. One of the major sources of aviation inefficiency in the South Pacific is due to the fact that many of the inter-pacific routes are operated as B-737 routes when the lower costs can be achieved with the use of mid sized turbo props.
- **Dynamic efficiency** in the context of this appraisal of transport options involves consideration of current operational practices on future costs. The most important example of dynamic inefficiencies in the Pacific region transport sector is the failure to spend resources on maintenance. In the short term it is possible to lower current costs in many transport activities by cutting maintenance expenditure.

Consequently, when investing in infrastructure it is necessary to make provision for future growth in demand. Failure to consider the future implications of current decisions can produce short-term savings that are often outweighed by additional long-term costs that are incurred.

A key constraint to dynamic efficiency in the Pacific region has been inappropriate administrative structures that inhibit management. Poor management structures, which are

endemic throughout the transport sector, limit the ability of management to make commercial decisions.

1.3.2 Adequacy of services

In addition to efficiency considerations, it is essential to consider the adequacy of transport services. Many Pacific nations are sparsely populated with large distances between population centres⁸. It is primarily for this reason that they attach a high importance to the provision of transport services that meet perceived travel and trade requirements. While adequacy of services is essentially a value judgment, there are three points about assessment of service adequacy that can be made.

1. *Adequacy of service is a judgement made by consumers.* It does not carry with it a judgment about the way that service is provided;
2. *There are quantitative indicators that can guide judgements about adequacy of service.* For example the scheduled services offered, the type of aircraft operating, the number of seats available and the utilisation of the available seats can all be considered within the context of the fares offered. In Volume 2 of this report, comprising individual Country Reports, judgments relating to adequacy have largely been based on these factors; and
3. *Judgements about adequacy of service require that the costs incurred by countries as a result of these decisions are transparent.* Only with transparency safeguards can a rational decision be made about whether any additional cost for service adequacy is warranted.

⁸ The South Pacific region extends over about one third of the earth's surface. Over 80% of the land in the region is in one country, Papua New Guinea, and within this vast region lives less than one tenth of one percent of the world's population.

2. Overview of aviation and shipping issues in the region

2.1 National transport objectives

The region's isolated geographical position, small domestic markets and narrow range of production make reliance on international trade essential. These factors all contribute to the high priority that transport receives in economic policy and as a regional issue.

No country within the region has a clearly enunciated set of transport objectives that easily translates into a consistent and coherent transport policy and a number of reasons attribute to this. First, many of the countries in the region are unstable, making the development of consistent longer-term economic policy extremely difficult. Secondly, there are severe financial constraints in many FICs making it difficult to implement a transport policy and thirdly, transport objectives may be in conflict with broader objectives such as tourism and domestic industry development.

It is often claimed that in aviation there is a strong objective to establish national airlines within the region. At times a national airline has been seen as a sign of independence and economic progress. However, in all interviews with leaders conducted throughout the region, a unanimous view was expressed that national airlines were only a means to an end and that the main objective was to establish reliable and safe aviation services. If the most efficient way of achieving this objective was to use some other instrument rather than a nationally owned and operated airline, then all leaders that were interviewed maintained that other approaches should be considered.

Despite the fact that leaders have indicated their willingness to reconsider the need for a national carrier, most FICs have a national airline and this immediately creates conflicts with other parts of national policy. For example, tourism represents a potential area of development for many FIC economies, however in some cases it has been extremely difficult to deliver the efficient aviation service required to meet tourism objectives when there are concerns for the financial viability of the domestic airline.

In shipping there is a general regional consensus that the provision of reliable and efficient services has broadly been achieved. International shipping services serving the region are generally considered to be adequate and efficient. Container shipping services to and from FICs are reliable; vessels adhere to published schedules and offer sufficient space for the needs of importers and exporters.

It should be understood that much of transport is a derived demand and for this reason explicit transport objectives may not be helpful. Rather, there could be indicative objectives for sectors such as tourism, fishing and agriculture with the transport implications of these objectives then being used to derive objectives for the transport industry.

The delivery of welfare objectives through the transport system was an issue raised during the study. The study team are of the view that while it is possible to deliver these objectives, it is usually an extremely inefficient means of delivery. In virtually all countries in the region where an attempt is made to deliver welfare objectives through the transport system, delivery is currently achieved through disguised subsidies. Below cost fares (for either shipping or air services) are justified at times on welfare grounds. Our view however, is that fares should cover costs so that prices reflect the resources required to produce the service and the operator

can provide a sustainable service. If it is then decided that, on welfare grounds, the price should be less than the cost of providing the service then the government should provide an explicit subsidy to the operator.

Transport subsidies are a blunt instrument for delivering welfare objectives due to the difficulty in discriminating between customers. Taking the example of inter-island ferry services, it is our view that costs should cover operating costs including depreciation. If, on welfare grounds, a government decides that these prices should be lower, then an explicit subsidy should be provided, with the cost of the subsidy being compared against other government expenditure priorities, including education and health.⁹

2.2 Emerging challenges facing the transport sector

2.2.1 Innovation and market developments

It is in the aviation sector that the greatest immediate challenges are likely to be faced. The immediate issue is the introduction of low cost carriers (LCCs) that will operate within 12 to 18 months on many of the major hub routes throughout the region. LCCs represent a complete change in the way that aviation services will be offered in the region, involving new aircraft and new ways of aircraft operation. Comparative cost studies¹⁰ indicate that these carriers will offer extremely competitive fares for the longer hub routes. Moreover, certain major airlines currently competing in the region have plans to reduce fares or have already reduced fares in preparation for the new competition.

The increased competitive environment will have a number of implications for current operations of national airlines throughout the region:

- Many of the national airlines that are already facing major financial problems can expect their financial situation to continue to deteriorate;
- National airlines may call on their government shareholder to inject further equity. Even airlines that are able to meet the challenge will face requirements to upgrade their fleet structure with consequent need for capital injection. Most FICs will not have the financial resources to meet these requirements; and
- Some national airlines will be obliged to rethink their pricing strategies. Typically many of these airlines used the longer hub routes to cross subsidize other shorter routes. However the LCCs will concentrate competition on these hub routes and therefore it will become much more difficult to adopt cross subsidization strategies.¹¹

The low fares for hub routes and the consequent expected increase in visitors to the major ports offers an important commercial opportunity for the growth of spoke services that would

⁹ The case for subsidized air services is even weaker than that for subsidized shipping services. The welfare benefits are also highly questionable as the more affluent members of the community generally patronize air services.

¹⁰ A study of comparative costs of established regional carriers and LCCs was presented to ASPA in January 2004. LCCs on typical regional routes appear to have potentially lower costs of between 20% and 40%.

¹¹ Constraints on cross-subsidization will extend to market segmentation strategies. For example some carriers cross subsidize certain types of passengers (e.g. students) on hub routes. This will become extremely difficult if the LCCs offer low fares to all segments.

offer these new visitors opportunities to visit more remote areas in the region.¹² There are already aviation companies planning to take advantage of the potential market growth for feeder services that will be created by the LCC operation on hub routes.

The shipping sector does not face the immediate competitive challenge faced by aviation. The technological revolution of container shipping has been absorbed within the region and technological change has resulted in lower prices and better services. It should be noted that there are some ports in the region that are still yet to be fully upgraded in order to take advantage of the potential efficiencies.

2.2.2 Financial viability

Financial viability can be viewed in the context of the wider macroeconomic situation, and also in terms of individual commercial entities operating in the region.

In the broader macroeconomic context the overall economic position of many of the smaller FICs is extremely vulnerable. Typically in the transport area multilateral agencies will offer substantial loans for rehabilitation and new investment. However in the Pacific region many of the economies are so fragile that they cannot support loans and this limits the availability of funds from multilateral agencies for areas such as shipping and airports.

A second macro consideration is the danger that infrastructure in the transport area may bring with it recurrent costs, such as maintenance, that cannot be supported out of domestic revenue. In many cases this has resulted in transport infrastructure that has not been properly maintained and this means that the benefits from the original investment can be considerably reduced. There are examples of this situation in areas such as airports, vessels used in the coastal trades, and regional shipping ports.

This study involved a review of the financial position of key individual operating entities in the transport sector. In particular it included an extensive review of the financial position of some of the key aviation companies in the region. There were comprehensive discussions on financial issues with executives of ten airlines operating in seven of the FICs the study team visited. The study team requested financial information from nine airlines and received financial information from eight airlines. While there are difficulties in comparing and aggregating operating results,¹³ it is possible to obtain a broad overall picture.

- For the year 2002, the eight airlines made a combined recognised loss of \$AUD23.96 million. Three airlines made a combined profit of \$AUD6.11m, while the other five made combined operating losses of \$AUD30.11m; and
- For the year 2003, seven airlines provided financial information. Four airlines made a combined recognised loss of AUD19.94 million. Three airlines made a combined profit of AUD35.34m, whilst the other four made combined operating losses of AUD19.94m.

¹² That is the cross price elasticity of feeder services with respect to the price of longer distance hub routes will mean that lower hub fares result in greater demand for feeder services. In the aviation industry this is known as the “halo” effect.

¹³ Difficulties arise because of different sizes, balance dates, currencies and other factors. However, in order to obtain a broad picture, all currencies have been converted to \$AUD using the exchange rates prevailing on 10 April 2004, and it has been assumed that the operations relate to the year ended 31 December 2002 and 2003, regardless of the fiscal year when the companies balanced their books (eg June 30).

Those airlines achieving a profit have had a reasonable history of profitability and at least one profitable airline is run by professional management according to best practice and good governance principles. It may be argued however, that these profits are marginal, given the massive investments made in infrastructure, spare parts, and other exposures including guarantees and foreign currency. It is unlikely that the financial position of most of these airlines will improve, and the advent of LCCs and subsequent competition generated indicates a bleak outlook for most companies.

2.2.3 Safety and security requirements

In both aviation and shipping there are new international safety and security requirements that will have immediate impact on the transport sector.

Signatories to the Convention on International Civil Aviation (Chicago Convention), which includes all FICs with the exception of Tuvalu¹⁴, have obligations to follow standards and practices set out by ICAO and many FICs currently do not comply with these requirements. With the heightened awareness of safety and security issues there is increasing pressure for FICs to comply. Compliant ICAO member states, such as Australia, NZ and the USA could potentially deny entry to aircraft based in non compliant countries and could also prevent aircraft registered in their jurisdictions from flying to non compliant jurisdictions.

New safety and security regulation also exists for shipping, with the bulk of new regulations contained in the new International Ship and Port Facility Security Code (ISPS Code). Countries will be required to conform to these regulations by 1 July 2004 and failure to do so could lead to serious repercussions for individual ships, shipping companies, port authorities and, more generally, for international seaborne trade.

The problem of compliance is exacerbated by a lack of awareness of some FICs of their obligations and without external assistance many of these FICs will have no implementation strategy, potentially leading to bans on entry into key complying international ports. The study team are aware of two FICs that have Flag of Convenience (FOC) registries. These registries impose additional safety and security responsibilities¹⁵.

The costs of meeting these safety and security requirements could be substantial. In some northern FICs, the study team understand that financial support from the USA may be forthcoming.

¹⁴ Based on information provided by the Interim General Manager, PASO. All PASO Member states are signatories to the Chicago Convention and Members of ICAO. (ADB Report on Regional Civil Aviation Safety and Security Study, Final Report, Para. 36)

¹⁵ Fortunately both these FOC registries appear to be well maintained, compared to other FOC registries in other parts of the world.

3. Aviation

3.1 The market

3.1.1 Demand

Aviation in the FICs should be viewed in the context of the aviation system for the Pacific Region as a whole. The Pacific Region is defined as containing the island states and unincorporated territories of the Pacific from the Northern Marianas and Marshall Islands in the North, down to French Polynesia in the southeast and New Caledonia in the southwest. This group includes Papua New Guinea but excludes the State of Hawaii.

Within the Pacific Region and the Forum Island Countries (FICs), the focus of this review excludes the unincorporated United States territories, Guam and the Northern Marianas Islands, and the French Territories, Wallis and Futuna Islands, New Caledonia and French Polynesia. Due to its location in the South Pacific and aviation links with FIC countries, New Caledonia is included in some aspects of the analysis.

The FIC states have a collective population of approximately 7.1 million¹⁶ and comprise: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. Australia and New Zealand, also being members of the Pacific Island Forum (PIF) also are central to the analysis insofar as they constitute major markets for travel to and from the FICs. There are also key regional carriers based in these countries.

According to Pacific Asia Travel Association (PATA), there were around 2.5 million passenger arrivals in the Pacific Region in 2002 (Table 1). However, these were dominated by visits to Guam, primarily from North East Asia. French territories account for around 192,000 of the total, while Forum Island Countries account for 765,000.

The major structural features of this market are summarised below.

- Around 209,000 Australian arrivals comprise 27 percent of all FIC arrivals, followed by New Zealanders (19 percent). Over 50 percent of all arrivals among FIC countries are recorded by Fiji;
- Inbound passengers dominate traffic in most countries (travellers originating outside the country). In some countries, notably Tonga and Samoa, a high percentage of these inbound passengers are nationals living abroad;
- Inbound dominance is greatest for nations heavily dependent on tourism; e.g., Fiji (83 per cent of all passengers), Vanuatu (88 per cent) and Cook Islands (95 per cent). Inbound figures are not available for the entire region, but it is likely that 70 per cent to 80 per cent of total arrivals are leisure visitors, mainly holiday makers, including visiting friends and relatives (VFR) traffic;

¹⁶ Many of the population estimates for individual FICs are outdated.

- Western Pacific (Northern Marianas, Palau and Guam) accounts for 44 percent of all passenger arrivals in the wider region, and depends heavily on Northeast Asia, particularly Japan;
- French Polynesia and New Caledonia account for around 18.3 percent of arrivals in the Pacific, with 31 percent and 40 percent of their markets, respectively, from Europe (especially France);
- Vanuatu, Papua New Guinea, Solomon Islands and Fiji receive 20 percent of the region's arrivals;
- Niue, Cook Islands, Tonga and Samoa jointly receive 8 percent of arrivals; and
- Intra-Pacific travel accounts for only 6 percent of total arrivals, although it is a significant contributor for Samoa, Tuvalu and Niue.

The uneven geographical distribution of the major sources of demand for air travel is a key factor explaining the aircraft type and route structure in the region.

The picture is further complicated by seasonality of traffic flows, which produces short-term, but reasonably predictable, fluctuations in demand. Seasonality is influenced by both holiday demand and special event demand and means that the supply of services may be adequate for certain times in the year but inadequate in others.

Whilst passenger traffic is the major aviation market in the region, air freight is also important and air freight exports from the region comprise mostly fresh fish and aquarium products, with some other food¹⁷ for the hotel trade. There are also small volumes of manufactured goods, such as clothing, where there are special requirements for quick delivery of items. Because of the high costs involved in air as opposed to surface transport, it tends to be limited to "time sensitive" and high value goods.

In the case of imports into the region, air freight¹⁸ primarily consists of key components for equipment¹⁹ and time sensitive documents. Air freight imports depend crucially on the ability to deliver the items to the recipient in the minimum time and, as a result the whole process of delivery, including customs clearance, needs to be considered.

¹⁷ Notably chilled meat flown into the region and locally ex-Vanuatu.

¹⁸ Airmail constitutes a small, but important part of the air freight market and air mail operates both inbound and outbound.

¹⁹ For example, parts used in mining and drilling equipment in PNG.

Table 1: Existing Passenger Traffic, 2002

To/From	Americas	Europe	NE Asia	Other Asia	Australia	New Zealand	Pacific	Other	TOTAL
Guam	42,975	1,436	944,434	6,810	1,788		30,668	3,050	1,031,161
Northern Marianas	18,540	598	432,173	3,024	316	-	19,720	1,176	475,547
Palau	4,583	834	41,478	3,501	341		6,145	1,703	58,585
Micronesia Total	66,098	2,868	1,418,085	13,335	2,445	-	56,533	5,929	1,565,293
% Share	27%	1 %	94 %	36%	1%	0%	37%	33%	61%
Papua New Guinea	6,990	4,731	4,662	6,676	26,562	2,351	1,426	272	53,670
Solomon Islands	564	579	416	267	1,701	340	616	25	4,508
Vanuatu	1,438	2,948	731		29,730	7,263	6,532	820	49,462
New Caledonia	2,141	32,683	27,354	1,081	19,216	5,935	14,412	1,111	103,933
Tuvalu	77	84	148	68	177	169	476	37	1,236
Fiji	68,617	65,047	34,296	11,444	123,606	68,293	24,051	2,505	397,859
Melanesia Total	79,827	106,072	67,607	19,536	200,992	84,351	47,513	4,770	610,668
% Share	33%	50%	4%	53%	85%	54%	31%	27%	24%
Niue	107	116	8	15	157	879	251	99	1,632
Tonga	7,857	4,082		1,683	6,261	12,938	3,672	92	36,585
Cook Islands	11,505	19,630			9,952	28,841	1,981	369	72,278
Tahiti	66,995	75,865	23,668	1,292	5,346	5,282	4,155	6,427	189,030
Samoa	9,095	4,762	577	1,310	11,438	23,790	37,707	281	88,960
Polynesia Total	95,559	104,455	24,253	4,300	33,154	71,730	47,766	7,268	388,485
% Share	40%	49%	2%	12%	14%	46%	31%	40%	15%
TOTAL	241,484	213,395	1,509,945	37,171	236,591	156,081	151,812	17,967	2,564,446

Source: Pacific Asia Travel Association, 2002

3.1.2 Supply

Australia and New Zealand have adopted a relatively liberal approach to access rights, which has affected the availability of services to and from the region and has functioned as the catalyst for the successful entry of low cost services that holds considerable potential for change in the Pacific markets. A more progressive and liberal approach means that solutions to aviation problems among FICs might differ considerably from the solution elsewhere. In addition, Australia and New Zealand have strong cultural, leisure, government and business ties with FICs, which are not as evident elsewhere in the Region and the strength of these ties gives these two countries a close interest in development in the Pacific.

The non-Forum Pacific territories are also relevant to aviation development in the region given the increasing aviation integration is taking place across borders generally. They represent distinctive points of entry for Asian, European and North American markets, and so cannot be separated in the long-term from the case for aviation rationalisation in the interests of tourism development across the region generally.

Nevertheless, these areas are given only limited treatment in this study as their principal spheres of influence are outside the region, in the United States and France, and the dependencies are subject to different regulatory regimes. The French territories have yet to adopt a regional approach, but potentially offer considerable opportunities for enhancement of air traffic flows within the region. Accordingly, further consideration is given to these opportunities in this report.

Some 21 airlines are based in the Pacific region (as defined above for the purpose of this study), with a total fleet of over 100 aircraft, collectively valued at \$US1.3 billion (Table 2), excluding New Zealand and Australian based airlines. Tables 2 and 3 provide a summary of the aircraft operating in the region. The majority of airlines in the Pacific are small, with ageing aircraft. Many are only marginally economic, if economic at all. Major features of the regional fleet structure include:

- There are relatively large airlines in the French sphere of influence (Air Tahiti Nui, Air Caledonie and Air Tahiti);
- There are three medium sized airlines operating internationally, each dominant in its own region: Continental Micronesia (Western and Central Pacific); Air Pacific (Melanesia/Polynesia/South Pacific); and Air Niugini (Melanesia/Australia);
- A number of small regional international airlines operate one or two aircraft on international routes and domestic services; and
- FICs accounted for only around one quarter of fleet by value, with that dominated by Air Pacific, supplemented by Polynesian Airlines and Air Niugini.

Table 2: Pacific-Based Airlines ^(a) 2002

	Estimated Fleet No.	Estimated Fleet Value (\$US m)	Average Aircraft Value (\$US m)	Average Fleet Age (Yrs)
Total FIC Airlines ^(b)	77	403.3	5.2	19.2
Other Pacific Region ^(c)	35	860.2	24.6	8.0
Total Pacific Region	112	1336.6	11.8	15.6

Source: Information collected from Airlines during PRTS and published information from Airclaims

(a) Small airlines have been excluded from this Table.

(b) Details for FIC based Airlines are shown in Table 3.

(c) Excludes Australia and NZ. Pacific region Airlines included in this category were Asia Pacific, Pacific Islands Aviation, Tahiti Nui, Continental Micronesia, Air Caledonie, Air Tahiti.

Table 3: Composition of the FIC Airline Fleet ^(a) 2003

	Non-Jet Fleet: 76 Aircraft (61 FIC)																	Total			
	B747	B767	B757	B737 (NG)	B737	Fokker F 28	ATR 72	ATR 42	Dash 8	Twin Otter	Shorts 360	CASA 212	Citation	Brasilia	Bandeirante	Dornier 228	Rayth'n 1900		Saab 340	Yunshuji Y 12	Other
Air Fiji										1				1	3				1	3	9
Air Kiribati ^(b)							1					2							1		4
Air Marshall Islands																2		1			3
Air Nauru					1																1
Air Niugini		1				6			3												10
Air Pacific	2	1		3																	6
Air Rarotonga															3			1			4
Air Vanuatu					1			1							1						3
Airlines of PNG									12	5			1				2			1	21
Polynesian Airlines				1						2											3
Royal Tongan Airlines ^(c)			1							1	1										3
Solomon Airlines										3											3
Sun Air (Pacific)										3											3
Vanair										3										1	4
FIC NATIONS	2	2	1	4	2	6	1	1	15	18	1	2	1	1	7	2	2	2	2	5	77

Source: Centre for Asia Pacific Aviation and PRTS Interviews, 2004.

(a) Only Major Airlines shown.

(b) In 2004 Air Kiribati has returned its leased ATR.

(c) Royal Tonga Airlines leased B757 aircraft lease has ceased.

The major suppliers in the market and the way they interact is summarised below.

The FIC Carriers: Whilst individual FIC Carriers are discussed in details in the country reports, it is clear that as a whole the airlines are characterised by a large number of small airlines using a wide range of aircraft some of which are towards the end of their economic life.

Qantas and Air New Zealand: Exercise considerable influence over the Pacific through their commercial and equity partnerships and traffic flows into and out of the region. The support they offer airlines generally provides greater operational and competitive strength to the smaller island carriers, and generates increased traffic for them through linkages out of Australia and New Zealand and holiday packages.

Air New Zealand directly plays a much greater operational role in the region, which constitutes an important part of its total network. Qantas, by contrast, does not operate any services with its own aircraft to FICs.

Various developments by Air New Zealand, Freedom Air, and Virgin Blue's Pacific Blue operation are likely to intensify competition on certain routes. Recent fare cuts announced by Air New Zealand suggest that this further competition, while enhancing growth in the markets concerned, will impose pressures on the yields and income of existing island operators and will change the nature of the market.

The market will also be influenced if Qantas, Air New Zealand and Air Pacific gain regulatory approval for their planned alliance (currently under appeal) or enter into an alternate arrangement to coordinate services.

Qantas: Is a publicly listed company, with British Airways holding 17.5 percent of equity. Qantas has a total fleet of 131 aircraft, of which 29 are B767 and 36 B747 aircraft. Qantas also holds 46.3 percent of Air Pacific, and operates a wide-ranging commercial relationship with Air Pacific.

The 10-year commercial relationship with Air Pacific, which began in 1997, currently applies to code sharing, engineering, spare parts management, distribution of holiday product through Qantas Holidays, and the operation of reciprocal frequent flyer programmes. It has the potential to be extended further to cover scheduling and fleet coordination, marketing, ground handling, customer services, fuel and freight. Through this partnership, Qantas gains access to the Fiji market while Air Pacific leverages off Qantas in the New Zealand domestic market and through feed provided out of Australia and across the Tasman.

Air Pacific operates services between Australia and Fiji on behalf of Qantas. This extends to flights between Nadi and Sydney, Melbourne, Brisbane, Los Angeles, Auckland and Honolulu, and to services between Suva and Sydney. Air Pacific, in turn, code shares on Qantas services in the New Zealand domestic market between Auckland, Wellington and Christchurch.

Qantas also provides operational and technical support to Polynesian Airlines, and code shares on one of Polynesian's two B737-800 services from Auckland to Apia, and Samoa, via Tonga. The passenger feed provided by Qantas and its networking benefits are important to Polynesian Airlines' viability and Qantas also hosts Polynesian Airlines in its Amadeus

reservations system. Polynesian uses Qantas's Departure Control System at airports throughout its network and is a member of the Qantas Frequent Flyer programme.

Qantas operates a number of other significant commercial arrangements with Pacific carriers, which broaden its coverage of the islands. It code shares on Air Niugini's services between Cairns and Port Moresby and Sydney / Brisbane / Port Moresby; on Air Tahiti Nui's services between Auckland and Papeete and Papeete / Los Angeles; on Air Vanuatu services between Sydney, Brisbane and Port Vila; and AirCalin services between Sydney, Brisbane and Noumea. Qantas also operates its own services between Australia and New Caledonia.

The relationship structure within the Pacific is likely to change if Qantas and Air New Zealand succeed in their appeal against the rejection by the Australian Competition and Consumer Commission (ACCC) and the New Zealand Commerce Commission (NZCC) of their proposed equity and commercial alliance. This alliance, also involving Air Pacific, may lead to a rationalisation of the partnerships held by the two carriers with island operators. Polynesian Airlines, in particular, has expressed concern that its viability will be at risk should Qantas withdraw from their current commercial arrangements.

The Qantas, Air New Zealand and Air Pacific alliance under the proposal would dominate a number of routes linking New Zealand and Australia with the Pacific. This raises the prospect of possible increases in fares on routes with reduced competition (an issue underlined by the ACCC and NZCC in their final determinations on the alliance) and, in the medium-term, of market control.

Air New Zealand: Is 77 percent owned by the New Zealand government, with Brierley Investments holding, but currently disposing of, 5.5 percent of equity, Singapore Airlines 4.5 percent, Qantas 4.99 per cent and other investors 8 percent. The airline operates a fleet of 39 aircraft; including 12 B747s. Air New Zealand also holds 1.9 percent of Air Pacific.

Air New Zealand presently operates services from Auckland to Rarotonga, Papeete, Tonga, Apia, Nadi, Norfolk Island and Noumea. It operates in conjunction with Star Alliance partner United Airlines on a number of routes and unlike Qantas, Air New Zealand choose to serve most Pacific destinations directly rather than maintain a market presence through code share services with island carriers.

Air New Zealand recently announced plans for a separately branded low cost service known as Pacific Express, catering to the island network. Pacific Express has sharply reduced fares and introduced one way pricing, with average discounts of 54 percent on standard fares available online to Fiji, Samoa, Tonga and the Cook Islands. The service will be extended to New Caledonia once bilateral approvals have been secured. The recent introduction of Pacific Express services has already applied considerable downward pressure on fares across the region. Air Pacific has responded to the price reductions by offering competitive holiday packages to Fiji and reduced one way pricing ex-Fiji. Polynesian Airlines has matched Air New Zealand/Pacific Express fares.

Through the Pacific Express initiative, Air New Zealand expects to develop the Pacific market in a manner similar to that achieved by its Tasman Express and Domestic Express services between Australia and New Zealand and in the New Zealand domestic market. This suggests anticipated growth of between 10 percent and 40 percent (although there are no plans for increases in capacity at this stage). Estimated 70 percent of the aircraft seats offered by

Pacific Express will be available for the two lowest fare classes, reflecting the leisure base of the market and of these, 35 percent would be available at the lowest rate. Air New Zealand will operate a number of aircraft from its A320 fleet on the Pacific routes.

Freedom Air: Is a Low Cost Airline 100 percent owned by Air New Zealand and operating trans-Tasman services, with an emphasis on secondary centres in New Zealand. It has a fleet of four 737-300 142-seat aircraft and has recently announced (30 January 2004) plans to offer one-way fares from NZD199 for new services from Hamilton (commencing 29 April 2004) and Palmerston North (commencing 15 May 2004) to Fiji, subject to government approval.

Freedom is acquiring a fifth B737 in October to expand its services, particularly on the Tasman. However, its strategy as a short-haul international operator also enables it to be deployed on other Pacific routes as and when required to supplement Air New Zealand's Pacific Express services, and develop new routes or counter competition.

Pacific Blue: Virgin Blue owns 100 percent of its international low-cost subsidiary, Pacific Blue, based in Christchurch, New Zealand. Pacific Blue began operating two B737-800s on trans-Tasman routes in January and plans to expand in the New Zealand domestic market during the second half of 2004. In 2004, Pacific Blue will also launch services to Fiji and Vanuatu, and later to New Caledonia. The airline plans to launch six times weekly services to Fiji from September 2004 having secured the necessary approvals in Fiji to serve Auckland-Fiji. Pacific Blue is also exploring other route options, including services to Noumea, Tonga, Samoa and Papua New Guinea.

Charter services: The planned entry of Flight Centre, an Australian-based wholesale and retail travel operator into the Pacific charter market has the potential to provide additional competition to Air Pacific and Air New Zealand. Flight Centre proposed to introduce B-737 charter services offering highly competitive travel and accommodation packages in association with charter operator Airwork on a five times weekly basis between New Zealand and Fiji from April 2004. However, the charter plans were discontinued in March for a range of reasons attributed variously to inadequate commercial response and to alleged delays in obtaining the necessary approvals from the Fiji Government.

3.1.3 Support services

3.1.3.1 Airport infrastructure

The FIC region defined in this study has a total of some 74 civilian airports (Table 4 below), with just over 50 airports paved. Given a total population of just 7.1 million, the area is well served with airports, reflecting both the dispersed nature of communities and a legacy of wartime construction, colonial influence, and aid projects.

However many of the airports do not meet the recently upgraded international standards for airports, including security requirements²⁰. In some Melanesian states, such as FSM, assistance has been provided by the USA to upgrade international airports in order to meet United States Federal Aviation Authority requirements.

²⁰ See ICAO Annex 14 (Aerodromes) and ICAO Annex 17 (Security).

3.1.3.2 Management of major international airports in the FIC region

There are a variety of different airport management structures in operation throughout the region, ranging from statutory corporations, such as in Fiji²¹, Samoa, and Vanuatu to a situation where the airport administration is part of the Civil Aviation bureaucracy, such as in Tonga, Nauru, and PNG.

Once airports reach a stage where they can operate as commercial entities, it is important for government to create an institutional structure able to facilitate commercial operations. The first step in this process is usually to create a statutory authority and this step will provide an option for possible privatisation at a later date.

Table 4: Distribution of FIC Airports

	Airports	Civilian	Of Which Paved
Cook Islands	9	4	1
Fiji	5	5	3
FSM	8	6	6
Kiribati	5	5	4
Marshall Islands	4	2	1
Nauru	1	1	1
Niue	1	1	1
Palau	1	1	1
Papua New Guinea (a)	24	24	24
Samoa	2	2	1
Solomon Islands	12	12	1
Tonga	6	6	3
Tuvalu	1	1	0
Vanuatu	4	4	3
Total	83	74	50

Source: Air Charter World and PRTS Interviews.

Table excludes private airports and many minor airports.

(a) The 24 airports here consist of 11 airports that can be served by F-28s and 13 airports served by DC-8s. There are also approximately 8 private strips, usually designed for Twin Otter aircraft, and approximately 300 provincial strips. Most of the provincial strips are currently unserviceable.

It needs to be emphasised that the creation of a statutory authority is not a panacea for all problems. In one country for example, the creation of a statutory authority to operate the airport has encountered difficulties because the aims of the government were not clearly conveyed and implemented by the authority. There was no satisfactory business plan reflecting financial performance targets and as a result, there have been unforeseen increases in airport labour costs and a failure to make a payment on an airport loan for which the Government has ultimate responsibility but had assumed would be covered by the operations of the authority.

There are also complaints from users of the facility that they do not have sufficient input into management decisions and this reflects weaknesses in the composition of the Board. These problems are, however, not a function of the statutory corporation but rather a failure of the

²¹ Fiji has recently established an Airports Statutory Authority that will manage all airports in Fiji.

Government to clearly convey its objectives to management and to ensure good governance principles from the outset.

In certain cases the formation of a statutory authority reveals issues, which would not have been apparent under a less transparent management structure. To illustrate, in one country, financial accounts relating to the airport show that depreciation and maintenance costs are not funded from revenue. This information would not have been apparent if the airport had remained part of a government department funded through the budget with any revenue raised going to consolidated revenue.

There are a number of other airports in the region requiring institutional strengthening.

In terms of repairs required to international airport runways, costs of repair are likely to increase rapidly if the work is delayed. This is particularly the case in the Pacific region due to the high instance of heavy storms.

Finally, many of the airports in the FIC region are not fully compliant with ICAO safety and security standards²². There are significant expenditures that will have to be made in the short-term if these airports are to meet compliance requirements.²³

3.1.3.3 Minor airports

Minor airport rehabilitation needs to start in these countries with a corporatised airports body followed by a selective upgrade and rehabilitation program supported by a credible maintenance program. These issues are discussed in greater detail below and in the section “The Way Forward”.

The most immediate difficulty with subsidiary airports is in PNG²⁴ where there are 11 “major” airports being regularly serviced by F28s and a further 13-second level airports serviced by DHC-8s. There are also about 300 minor ports for which provincial authorities have the nominal responsibility for maintenance. Many of the airports are now considered too hazardous for use.

An important issue arises with respect to the financial management of many of the smaller airports in the FICs. Typically those FICs with a relatively large aviation system have a single potentially profitable airport and a series of smaller airports, many of which are in very poor condition. In Fiji, for example, the corporatised airports body has assumed responsibility for the airport system. Airports Fiji Ltd operates 15 airports with the main airport (Nadi) able to operate profitably and most other airports running at a loss, thus the major airport cross subsidises the other airports in the system. There are some airports that Airports Fiji Ltd plans to upgrade using financing from some of the revenue from the Nadi operation. Hence, there is a clear incentive under this model for Airports Fiji to maintain these airports because most use Nadi as a hub and draw traffic from Nadi.

²² The standards are set out in ICAO Annex 14 (Aerodromes). These standards have recently been updated. The ICAO Universal Audit Program based on Annex 14 will commence in January 2005.

²³ Some airports also have limitations that mean that aircraft cannot be operated fully loaded.

²⁴ There are also five private airports maintained by mining companies (Moro, Gobe, Tabubil, Lihir, and Misima) and some Twin Otter strips owned by timber companies.

3.1.3.4 Safety and regulation

As signatories to the Convention on International Civil Aviation (The Chicago Convention) with membership of the International Civil Aviation Organisation (ICAO), sovereign member states have obligations to follow the standards and recommended practices set out by ICAO. These standards and practices encompass, amongst other matters, airports, aircraft, personnel and flight operations.

ICAO's mandatory Universal Safety Oversight Audit Program (USOAP) has revealed that some countries in the region are not compliant²⁵ with their ICAO obligations as referenced above. Other countries in the region that have not had a USOAP are well known to be in breach of their obligations.

These are serious issues. Quite apart from the physical danger they imply, it is possible that, with the heightened awareness of safety and security issues, compliant ICAO member states, such as Australia, NZ and the USA could deny entry to aircraft that were not compliant and they could prevent aircraft registered in their jurisdictions from flying to non compliant jurisdictions.

The Technical Team supports the concept of a regional safety office in the form of the Pacific Aviation Safety Office (PASO). At present, PASO membership is confined to PNG, Fiji, Vanuatu, Samoa, Tonga, the Solomon Islands and Kiribati and Tables 5 and 6, and 7, provide data that reveal the size of the regulatory task in the PASO member countries. It is noted that Fiji has a well functioning separate safety body, the Civil Aviation Authority of the Fiji Islands (CAAFI) and PNG also has a separate system operated through its Department of Civil Aviation. All other countries contract services, usually from New Zealand, as required. There is a general recognition that there is a need in all countries with the possible exception of Fiji to upgrade services – hence one idea that has been supported is to establish a regional safety body that would provide services for the region.

Table 5: Currently Licensed Personnel in PASO Member Countries^(a) 2003

State	Pilots	Engineers
Papua New Guinea	1,723	1,437
Fiji	364	54
Vanuatu	33	14
Samoa	35	11
Tonga	15	5
Solomon Islands	8	11
Kiribati	11	6
Total	2,189	1,538

Source: Regional Civil Aviation Safety and Security Study, Final Report, ADB, 2004.

(a) Not all PASO Member Countries intend to use the services of PASO.

²⁵ The degree of non-compliance varies widely. Fiji is almost fully compliant whilst there are some that fail to comply in a wide range of critical areas.

Table 6: Civil Aviation Activities in PASO Member Countries ^(a) 2003

Civil Aviation Activities	Vanuatu	PNG	Solomon Islands	Fiji	Kiribati	Tonga	Samoa
Number of Technical Staff Employed	1	12	0	8	0	0	0
Number of Active Pilots Licenses	33	1723	8	364	11	15	35
Number of Flight Crew Licenses - Not Pilot Licenses	0	2	0	54	3	0	0
Number of Other Active Licenses – Not Flight Crew	14	1437	11	177	6	5	11
Commercial Air Transport Operators	2	29	1	7	1	1	2
Air Operators Certificates Issued	2	39	*	7	1	2	2
Number of Operations Inspectors	0	7	0	4	0	0	0
Number of Aircraft Registered	14	204	4	34	3	12	5
Valid Certificates of Airworthiness	10	204	*	34	3	10	5
Approved Maintenance Organisations	1	35	*	7	1	1	1
Non-approved Maintenance Organisations	1	0	*	0	1	1	0
Number of Airworthiness Inspectors	1	5	0	4	0	0	0
* No Reliable Data Available							

Source: Regional Civil Aviation Safety and Security Study, Final Report, ADB, 2004

(a) Not all PASO Member Countries intend to use the services of PASO.

The idea of a regional body to oversee aviation safety has a long history. It was first proposed at the 31st Directors General of Civil Aviation Conference held in Suva in August 1995. The delays in implementing the proposal have been due to a lack of clarity on how such an organisation would operate and be sustainable.

While there remains problems associated with uncertainties on how the organisation would operate, the concept has now evolved into a proposal for a regional Pacific Aviation Safety Office (PASO) which would cover regulation, oversight and personnel licensing in the areas of flying operations, airworthiness, airports, and security.

This proposal has the potential to provide a safety oversight service that would be beyond the capabilities of many of the smaller FICs to finance separately and the concept has wide support amongst FICs²⁶. They believe that it will enable them to meet their ICAO obligations with relatively small resources and will simplify compliance requirements. PASO member states have agreed to adopt the regulatory system currently in force in New Zealand.²⁷

PASO has expressed concern regarding the issue of PASO funding. Whilst in the longer term PASO is seen as an agency offering user pays services, it will require external assistance in the inception phase. It is anticipated that the organisation will be primarily supported by bilateral and multilateral aid, along with an annual subscription fee from member countries, for the first five years.²⁸ However, the study team believes uncertainties about the operation of PASO remain and these uncertainties need to be resolved before funding is considered.

3.1.3.5 Other support services

Table 7 demonstrates the size of the maintenance problem in the major FICs.

Table 7: Current Aircraft Fleets in PASO Member Countries ^(a) 2003

State	Total Number	Jets	Jet Types	Turboprops > 10 Seats
Papua New Guinea	204	10	B767 ^(b) F28	39
Fiji ^(c)	34	6	B737/767/747	8
Vanuatu	14	1	B737	5
Samoa	4	1	B737	2
Solomon Islands	4	0		3
Kiribati ^(d)	3	0		3
Tonga	3	1	B757 ^(e)	2
Total	266	19		72

Source: Regional Civil Aviation Safety and Security Study, Final Report, ADB, 2004

a) Not all PASO Member Countries intend to use the services of PASO. b) PNG has no 767 Inspector.

c) Fiji is expected to shortly introduce Airbus. d) Kiribati ATR-72 has expired in 2004. e) Tongan B757 lease expired in 2004.

²⁶ It should be noted that some aviation operators have expressed some reservations about PASO. These reservations are related to their concern that compliance costs may increase as a result of PASO. All accept that compliance will mean more resources have to be spent on compliance but they are concerned that, in addition to an increase in the quantity of inspection services required, there may be an increase in the cost per hour of inspection services.

²⁷ At present, however, only two states (Tonga and Samoa) have completely adopted the NZ regulations.

²⁸ Regional Civil Aviation Safety and Security Study, Asian Development Bank, May 20 2004, Para 19.

Maintenance: Most of the island carriers undertake their own aircraft maintenance and engineering although some, such as Air Nauru, have maintenance carried out in Australia. Air Pacific Engineering and Maintenance, a subsidiary of Air Pacific, handles the engineering requirements for its B-737-700s and 800s. Heavy maintenance on its B-747 and B-767 is also undertaken in-house, under the supervision of Qantas and Singapore Airlines. Polynesian Airlines Engineering, a unit of Polynesian Airlines, also provides MRO for its own fleet.

Air New Zealand Engineering Services provides MRO for the Air New Zealand fleet and undertakes third party maintenance and modification work for Virgin Blue's B737NG fleet. Qantas Engineering and Maintenance also serves the requirements of the airline's fleet and carries out third party work for other airlines.

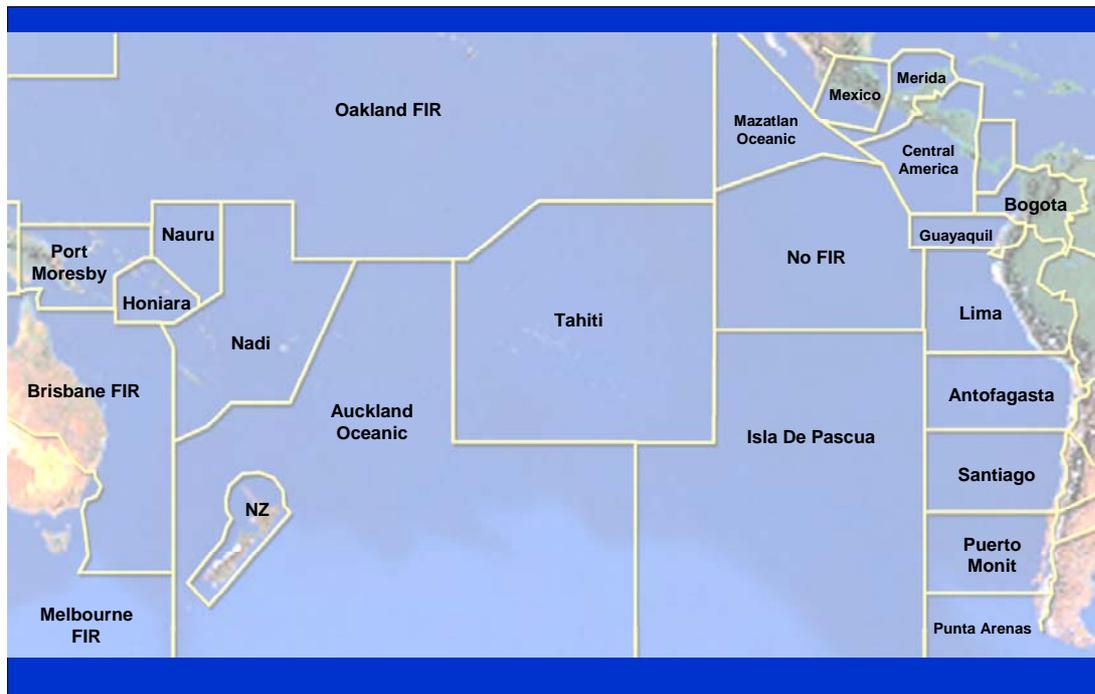
Air Space management: Upper air space is divided into the following Flight Information Regions (FIRs - Figure 2):

- From Nadi, controlled by Airports of Fiji Ltd, an area including New Caledonia, Vanuatu and Honiara;
- From Auckland, covered by Airways Corporation of New Zealand, the Auckland Oceanic FIR including the Cook, Samoa and Tonga sectors;
- From Brisbane - Brisbane Oceanic segment of the Australian FIR, PNG FIR, Tokelau, Nauru;
- From Brisbane - Honiara segment covered by Australia; and
- From Oakland FIR covers eight sectors and extends from beyond the Hawaiian islands to include Guam and American Samoa, and interfaces with, among others, Manila, Auckland, Nadi, and Port Moresby.

It can be seen that air space management is fragmented. While it is acknowledged that fragmented air space management increases air navigation risks, it is noted that moves to reform the system are politically sensitive. This is because some FICs see air space fees as an important source of revenue.

In some FICs where payments have been made by other organisations acting on their behalf, the revenue received appears not to have been properly accounted for.

Figure 2: Air Space Management Areas



Source: Centre for Asia Pacific Aviation.

3.2 Adequacy and efficiency of aviation services

3.2.1 Adequacy of services

Whilst in most hub routes there are generally adequate services, the adequacy of services varies widely between FICs. The advent of LCCs will mean that many of these routes will have more services than are currently available. In some FICs, particularly those with an extended network of outlying islands (such as Kiribati, Vanuatu and the Solomons) there is a view that some services are inadequate. These issues are addressed in greater detail in the Country Reports.

3.2.2 Technical efficiency

The main areas of technical inefficiency appear to be excess staff, high priced inputs, under-utilisation of capital equipment, use of old and disparate aircraft, and lack of economies of scale.²⁹ Most airlines in the region claimed that they had excess staff, with some highlighting that labour laws made it extremely difficult to reduce staff. There is general agreement that some of the key international airports in the region are overstaffed. Costs could be reduced with labour rationalisation, noting however this could present major difficulties.

There were also instances found of excessive prices being paid for inputs - for example one airline paid three times the annual insurance premium of a similar airline for the same aircraft carrying out similar tasks.

²⁹ There are 16 FIC based airlines, of which 12 of these have less than 4 aircraft. Many aircraft purchased for use within the region are second-hand. Most of the aircraft are towards the end of their economic life.

Under-utilisation of expensive infrastructure was another contributing factor to inefficiency. The wide variety of aircraft operated by some of the airlines also contributes to costs, increases the demand for maintenance services and raises the maintenance costs because a wider range of parts must be held and maintenance procedures differ between aircraft.

3.2.3 Allocative efficiency

The main area of allocative inefficiency in the region is the choice of inappropriate aircraft. One of the major sources of aviation inefficiency in the Pacific region results from many of the inter-pacific routes being operated as B-737 routes when lower costs could be achieved with the use of mid sized turbo props.

The major reason for the choice of inappropriate aircraft is the shortage of finance in many airlines, which means that the choice of aircraft is heavily biased towards consideration of the initial outlay needed to acquire the aircraft rather than being based on expected lifetime discounted costs and revenues. Shortage of finance is often compounded by extremely poor governance and lack of professional skills required to make choices between alternative aircraft.

3.2.4 Dynamic efficiency

There is scope to increase dynamic efficiency through better management structures that provide greater managerial flexibility by improving governance of transport agencies. This is a major theme of the PRTS and is dealt with in detail in “The Way Forward”.

3.2.5 Contestability of regional aviation markets

The concept of contestability is extremely important when considering transport markets in the Pacific Region. Contestability means that operators in markets that may be monopolies have difficulty in exploiting the situation and obtaining monopoly rents due to the possibility that, if they do, other competitors may enter the market. The two major requirements for market contestability are knowledge of potential markets held by potential competitors and relatively low entry and sunk costs for new entrants into these markets.

These two features are apparent in some Pacific region aviation markets. Fares and broad operating costs for different types of aircraft are widely available and entry into a market is not difficult, provided the aviation agreements that are required are in place. It should be noted that the major factor limiting contestability in aviation markets would be the nature of bilateral aviation agreements that restrict entry. This is the main reason for supporting efforts to get a generally agreed regional air services agreement into operation (PIASA).

While contestability will encourage markets where there is an apparent monopoly to behave competitively, it does bring with it an element of instability. Typically, contestable markets see the regular entry and departure of suppliers. This has been the case in many Pacific region aviation markets.

4. Shipping

4.1 The market

4.1.1 Demand

The market for shipping services is divided into two segments:

- **Liner (Container) Shipping:** container-shipping services operate regularly along a predetermined route(s). In contrast to bulk shipping, where vessels usually carry a homogeneous cargo (coal, wheat), container services carry a wide variety of cargoes.³⁰ The costs of coordinating these diverse cargo flows virtually rules out ship chartering as an efficient form of service delivery. Users of liner shipping require regular, scheduled, frequent services; and
- **Bulk Shipping:** dry bulk cargoes (e.g. phosphate) are carried in bulk carriers operating under voyage or time charters. Liquid bulk cargoes (e.g. petroleum) are carried by specialised crude or product tankers.

Bulk shipping users do not have the requirement for regular service that is a feature of container shipping. There is an international market for chartering bulk vessels that works well and reflects international demand and supply. For this reason this report focuses on the liner (container) sector.

4.1.2 Supply

Within the liner sector, several types of shipping services can be identified:

- **Mainline (RTW and ‘Pendulum’) Shipping Services:** East-West services between the major trade generating regions of the Northern Hemisphere (Asia, North America and Europe) operated by very large container vessels (5,000teu+). Whilst these services do not call at Pacific island ports, the competitive dynamics of the container shipping market ensure that developments in Northern Hemisphere trades influence Pacific Island trades. For example, the rapid growth of Chinese exports has caused an upswing in containership charter rates affecting virtually all sizes of vessel;
- **Mainline North-South and Southern Hemisphere Services:** includes services such as Australia/New Zealand-North America and Australia North East Asia. Several of these routes pass through the study region. Typically, 1,800 - 2,200teu vessels operate such services and the competition these vessels bring to the region is important. For example, the study team note that competition between vessels employed in the Australia/New Zealand - North America and vessels employed in regional shipping services has led to a lowering of freight rates to and from Fiji;

³⁰ Until the late 1960s, general cargo was carried in breakbulk form (i.e. cargo was shipped in a wide variety of boxes, packages and drums). Cellular container and Roll-On Roll-Off vessels began to replace conventional cargo liners by the late 1960s. However, note that vessels employed in Pacific Island trades must be able to carry a wide variety of cargoes, including breakbulk cargoes and bulk liquids.

- **Intra-Regional Shipping Services:** includes services such as those offered by Pacific Forum Line (PFL), Sofrana, Pacific Direct Line (PDL) between Australia and New Zealand to the Pacific region. Such services are operated by vessels of 500-750teu capacity;
- **Intra Pacific Island Services:** services between Pacific Island nations. Since vessels employed in intra-regional shipping services usually call at a number of Pacific Island countries, the intra-Pacific Island services market segment is of relatively minor importance; and
- **Domestic coastal and inter-island services:** Cabotage (reservation of coastal trades for vessels flying the flag of the country in question) rules limit competition in such trades. Typically, coastal and inter-island trades are operated by a mix of publicly and privately owned vessels. Many vessels employed are old and poorly maintained. Individual trades may be subject to licensing arrangements.

In order to provide an integrated container service it is necessary to be able to link those types of services. This can be done by transshipment using hub ports. While a number of FICs lack direct services to Asia, Europe or America, cargoes to and from these areas may be trans-shipped from one vessel to another at one of the emerging hub ports of the region, including Auckland and Brisbane. Apia currently serves as a minor hub and has aspirations to develop further as a hub port. In the long term, it seems likely that Suva – whose geographical location favours the development of a hub port - will emerge as a major trans-shipment port of the Pacific region and the study team envisage a gradual move towards ‘hub-and-spoke’ shipping services linking FICs to the central hub. However, the further development of Suva as a hub port depends on port reform – including a substantial increase in productivity – in Fiji.

4.1.2.1 Coastal and inter-island shipping services

Within the several types of shipping services identified above, it is worth emphasising the importance of coastal and inter-island shipping services (inter-island services). These play a pivotal role in linking scattered settlements in Pacific Island states. However, substantial distances between sparsely populated islands and relatively “thin” flows of freight and passengers create difficulties for service providers. Low income levels limit the ability of inter-island shipping operators to recover the cost of service provision, leading to low levels of maintenance and an inability to replace ageing and sometimes unsafe vessels.

Historically, inter-island services have been provided by a variety of government and private sector shipowners, although the mix of public and private ownership has varied across FICs.³¹ The majority of FICs have legislation reserving coastal and inter-island trades for locally registered vessels, although the specific provisions of the legislation vary across the region. In general, coastal and inter-island shipping is reserved for national flag carriers, except where a requirement for a particular type of vessel creates a need to employ a foreign flag vessel.

In general, the prices charged for passenger and freight transport are low and do not allow operators to put aside funds for vessel replacement. Ideally, prices should reflect the real resource cost of providing coastal shipping services, including provision for vessel replacement. In practice, prices are constrained by ability to pay and/or political factors.

³¹ Some attempts at privatization of domestic shipping services have foundered on the inability of the market to support a viable service.

As a consequence, many domestic shipping operators, particularly small companies, operate on very tight profit margins, making it extremely difficult - if not impossible to accumulate sufficient capital to purchase new vessels. Replacement tonnage is provided either through aid funding or is purchased second-hand (more typically third or fourth-hand). Second-hand vessels are chosen on the basis of affordability, and are frequently unsuitable for the trade in question. Typically vessels do not comply with the requirements of recent international conventions. Vessels employed in coastal and inter-island trades are characteristically old and in poor condition. A 1997 ESCAP study estimated that 50 percent of the region's domestic shipping was over twenty years old.³² Given low replacement rates, the proportion of the fleet over twenty years old is likely to have increased since 1997.

It is common for inter-island shipowners economise on maintenance. As ESCAP notes "*age combined with low standards is, practically speaking, a recipe for disaster.*"³³ Technical Team interviews in various FICs confirm ESCAP's observation that there is a lack of adequate repair facilities in the region, particularly in the more remote FICs. Interviews also confirmed concerns about the high cost of repairs and the standard of workmanship. Given the age of the inter-island fleet, the availability of spare parts for main engines and auxiliary machinery poses a real problem for shipowners. The study team agree with ESCAP's observation that the "*net cumulative effect is a more rapid deterioration of vessels already aged and subject to severe climatic conditions*"³⁴

Managers of inter-island shipping services face major challenges, including the availability of finance for vessel replacement, the operation of old and poorly maintained vessels, and seasonal and cyclical fluctuations in demand. The sector needs an injection of management skills. There is an urgent need for capacity building in the coastal and inter-island trades.

4.1.3 Freight rates

Freight rates: are set through the interaction of supply and demand factors. They can vary as supply and demand forces change. For example supply of vessels in the region is currently tight because of the increase in demand for vessels on the China routes.

Current freight rates to and from selected FICs are listed in Table 8. The total freight charge is made up of a base freight rate plus various additional charges, which may comprise up to 40 percent of the total freight rate. Commonly levied charges include:

- *Bunker Adjustment Factor (BAF):* a charge designed to recoup the additional cost of fuel at times of rising world oil prices (known in the USA as an Emergency Fuel Adjustment Factor);
- *Currency Adjustment Factor (CAF):* a charge designed to minimise the impact of currency fluctuations on the "bottom-line" of shipping companies;

³² United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.1

³³ United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.5.

³⁴ United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.5.

- *Port Service Charge (PSC)*: charged by container shipping companies and designed to cover statutory port costs; and
- *Terminal Handling Charge (THC)*: a surcharge imposed by container shipping lines that aims to recover the cost of moving a container from the ship's side to the container stacking area.

Other charges that are commonly imposed include a document handling fee.

Freight rates to and from FICs appear high by comparison with rates charged on the main line trades. However, the cost of supplying shipping services to FICs is very high, and reasons include the following:

- Long distances between ports of call;
- Small scale of cargo flows;
- Imbalance in trade, with high container repositioning costs; and
- Need to employ relatively expensive geared vessels.

Table 8 also suggests that freight rates to and from Fiji are considerably lower than rates to and from other FICs (including Tonga, Samoa, Kiribati, Nauru). In part, the rate differential arises because of Fiji's relatively high trade volume and relatively well-balanced trade. Not only is Fiji's maritime trade much larger than that of other FICs, but also Fiji's import and export cargoes are better balanced.

The study team note that most FICs have much higher volumes of import cargoes. In turn, the higher volume of cargo shipped to and from Fiji attracts calls by a relatively large number of container operators, creating a more competitive environment and hence lower freight rates.

In general, freight rates to and from FICs fell during the 1990s; however, in the current environment there are pressures to increase rates. Containership charter rates have risen sharply over the past eighteen months in response to the surge in exports from China, which has created a shortage of container shipping space. The study team note also an increase in the price of bunker fuel over the past year.

Table 8: Indicative Freight Rates (per 20' container) to and from FICs, 2003

Route	Commodity	Base Rate	Additional Charges
Australia-Fiji	General Cargo	A\$1,500	
Australia-Nauru	General Cargo	A\$3,900	CABAF = 27.59% of base freight rate
Australia-Samoa	General Cargo	A\$2,800-3,000	CABAF = 26% of base freight rate
Australia-Kiribati (Tarawa)	Flour, Salt, Sugar, Rice	A\$2,625	Export PSC = A\$75.09 + GST, Doc Fee = A\$30.00 per bill of lading
Australia-Kiribati (Tarawa)	Beverages, Beer	A\$3,200	CAF = 7.16% BAF = A\$297

Route	Commodity	Base Rate	Additional Charges
			Export PSC = A\$75.09 Doc Fee = A\$30 per bill of lading
Australia-Kiribati (Tarawa)	Reefer	A\$4,500	CAF = 7.16% BAF = A\$297 Export PSC = A\$75.09 Doc Fee = A\$30 per bill of lading
Australia-PNG	General Cargo	A\$2,200-2,700	BAF = A\$297 CAF = 7.16%
Australia-Tonga	General Cargo	A\$2,500-2,800	CABAF = 26% of base rate
NZ-Samoa	General Cargo	NZ\$2,500-2,600	CABAF = 34.15% of base rate
NZ-Tonga	General Cargo	NZ\$2,500	CABAF = 34.15% of base rate
Korea-Samoa	General Cargo	US\$2,800	BAF = US\$150
US-Samoa	General Cargo	US\$2,500	THC = US\$420 per teu Emergency Fuel Adjust Factor = US\$100 per teu
Samoa-Australia	General Cargo	A\$2,600	CABAF = 26%
Samoa-NZ	General Cargo	NZ\$1,800	CABAF = 34.15%
Samoa-US	General Cargo	US\$1,800	Emergency Fuel Adjust Factor = US\$100

Source: PRTS Team Interviews January – March 2004

An important issue is whether these rates stem from monopoly power. It is clear that monopoly power exists in certain trades at certain times. However, given the fact that container shipping trades are contestable (see below), the study team would expect that it would be difficult to convert a monopoly position into an ability to considerably raise prices above those dictated by costs and a normal rate of return.

4.1.4 Shipping support services

4.1.4.1 Ports

Many of the port facilities visited by the Technical Team were built in the 1950s or 1960s, prior to containerisation and such ports pose serious operational problems. Cargo sheds designed to shelter breakbulk cargo from extreme weather conditions now pose obstacles to the efficient movement of containers between ships and stacking areas. Wharf surfaces are typically potholed, making it difficult to operate forklift trucks, thus raising the cost of stevedoring operations. Some wharves, unable to take the weight of a forklift plus heavy container, require double handling of containers. After being unloaded of ship equipment, containers are initially placed on flat bed trucks, driven to the wharf stacking area, unloaded and positioned in their appropriate slot in the stack by forklift. A lack of maintenance was noticeable in many ports. Typically, security was lax or non-existent (see below ISPS Code).

The study team note that the World Bank study identified a significant maintenance backlog resulting from past under funding of maintenance. The World Bank 1993 noted that in all FICs funding and execution of maintenance fell well below the level required to keep assets in

good condition.³⁵ Our observations suggest that the maintenance backlog is likely to have worsened since the World Bank Report. The study team note further that the World Bank has argued that FICs should focus on “*the efficient operation, maintenance and, where appropriate, replacement of existing assets.*” The Bank also stresses the need for “*cost-effective delivery of maintenance and realistic assessment of the benefits expected.*”³⁶

4.1.4.1.1 Management of ports in the FIC region

Maritime infrastructure (major port facilities, navigation aids etc) in the FIC region is typically provided by central governments, with a high proportion of port infrastructure being funded by donor grants. Control of ports is either in the hands of a government department or a corporatised port authority. Wharves in the outer islands are generally owned and operated by provincial or local governments rather than the central government or the national port authority. As specified above, the pressures giving rise to economic efficiency are muted under government ownership, in ports as in coastal shipping:

- Government enterprises are not subject to takeover, so financial markets cannot act as an effective discipline on management;
- Government enterprises frequently operate in monopolistic (rather than competitive) markets. In such markets, the pressure to introduce new services, lower prices and operate efficiently is weak;
- Governments and/or politicians may exert political pressure on the public enterprise, persuading it to adopt policies that may not be conducive to its long run efficiency; and
- Incentive structures are usually flawed. Government enterprises cannot use a single measure of performance, such as return on capital, to monitor performance. Whereas the managerial literature suggests that managers perform best when they are set narrow and specific objectives against which their performance is monitored, public enterprise managers are usually set a number of performance objectives.

Technical Team discussions with government, port authorities and shipper groups in various FICs confirmed the World Bank’s observation that there appears to be a growing awareness of the need to increase the autonomy of government-owned ports and expand the opportunities for private sector development. However, they also suggested that corporatised ports continue to be subject to a range of operational and financial constraints imposed by government.

These constraints include: ministerial directions, which may conflict with commercial decision making; controls on port charges; obligation to fulfil community service obligations, often without compensation; limitations on borrowings; and public service conditions of employment.

Port tariffs vary widely across the region (see Table 9). Whilst port tariffs are a relatively minor component of voyage costs, the study team suggest that port tariffs should be reviewed

³⁵ World Bank, *Pacific Islands Transport Sector Study*, Volume 1: Transport Issues – A Regional Perspective, Report No. 10543-EAP, March 1993, p.17.

³⁶ World Bank, *Pacific Islands Transport Sector Study*, Volume 1: Transport Issues – A Regional Perspective, Report No. 10543-EAP, March 1993, p.x.

to determine whether they are truly cost based and/or whether they can be used to encourage efficient use of port facilities.

Table 9: Comparative Port Tariffs, April 2003 (AUD)

Name of Port	Rate	Vessel Type		
		184.9m	130m	113.12m
		18,391grt	7,914grt	6,030grt
Alotau	0	3715	2588	2279
Apia	1	4680	2991	2660
Honiara	0	4016	2913	2574
Kavieng	0	3944	2868	2392
Kimbe	0	3946	3400	-
Lae	0	7651	3816	4219
Madang	0	4180	2788	2566
Nauru	1	9112	4013	3096
Noumea	15	16260	8015	7553
Oro Bay	0	2632	1931	-
Port Moresby	0	5065	3425	2734
Rabaul	0	4553	2735	2855
Santo	-	-	-	3420
Suva	1	14194	7726	6179
Vila	-	9481	5862	5063

Source: (Vanuatu) Ministry of Finance and Economic Management, Government Business Enterprise Unit, Green Paper, *Vanuatu Port Privatisation*, June 2003, p.15.

There are also large variations in stevedoring productivity and stevedoring charges (Table 10) across the region. In general, it is recognised that a monopoly provider of stevedoring services has no incentive to operate efficiently, especially where government has sanctioned the stevedore's monopoly power.

Whilst the study team recognise that competition between stevedores is not feasible where ship calls are infrequent, the study team would argue that competition between stevedores should be encouraged where possible.

Table 10: Stevedoring Charges in Selected Pacific Ports, 2003 (AUD)

Port	TEU	FEU	20'	40'	20'	40'	20'	40'	20'	40'
			GP MT	GP MT	GP SOB	GP SOB	GP DLR	GP DLR	00G	OOG-
Alotau	23.60	47.18	12.49	24.99	23.60	47.18	47.18	94.37	-	-
Apia	21.50	-	10.75	-	16.13	-	-	-	-	-
Honiara	53.45	53.45	53.45	53.45	53.45	53.45	53.45	60.02	60.02	60.02
Kavieng	23.60	47.18	12.49	24.99	23.60	47.18	47.18	94.37	-	-
Kimbe	47.18	72.17	6.94	13.87	6.94	13.87	13.87	27.76	-	-
Lae	30.07	30.07	30.07	30.07	30.07	30.07	60.13	60.13	30.07	30.07
Lautoka	53.30	106.60	20.51	57.41	45.10	-	106.60	-	-	-
Madang	33.08	33.08	33.08	33.08	33.08	33.08	66.14	66.14	33.08	33.08
Nuku'alofa	48.69	97.38	17.39	34.78	17.39	34.78	34.78	69.56	36.17	72.35
Oro Bay	23.60	47.18	12.49	24.99	23.60	47.18	47.18	94.37	-	-
Kosrae	39.14	92.09	24.17	61.40	30.69	61.40	30.69	0.06	-	-
Pohnpei	39.14	92.09	24.17	61.40	30.69	61.40	-	-	-	-
Port Moresby	19.19	38.40	19.19	38.40	19.19	38.40	38.40	76.79	19.19	38.40
Rabaul	30.07	30.07	30.07	30.07	30.07	30.07	60.13	60.13	30.07	30.07
Santo	128.71	257.42	128.71	257.42	322.51	632.84	322.51	645.01	128.71	257.42
Suva	73.80	98.41	20.51	32.80	20.51	-	98.41	-	-	-
Tarawa	121.65	243.30	60.83	121.65	68.93	137.87	68.93	137.87	121.65	243.30
Vila	128.71	257.42	128.71	257.42	543.68	1,087.37	543.68	1,087.38	128.71	257.42
Wewak	25.45	50.88	12.72	25.45	25.45	50.88	50.88	101.77	-	-

Source: (Vanuatu) Ministry of Finance and Economic Management, Government Business Enterprise Unit, Green Paper, *Vanuatu Port Corporatisation*, June 2003, p.1.

4.1.4.2 Safety and regulation

Maritime Safety: Concerns about maritime safety and security have led to increased regulation of the maritime sector. Technical standards relating to the physical condition of vessels as well as their crewing and operation are set by international conventions administered by the International Maritime Organisation (IMO), a technical agency of the United Nations charged with coordinating and improving maritime safety.

Some 40 conventions have been approved and over 800 codes and recommendations formulated. Implementation of the provisions included in a convention is mandatory for signatory countries. In contrast, codes and recommendations adopted by the IMO assembly are not binding on member states, although most are in fact implemented.

Conventions, codes and recommendations become effective with the passage of national legislation or regulation. The burdens imposed on small FICs in having to come to terms with the requirements of conventions, codes and recommendations and translate these requirements into national legislation are onerous.³⁷ The Independent Review of the SPC's Regional Maritime Programme³⁸ notes that:

“The internationalisation of the maritime regulatory environment, as seen with STCW '95, ISM and ISPS, is severely impacting on (FICs) and, increasingly, requirements and implementation time frames are set with little apparent regard for the challenges they impose on developing nations.”

The International Convention on Safety of Life at Sea (SOLAS)³⁹ contains technical rules designed to improve the safety of shipping. It covers areas such as: machinery and electrical installations; fire protection and detection; life-saving appliances, navigational safety; carriage of dangerous goods etc. SOLAS applies to ships engaged on international voyages and cargo ships over 500 gross tonnes. It does not apply to fishing or small coastal vessels.

All Forum Island Countries, with the exception of FSM, Kiribati, Palau and the Solomon Islands, are party to the SOLAS 1974 Convention. The Cook Islands, Marshall Islands, Samoa and Vanuatu are party to the SOLAS 1978 Protocol. Only two FICs, Marshall Islands and Vanuatu, are party to the SOLAS 1988 Protocol.

The study team note that IMO conventions provide for control procedures to be followed with regard to foreign ships visiting a port in a contracting state (Port State Control). The relevant authority in the state in which a port is located can make effective use of these provisions to identify deficiencies, if any, in visiting ships and ensure that remedial action is undertaken.

Maritime Security: Maritime security arrangements are being tightened in the wake of the events of “9/11”. Following these terrorist attacks, the USA imposed new maritime security arrangements, the most famous being the “twenty four hour manifest rule”, which requires all

³⁷ The study team notes that the burdens have been increased by the mobility among the region's senior maritime administrators and training institute staff.

³⁸ Secretariat of the Pacific Community, *Review of the Regional Maritime Programme: Final Report*, May 2003, p.2.

³⁹ SOLAS 1974 is the basic convention relating to safety at sea. Two important protocols – SOLAS 1978 and SOLAS 1988 have been added. SOLAS 1988 provides for a harmonized system of surveys and certification.

shipping lines to advise USA authorities of the contents of all containers destined for US ports twenty four hours before loading the container on to a vessel in a foreign port.

The international community has reacted to the threat of terrorism by developing a maritime security regime known as the International Ship and Port Facility Security Code (ISPS Code). Developed through the IMO, the ISPS Code is embodied in a new chapter of, and amendments to, the International Convention for the Safety of Life at Sea, 1974 (SOLAS). The ISPS Code will come into effect on 1 July 2004. The fundamental concern of developed countries is the identification of high-risk containers.

The ISPS Code will apply to ships engaged on international voyages and to the port facilities handling such vessels. It will apply to a variety of vessel types: cargo ships of 500 gross tons and above; passenger ships, including high speed craft; as well as mobile offshore drilling units. The Code applies also to port facilities that handle these vessels, whether on a regular or an occasional basis.

The objectives of the ISPS Code include:

- The establishment of an international framework involving cooperation between Contracting Governments, government agencies, local administrations, and the shipping and port industries;
- The determination of the respective roles and responsibilities of the Contracting Governments, government agencies, local administrations, and the shipping and port industries, at the national and international levels, in ensuring maritime security;
- Creation of the means to ensure the early and efficient collection and exchange of security-related information; and
- Provision of a methodology for undertaking security assessments.

These objectives translate into a number of functional requirements relating to:

- The gathering and assessing of information regarding security threats and the exchange of such information between Contracting Governments;
- The development of communication protocols for ships and port facilities;
- The prevention of unauthorised access to ships, port facilities, and their restricted areas;
- The banning of unauthorised weapons, incendiary devices or explosives on board ships or in port facilities;
- Provision of means for raising the alarm in relation to security threats or security incidents;
- The requirement for approved ship and port facility security plans based on security assessments; and

- The requirement for training drills and exercises to ensure familiarity with security plans and procedures.

Governments acceding to the Code (“Contracting Governments”) are required to nominate a “Designated Authority” to supervise maritime security and ensure ISPS compliance, as well as determine the Security Level (on a scale of 1-3) that is appropriate for the facility in question. Every port that handles international shipping is required to nominate a Port Facility Security Officer. This officer is responsible for the development, implementation, revision and maintenance of an approved Port Security Plan, as well as for liaison with Ship Security Officers (see below) and Company Security Officers. It should be noted that under the ISPS Code the term “Port Facility” extends to the channels and waterways leading to the port.

The ISPS Code also requires the owners/operators of all relevant, domestically registered vessels to appoint a Company Security Officer to ensure that a Ship Security Assessment is prepared, submitted for approval, implemented and maintained. The Company Security Officer is required to liaise with Port Facility Security Officers.

Each domestically registered vessel is required to develop an approved Ship Security Plan “designed to protect persons on board, cargo, cargo transport units, ship’s stores, or the ship from the risks of a security incident.” Further, each domestically registered vessel is required to designate a crew member responsible for the security of the vessel, including implementation and maintenance of the ship security plan and liaison with the Company Security Officer and Port Facility Security Officers. Each domestically registered vessel is to be fitted with an approved Ship Security Alert System. Fully compliant vessels are to be issued with a Ship Security Certificate.

Failure to comply with the ISPS Code by July 2004 may lead to serious repercussions for individual ships, shipping companies, port authorities and, more generally, for international seaborne trade. However, the cost of non-compliance after 1 July 2004 remains unclear. The problem centres on the handling of trans-shipment cargo from non-complying ports in the FICs. At best, shipowners serving FICs will experience more intense inspections, delays and increased costs. Should initial inspection of ships and cargo from FICs give “clear grounds” to suspect a breach of the ISPS Code, delays will lengthen while investigations take place. In extreme cases, these investigations could lead to denial of port entry.

The Technical Team were able to inspect port facilities and inquire as to the degree of preparedness in individual countries. Clearly, the degree of preparedness varies widely across FIC countries. Several FIC members - notably Samoa - are confident of meeting the deadline. Most FIC members will have to work hard in the coming months if they are to meet the deadline, while a minority of FIC countries have still to come to terms with the legislation, let alone put in place the necessary port security.

In general, port security remains lax in FIC countries. The major concerns of the FICs centre on the cost of implementing the ISPS Code, possible delays and disruptions to trade, and the difficulties of implementing the requirements of the ISPS Code 4 due to deficiencies in existing maritime infrastructure. The study team note that the ISPS Code is one of several security initiatives requiring the urgent attention of FIC members.

Other measures requiring attention include:

- (i) *Container Security Code*: the USA requires all high-risk containers be checked before they leave their port of origin. Under the initiative, US customs officials, based in major trading partner ports, will assist in:
 - Identifying and targeting of high risk containers;
 - Pre-screening containers identified as high risk using x-ray and other detection technology; and
 - Introduction of smarter, tamper-proof containers.
- (ii) *Suspect Containers*: originating in FIC ports are likely to be screened in transshipment ports;
- (iii) *Vessel Automated Identification System (AIS)*: All vessels conforming with requirements of the International Convention on Safety of Life at Sea (SOLAS) must be fitted with AIS, which can be read by ship and port radar. Similar to air traffic control systems, AIS enables a vessel to be positively identified by ports and other ships. All FIC ships conforming with SOLAS must install AIS; and
- (iv) *Seafarer ID*: Seafarers employed on international ships will be required to have an upgraded form of ID. The Government of USA favours a credit card style of ID, but no agreement has been reached with the International Labor Office (ILO).

4.1.4.3 Regional maritime institutions

Existing regional maritime institutions include:

- The Secretariat of the Pacific Community’s Regional Maritime Programme (RMP);
- Association of Pacific Ports (APP); and
- Association of Pacific Island Maritime Training Institutions and Maritime Administrations (APIMTIMA).

The region also already benefits from advice provided by the Secretariat of the Pacific Community’s (SPC) Regional Maritime Programme (RMP).⁴⁰ The RMP, based in Suva, is located within SPCs Marine Resources Division, which also includes the Coastal Fisheries Programme and the Oceanic Fisheries Programme. The declared goal of the RMP is “*to strengthen the capacity of Pacific islanders to manage, administer, regulate, control and gain employment in the maritime transport sector in a socially responsible manner.*”

There are two main components of the current RMP programme:

⁴⁰ The Regional Maritime Programme grew out of the *South Pacific Maritime Development Plan*, endorsed by the 17th Forum Meeting in 1986. In 1993, the RMP recruited a Maritime Legal Adviser to assist FICs in adopting the STCW Convention and the South Pacific Maritime Code. A Regional Maritime Training Adviser was recruited in 1994. In March 1997, these positions were transferred from the Forum Secretariat to provide the nucleus for SPCs new Regional Maritime Programme.

1. The provision of legal advice on maritime policy and legislation; and
2. The provision of training and HR advice to regional maritime administrations, training institutions and seafarers.⁴¹

The RMP has set three main objectives for the period 2003-05:

- Strengthening the region's maritime institutions;
- Strengthening the region's human resource capabilities; and
- Improving the exchange of information and experience among FICs.

In 2003 the New Zealand Maritime School conducted an independent review of the Regional Maritime Programme for the SPC.⁴² The Review concluded that

“RMP has been extremely active during the review period, at least partially because of the programme's success in obtaining and deploying donor funding. RMP activities have generally reflected the programme's planning and have been consistent with both the expressed needs of the region and SPC objectives. A high degree of satisfaction with programme services from stakeholders is evident.”⁴³

Amongst a number of detailed recommendations, the Review recommended that RMP should:

- Give full consideration to including the port operations sector within programme services;
- Give consideration to targeting future support to PICT administrations and training institutes; and
- Ensure that further development of model legislation by RMP is contingent upon the introduction of effective supporting strategies to improve the rate of enactment.

There have been mixed reviews of the value for money provided by the existing Regional Maritime Program. This expression of dissatisfaction is in marked contrast with the findings of the 2003 Independent Review.

4.1.4.4 Other support services

Ship Repair and Maintenance Facilities: The Technical team noted the lack of adequate ship repair and maintenance facilities in some FICs, particularly the lack of slipways capable of handling the larger coastal vessels, making it necessary for vessels employed on coastal and inter-island routes to undertake voyages to ship repair and maintenance facilities in Fiji, PNG or Australia. In some cases, the age and physical condition of the vessels makes such voyages hazardous. However, given economies of scale in ship repairing, it would not be

⁴¹ Secretariat of the Pacific Community, *Regional Maritime Programme: Progress Report July to December 2003*, December 2003.

⁴² Secretariat of the Pacific Community, *Review of the Regional Maritime Programme: Final Report*, May 2003.

⁴³ Secretariat of the Pacific Community, *Review of the Regional Maritime Programme: Final Report*, May 2003, p.v.

warranted to attempt to establish national ship repair facilities in the smaller FICs, which would burden them with loss making enterprises.

Navigational Aids: In discussions in several FICs, the problems posed by a lack of navigational aids and/or the tendencies for navigation aids to disappear or be vandalized were raised. Attention was drawn to PNG's Community Engagement Program aimed at identifying the true owners of land on which navigational aids are to be built and attempting to build community engagement and a sense of ownership of the navigational aids with the expectation of reducing the vandalism.

Crewing of Vessels: the IMO "White List": Whilst employment opportunities on shore are limited in FICs, the shipping industry already offers employment to significant numbers of citizens of countries such as Kiribati and Tuvalu. Employment opportunities for FIC seafarers holding the appropriate qualifications are set to expand as a result of the new international security regime (see below) because seafarers from FICs are generally regarded as carrying a relatively low security risk.

Shipowners and operators are required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 (STCW '78), as amended by STCW 1995 (STCW '95), to engage suitably qualified crews for their vessels. Amongst other provisions, STCW '95 stipulates standards for seafarers on foreign-going vessels:

- Maritime training (curricula, staff qualifications, workplace assessments);
- Certification (quality audit procedures, documentary evidence etc); and
- Watchkeeping (bridge, engine room, in port).

The study team note that the South Pacific Regional Shipping Council (1977) created an advisory committee to develop uniform maritime standards within the Pacific Region. The outcome of this committee's deliberations, the South Pacific Maritime Code (1986), incorporates the standards laid down in STCW '78.

Individual FICs have a responsibility to ensure that vessels flying their flag comply with the requirements of STCW '78 and STCW '95. In other words, to enable its nationals to find employment on foreign-going vessels, a country must ensure that its maritime training institution(s) and maritime authorities meet the standards laid down in STCW '78 and STCW '95.

To obtain so-called 'White List' status⁴⁴, a country must demonstrate compliance with STCW '95. Each country must forward a submission to the IMO that documents the policies and procedures adopted to ensure compliance. A panel of "competent persons" appointed by the IMO vets such submissions. When the panel is satisfied, the IMO confirms that the country in question has met all its obligations relating to STCW '95 and places that country on the 'White List' of countries found to comply fully with the requirements.

Maintenance of 'White List' status is vital to FICs. Under STCW '95 an external audit must be conducted every five years. Failure to maintain 'White List' status would mean that

⁴⁴ Countries deemed to be in compliance with STCW '95 are identified in the so-called 'White List' published by the IMO.

seafarers from the country in question would not be able to obtain employment on board international trading vessels. FICs that have gained White List status include: FSM; Fiji; Kiribati; Marshall Islands; PNG; Samoa; Solomon Islands; Tonga; Tuvalu; and Vanuatu.

Maritime Training: Ten FICs have maritime training institutes: the Federated States of Micronesia (FSM), Fiji, Kiribati, Marshall Islands, Papua New Guinea (PNG), Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. FSM, Marshall Islands, Solomon Islands, Tonga and Vanuatu offer fisheries and local (but not international) officer's courses. The remaining countries offer local and international ratings training.

The region has adopted common curricula and syllabi for Classes 3, 4, 5, 6 and restricted Class 6. Most Pacific Islanders holding Class 3 certificates are said to have obtained them in Fiji. International standards for Class I and 2 watchkeeper officer and watchkeeper ratings are determined by STCW '95. A regional maritime training institution is needed to offer higher-level courses than are available in most FICs. At present, PNG is the only regional college that offers senior - Class 1 and 2 - officer training.

Hydrography: Accurate up to date charts and publications are essential for the safety and efficiency of maritime transport. The provision of visual aids to navigation, such as navigation lights, markers and radar reflectors, are useful when they are identifiable against known reference points on a chart.

The costs associated with the establishment and maintenance of a hydrographic service are very high. Ships and aircraft are required for survey work, highly qualified personnel are required and training must be received on a regular basis to maintain skills. Expensive computer databases must be developed and maintained, and sophisticated equipment to assist in chart production must be purchased.

4.2 Adequacy and efficiency of shipping services

4.2.1 Adequacy of services

Surveys typically report that shippers (i.e. the users of shipping services) in the region prefer regular and reliable shipping services. Most are prepared to pay a premium for this type of service. In general, container-shipping services to and from Pacific Island nations are reliable - vessels adhere to published schedules and offer sufficient space for the needs of importers and exporters. In contrast to the aviation sector, the majority of international shipping services are operated by privately rather than government owned companies.

Technical Team interviews suggest that there is widespread (though not universal) agreement that international shipping services currently serving the region are adequate and efficient. Services are adequate in the sense that their frequency is acceptable given the volumes of cargo consigned to and from the region. Table 11 provides details of the services offered.

Table 11: International Shipping Services To/From Pacific Forum Member Countries

Service	Operator	Frequency	Vessels Employed	Service Type
Australia/New Zealand				
Aust-Fiji-Samoa-Tonga-Fiji-Aust	Pacific Forum Line ¹	Fortnightly	<i>Capt Tasman, Forum Samoa II</i>	Container/breakbulk
Aust-NZ-Fiji	Neptune		<i>Capitaine Cook</i>	Breakbulk
Auckland-Suva-Lautoka Feeder Service	P & O Nedlloyd	Fixed Day Weekly ⁴	<i>Baltimore Boreas</i>	Container/breakbulk
Aust-Fiji-North America	ANZDL, Columbus, FESCO & P & O Nedlloyd ²	Approximately Fortnightly	(Various)	Container
NZ-Fiji-Samoas-Tonga-Cook Islands-NZ	Pacific Forum Line	Fortnightly	<i>Forum Rarotonga, Forum Fiji II</i>	Container/breakbulk
NZ-Rarotonga-Samoas-Wallis-Fortuna-NZ	Sofrana Shipping	18-19 days	<i>Sofrana Bligh</i>	Container/breakbulk
NZ-Fiji	Neptune, Moana & PDL	14 days	<i>Capitaine Wallis</i>	Container/breakbulk
NE Asia/SE Asia				
Korea-Japan-Tarawa-Vila-Noumea-Lautoka-Suva-Apia-Pago Pago-Papeete-Nuku'alofa-Noumea-Santo-Honiara-	Greater Bali Hai Service	Monthly	<i>CorallIslander, Kyowa Hibiscus, Pacific Islander II, Kyowa Cattleya</i>	RO-RO/breakbulk
Taiwan-Hong Kong-Thailand-Singapore-New Caledonia-Suva-Lautoka- New Zealand	Tasman Orient Line	15 days	<i>Tasman Pathfinder, Tasman Provider, Tasman Trader, Tasman Endeavour etc</i>	Container/breakbulk
USA/Hawaii				
Aust-Fiji-North America	ANZDL, Columbus, FESCO & P & O Nedlloyd ²	Approx fortnightly	Various	Container
Europe				
Europe-Papeete-Pago Pago (3)- Suva-Auckland-Noumea-Honiara-PNG-Singapore-Europe	Bank Line South Pacific Service	Monthly	<i>Arun Bank, Teignbank, Foylebank, Speybank</i>	Container/breakbulk

1. Australian service operated by a pool including Pacific Forum Line, Pacific Direct Line, Reef Shipping and Neptune.
2. ANZDL, Columbus, FESCO and P & O Nedlloyd operate a Vessel Sharing Agreement (VSA) between Australia and North America.
3. Subject to inducement.
4. Depart Suva 1.00pm Tuesday, Lautoka 4.00pm Wednesday.

The frequency of container shipping service varies as between FICs. Fiji is particularly well served. Suva and Lautoka have relatively frequent services to and from Australia and New Zealand, the intra-regional services provided by lines such as PFL, PDL, Reef Shipping and Sofrana Unilines being supplemented by regular calls by VSA vessels employed in the Australia/NZ-North America trade. Additionally, Fiji has direct services to Europe and to South East and North East Asia. Tonga, Samoa, and Vanuatu have fewer, but generally adequate, services. Smaller economies such as Nauru and Tuvalu have only a single shipping service.

Small FICs (e.g. Nauru, Niue, Tuvalu) may generate insufficient cargo to attract regular calls by competing container shipping services. In this case they would have services which users would regard as inadequate. Under such conditions, a line serving the FIC in question may be able to impose “tough” conditions. For example, a line may insist on “exclusivity” clauses, whereby shippers undertake that all cargo under their control be shipped on vessels owned by the line and/or charge ‘unduly high’ freight rates.

It is conceivable that, in extreme cases, market failure may occur. In other words, given the volume of cargo to/from a small FIC, no commercial operator may find it worthwhile to provide a service. Whilst the possibility of market failure must be acknowledged, the study team have been impressed with the ingenuity with which shipping lines approach the servicing of small island nations.

For example, there have been concerns over the future of Nauru’s shipping links given the withdrawal of its former shipping service and a decline in the number of containers carried per sailing. However, Neptune Line now offers a commercial (i.e. non-subsidised) shipping service every 35 days with a Sydney – Brisbane - Port Vila (or Noumea) - Nauru rotation. The study team understand that Neptune is actively seeking other cargoes and/or alternative port calls in order to sustain this “thin” route.

Certain small FICs may suffer from a gap between expectations and reality. That is, small FICs may expect a higher quality (more frequent sailings and/or direct services to more destinations) than is commercially sustainable given the size of the cargo flows to/from the FIC. Shippers in some small FICs believe that the balance of bargaining power resides with shipping lines rather than with them. Rightly or wrongly, shippers believe that shipping lines are able to impose “tough” conditions, including “exclusivity clauses”, and charge unduly high freight rates. In the case in which at least one shipping line is willing to offer services on a commercial (non-subsidised) basis, the study team suggest that the small FIC carefully consider alternative service options and actively seek to create a more contestable market. Refer to “The Way Forward” for further details.

Adequacy of Port Infrastructure⁴⁵: In general, and with the exception of certain small island economies, the study team agree with the World Bank finding that the existing stock of FIC port infrastructure (wharves etc) is adequate for current and likely future demands for

⁴⁵ Most port facilities are small by international standards. The major ports in the region are in the larger countries (PNG and Fiji). No ports in the region have gantry cranes for loading and discharge of containers, although some ports have dedicated luffing cranes for container vessels. Most ships working in the region carry their own lifting gear. On some routes freight is moved with ro-ro vessels and in some more remote ports freight is moved by landing craft or barge.

international shipping.⁴⁶ Nor are the study team aware of any significant capacity constraints on congestion. The study team note that the utilisation and productivity of wharves and cargo handling equipment is low in some FICs because of low traffic volumes. Under-utilisation must be considered a fact of life where vessel capacity is greater than the volumes shipped. The real need is not new infrastructure but maintenance of existing infrastructure. Further, smaller FICs lack the wharf facilities necessary to handle vessels employed in international trades efficiently. However, given the limited number of containers handled, construction of expensive wharf facilities would not be economically viable.

While the infrastructure required for international shipping is generally adequate, there are problems with infrastructure used by the coastal and inter-island trades. The study team agree with ESCAP's observation that wharves serving coastal and inter-island trades in the major capital city ports are generally cramped, lack adequate cargo sheds and passenger handling facilities, possess little or nothing in the way of cargo handling facilities and are poorly maintained.⁴⁷ In this sense, domestic shipowners appear as poor relations compared with the international shipping lines.

Wharf facilities in the outer islands are generally inadequate, as are cargo handling and storage facilities. The Meyrick Report comments on wharf facilities in Fiji's Northern Lau; Southern Lau and Kadavu island groups also apply to outer island groups in many FICs:

“Most jetties or landing beaches at the larger sites have road connections of some sort, but in many cases on smaller islands and communities there is no road infrastructure and no motorized transport. Storage at jetties visited was limited to a flat concrete apron on the wharf. There were no immediately available off-wharf storage areas, and no undercover storage was sighted with the exception of storage/load-out facilities for copra, often isolated from the wharf by lack of roadways and steep terrain.”⁴⁸

Many ports designed for the coastal and inter-island trade are in a state of disrepair as a result of years of lack of maintenance. There would be benefits in carrying out maintenance and rehabilitation - provided rehabilitated ports were maintained in the future.

4.2.2 Technical efficiency

Current international shipping services to and from the FICs operate efficiently. Relatively small vessels, typically ranging from 500-750teu, serve trades. The study team note that the typical container shipping service links several FICs, enabling owners to build sufficient cargo volume to make the service financially viable.

Whilst container shipping is characterised by substantial economies of vessel size, arising from economies in capital, crew and fuel costs, the limited tonnages handled in Pacific Island trades makes it impractical to operate large vessels. The study team note that an individual

⁴⁶ The World Bank notes that “further investment in new transport infrastructure, in general, is not a priority for supporting growth in any [Pacific Member Country].” The Bank argues that primary attention should be focused on the “efficient operation, maintenance and, where appropriate, replacement of existing assets.” World Bank, *Pacific Islands Transport Sector Study*, Volume 1: Transport Issues – A Regional Perspective, Report No. 10543-EAP, March 1993, p.x.

⁴⁷ United Nations Economic and Social Commission for Asia and the Pacific, *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.5.

⁴⁸ Meyrick & Associates, *Feasibility Study: Government Shipping Corporation, Fiji*, Final Report July 2003 (Meyrick Report).

shipowner will be reluctant to introduce larger vessels and/or commit more tonnage to a trade in a situation in which demand is uncertain. In such cases cooperation with other shipping lines offers a means of reducing risk and uncertainty. Shipping lines enhance service efficiency by entering into voluntary “slot swapping” arrangements to carry each other’s cargo. This enables larger vessels to be employed in a given trade than would be the case in the absence of slot swapping. Thus, the joint provision of shipping services may lead to higher levels of efficiency and lower costs. Shippers also gain from such agreements because the line they chose to ship by can offer more frequent sailings than would otherwise be the case.

Special mention needs to be made of coastal and inter-island shipping. Government owned and operated coastal and inter-island shipping services are typically inefficient and loss making, requiring substantial subsidies, (explicit or implicit) to maintain services. While most vessels may operate efficiently, there is potential to raise technical efficiency at some ports.

There are also examples of land-based infrastructure that is technically inefficient.

4.2.3 Allocative efficiency

The major allocative efficiency issue facing shipping in the region is investment in ports. It is important for example that there is not overinvestment in outlying ports. It is for this reason that the study team have recommended (see Chapter 8) that investment in ports should be based on individual benefit cost analysis for each separate port where new investment is to be considered.

4.2.4 Dynamic efficiency

The major impediment to dynamic efficiency in the shipping sector is due to the failure to adequately cater for maintenance requirements. This is, to a large extent, due to poor management. As noted previously, most agencies that manage ports, and all regulatory agencies, have government appointed boards often possessing little relevant experience. Similarly, in most cases financial reporting on which management decisions should be based does not exist.

4.2.5 Contestability of regional shipping markets

To what extent do shipping lines engaged in Pacific Island trades face actual or potential competition? To what degree are the pricing practices of shipping lines constrained by competitors or potential competitors?

As discussed in Chapter 3, contestability measures the extent to which a market is actually (or potentially) subject to competitive forces. Contestability analysis suggests that the threat of competitive entry can in many cases impose effective discipline upon private firms even when they are unregulated monopolies.⁴⁹ A perfectly contestable market is defined as one in which all firms have equal access to all customers, to the same technological options and in which entry incurs no sunk costs.⁵⁰ The issue is to assess how closely FIC shipping markets conform to this pattern.

⁴⁹ See W.J. Baumol, “Natural Monopoly and Contestable Market Analysis”, in Centre of Policy Studies, *State Enterprise and Deregulation*, Special Study No.5, Monash University, 1983.

⁵⁰ Sunk costs are costs that are not recoverable when a firm exits the industry.

In general, potential entrants to FIC shipping markets are able to gain access to customers. Unlike aviation markets - in which bilateral agreements (ASAs) restrict entry - the market for container shipping has few regulatory or institutional barriers to entry. Such existing entry barriers stem from the economic characteristics of the industry (capital intensive nature of the business, presence of sunk costs etc). Nor are today's shipping lines able to engage in practices likely to restrict entry. For example, whereas shipping conferences set out to discourage competition by use of deferred rebates, such practices are no longer acceptable.⁵¹

Potential entrants are able to gain access to the technology necessary to operate container shipping services. The industry is mature and knowledge of container technology widespread. Potential entrants can purchase or lease ships from a variety of sources and Ports are unlikely to discriminate against new entrants. However, the study team note that an entrant to a container shipping market will incur certain sunk costs. Investment in the vessels themselves need not constitute a sunk cost, since most vessels can be switched to alternative trades. However, a new entrant is likely to incur sunk costs in the form of capital equipment and advertising and start-up costs. These expenditures will not be recoverable if the firm exits the trade in question.

Liner shipping then is not perfectly contestable - entrants may be expected to incur modest sunk costs - but it is open to entry and existing shipping lines must take account of actual and potential competitors.

Considerations that shipping lines must take into account when setting prices include:

- Existing competitors;
- Potential competitors;
- Alternative ways of getting from one point to another (i.e. direct vs. trans-shipment services); and
- Competition from alternative sources of supply (for example, there is no advantage in charging a freight rate that prices FIC products out of international markets).

In the view of the Technical Team, there is a remarkable similarity between the market behaviour observed in the shipping markets of the region and the behaviour that would be predicted from contestable market theory.

The Technical Team was impressed with the ability of small shipowners to identify and service small gaps in the services offered by the larger companies. Small firms were able to recognize potential market opportunities and tailor their services to small island communities, hence communities such as Nauru and Tuvalu where the number of containers involved is very small, have been able receive a service satisfactory to most users.

⁵¹ The study team are aware of attempts by some shipping lines serving small FICs to insist that all cargo to and from the FIC in question be shipped on their vessel(s). If successful, such practices clearly limit contestability.

5. Impediments to transport reform in the region

Whilst each country has individual problems associated with the transport sector, there is a common set of impediments to the efficient operation of transport activities in the region. Much of the reform process involves addressing these common issues. In summary impediments to transport reform in the region include:

- *Government involvement in commercial activities.* In both the aviation and shipping sectors there is extensive direct government involvement in commercial activities. This often results in poor financial management, political intrusion in commercial decisions and losses in efficiency (e.g. excess staff numbers and inefficient use of resources).

Not only does the involvement of government in commercial activities⁵² often create operational inefficiencies in these activities, but it also creates instability in the general management of the government's financial resources.

- *Poor infrastructure decisions.* Governments in the region often find it difficult to make infrastructure decisions. In some cases important decisions on infrastructure are not fully evaluated.

Governments also have related problems with the management of infrastructure. Often acquisition of infrastructure can be achieved through a donor agency. However the problem of maintaining the infrastructure, which requires outlays of recurrent expenditure that usually must be recovered from users or internally generated through the domestic tax system, is a much more difficult problem. Maintenance problems are apparent in such areas as ports, both air and sea, and vessels.

- *Pricing of services that fail to cover true cost of service delivery.* This is a particular problem in shipping where vessels are sometimes provided by donor agencies and then operated with a pricing structure to users that does not cover the cost of service delivery. Since the operator is then unable to maintain the vessel the inevitable result is that the vessel becomes unserviceable and donors are then approached to fund a replacement.

These arrangements are clearly unsustainable and require permanent external financial support.

- *Service providers that fail to consult with users.* An important component of the design of statutory authorities that deliver transport services is that there should be involvement with users either actually on the board of management or in some other advisory capacity.
- *Exploitation of monopoly positions.* Some monopolies are legislated monopolies, occurring where governments in the region have acted to provide a monopoly position to a particular operator. There are also other de facto monopolies. In these cases many of the situations arise in markets that can be regarded as contestable. Because they are contestable markets, the threat of potential competition from new entrants will impose

⁵² This issue is the subject of continuing debate. The most recent debates have been in the four FSM state parliaments and Palau. A new airline operator, Palau Micronesia Air has approached Palau, the FSM states and the Commonwealth of the Northern Mariana Islands to contribute a \$US3.5 million of a total proposed equity of \$US5 million required to commence operations.

limits on the extent to which current operators can exploit markets without risking the entry of new competitors.

- *Inappropriate institutional structures.* Most medium to large government controlled transport service providers in the region should have a corporate and organisational structure that gives the institution managerial independence whilst at the same time imposes good governance principles and financial discipline. In many cases the institutional structure does not deliver these basic features.
- *Inadequate capitalisation of commercial entities.* In many cases transport agencies required to perform commercial activities are not adequately capitalised. This makes success extremely difficult. Inadequate capitalisation biases many agencies towards investment choices that require relatively low up front capital and relatively high operating costs. This bias can be seen in many of the leasing choices made for aircraft. Inadequate capitalisation also encourages poor maintenance practices as expenditure on maintenance receives a low priority when funds are limited.
- *Lack of financial expertise to manage government and part government owned commercial enterprises.* This problem exacerbates many of the impediments mentioned above. In general, apart from Fiji, there is a serious lack of appropriately qualified and experienced local financial professionals in the region. The problem is magnified in the local context because qualified professionals, where available, tend to join private industry rather than government institutions, which pay less. Consequently, the accounting departments in a number of airlines are staffed by unqualified and inexperienced local staff in an industry that is volatile at best and there is a reluctance to invest in appropriate manpower (such as expatriates) and training in that area.

As a result, current financial information is not readily available, and where available, not necessarily reliable. This lack of current reliable financial information affects feasibility studies prepared for important investment decisions and seriously limits the preparation of Business Plans and projections, which affect long-term strategic decisions.

These feasibility studies have proved to be unreliable tools for management and Board decisions and they are an underlying factor in the poor infrastructure decisions referred to above.

Another area where the lack of accounting expertise falls well short of accepted international standards is in the setting of proper budgets and costings in order to set revenue charges. Where budgets are not reliable, or where a costing is not done properly, for instance by including unrealistic costs for maintenance and depreciation charges for plant replacements, the revenue charges are understated and there is no adequate fund for the replacement of plant (such as ships).

The way forward

6 Government and donor intervention

6.1 The role of Government in the reform process

A major theme of this study is that, wherever possible, government should avoid entering areas of the economy that are better operated through private sector involvement. Many of the regional transport sector problems previously identified are a direct result of government intrusion into commercial decisions.⁵³

There is a need to work through markets, however this is not to deny a role for government in the sector. The nature of the transport industry means that there will be a role for the government as the regulator and as transport requires a regulatory system, government is required to design and manage this system. Hence, the objectives of Government should be to enable commercial suppliers of aviation and shipping services to operate in an efficient, safe and secure environment that promotes competition.

In administering the regulatory system the government should act in the interests of the community as a whole. The more government becomes involved in the commercial operations of the system through owning and operating airlines, shipping companies, and transport infrastructure that can be provided through the private sector, the more difficult it will be to fulfil its regulatory role and to separate wider community responsibilities from narrow commercial concerns. Transport requires on ground infrastructure, such as ports, which are used by all operators. This usually requires government involvement both in the regulatory system and frequently, in actual day-to-day management.

In order to carry out their functions, transport agencies require good governance. Implementation of any of our recommendations will be limited or indeed negated without good governance and transparency. Whilst structures can be established that will encourage these goals, it requires the staff of these agencies to be completely committed to good governance.

Governance Guidelines: Good governance cannot guarantee the financial success of a government or part government owned commercial entity, however the lack of good governance will almost certainly result in financial problems. For commercial operations in the transport sector, some of the principles for the achievement of good governance are set out below:

- *Transparency:* Covers areas such as the way the Board is appointed, the way the entity is run in terms of its vision and goals, the way contracts are awarded - for instance in the award of subsidies and the public disclosures of its financial performance and position by the timely production of its annual reports and financial statements which should be

⁵³ Our conclusions with respect to the role of governments in the transport sector in the region are supported by the recent ADB publication - ADB, 2004 *Swimming against the Tide? - Which* concluded that “*Erroneous ideas regarding what role government should play have resulted in costly state involvement that exacerbates, rather than ameliorates, problems of geographical isolation and distance*” (Chapter 1 page 2) and “*There is the paradoxical situation in the Pacific that often governments are not doing what they should, and in fact, are doing what they should not.*” (Chapter 1, page 5).

widely distributed. A good example is the Vanuatu Post Limited, which makes public its “Statement of Corporate Intent” which covers matters such as:

- o The objective of the company;
 - o Nature and scope of activities;
 - o Accounting policies;
 - o Performance targets and measures;
 - o Dividend policy;
 - o Information to be reported to shareholders and Ministers responsible, and
 - o Subsidies expected from government.
- *The establishment of a suitable corporate identity:* A suitable corporate entity should be set up where the activities are significant enough to require a separate legal entity, for better governance in a commercial environment (e.g. airports and transport regulatory authorities). The corporate identity may well be a transition phase in a longer-term move towards privatisation (in whole or in part). Usually the corporate identity would be a corporation, under the aegis of a Public Enterprises Act (PE Act) or similarly named legislation.

There are instances in FICs where government corporations were formed under the existing Companies Act, prior to the existence of the PE Act. These companies were never reorganised to report under the PE Act and as a result, there are dual streams of government corporations with different guidelines and objectives and at times a conflict in the lines of ultimate reporting.

- *Good governance requires that the shareholders, the Board and the Management recognise their respective roles and responsibilities in the management of the entity:* A useful arrangement for clarification of responsibilities is to incorporate these formally into a legal document setting out the operating guidelines. The document should contain an agreed Statement of Corporate Intent which would include what the business will do, how well it is expected to perform and how the performance will be measured, guidelines on the appointment of the Board, the requirement to have a three or five year Corporate and Business Plan, financial and reporting responsibilities including strict timelines to produce the required information.

Where monopoly or special arrangements are entered into, a separate Deed of Understanding (The Deed) is useful in addition to the formal Agreement. The Deed spells out in detail certain social, price and service obligations of the corporation and the choices it can make about how it can operate as a business.

In some cases the role of the shareholders, the board and management has become blurred. The shareholders, (which in most of the transport agencies discussed here is the government) should determine the broad operating guidelines. This should be conveyed to the board. The board sets goals and guidelines for management to follow. Management is

then charged to run the day-to-day operations to optimize the goals and results. It is management's responsibility to report back to the Board at timely board meetings. Whilst there are examples of how this division of responsibilities works effectively, such as Air Pacific, there are also instances in FICs where these lines are blurred thus compromising accountability.

- *Board composition and responsibilities.* When the entity is set up, it is important for the articles and memorandum to spell out the qualifications and experience requirements of the Board appointees. For example, persons should have recognised backgrounds in accounting, banking, law and business and perhaps an expertise in the particular industry. So far as is possible, such appointments should not be politically based.

There should be clear procedures for the appointment of Boards and management and clear mechanisms set up the qualifications and appointment of Directors. These should be embedded in the articles. In many small FICs there is a scarcity of suitable candidates for these positions, however, the pool of potential candidates could be expanded to include nationals who have emigrated and have gained added exposure and experience in business or as professionals.

There needs to be a considerable improvement in the ability of key personnel within these agencies to manage and to make commercial decisions. In the longer-term this can be achieved with training programs, although in the short-term the necessary skills may need to be acquired externally. Boards could consider appointment of professionals such as retired bankers, accountants and lawyers as permanent advisers to attend all meetings (with or without voting rights). Air Niugini has applied this model successfully. Boards should also be proactive in seeking advice from outside professionals in the fields of accounting and finance, aviation, shipping and contract law on specific, strategically important matters.

There is a lack of depth in most of the finance and accounting departments associated with the sector and this is an issue of serious concern needing immediate attention. Boards must insist on current information, which is timely, dependable and accurate. Boards need to recognise the importance of having suitably qualified and experienced staff and may require external assistance to recruit suitably skilled personnel.

On a longer-term basis, more emphasis must be placed by individual countries on accounting and finance education. For example, Fiji set up the Accounting faculty at the University of the South Pacific approximately 30 years ago – and has benefited from the availability of skilled staff as a result. There needs to be a general recognition of the benefits of encouraging people to train in these areas.

There is a shortage of computer equipment, both hardware and software in many agencies and this is particularly apparent in some of those agencies that have not been corporatised. There is a need for this equipment, supported by proper training and technical support, and this should form a component of any institutional strengthening support.

Recommendation R23⁵⁴: To assist FIC members to make key commercial decisions, a Transport Technical Support Fund should be set up within the PIF. This fund should service requests from FICs for short-term technical support in areas such as administrative reform, and economic, financial and legal analysis associated with management decisions.

6.2 The case for privatisation

In a number of specific instances⁵⁵ the study team have recommended privatization of existing government corporations⁵⁶ or companies where government currently has a majority interest. This is not based on ideological views regarding the relative merits of private sector operation but rather on a detailed analysis of the performance of certain transport agencies and the dangers they represent to good government of the small, financially vulnerable, island economies in the region. The rationale for these recommendations is outlined below:⁵⁷

- In most small FICs, the operation of a government owned entity is difficult due to the conflict in objectives between the economy wide concerns of government and the objectives of operating a commercial enterprise. This is true in the case of government ownership of airlines where short-term commercial concerns are often in conflict with broader national concerns. Refer to Section 7.3.1 and in the Country Reports for further detail.
- In situations where the government is the major, or the only shareholder, strong pressure exists for board appointments to be made on the basis of political affiliation. The Board usually appoints the CEO, who is provided with a long-term (usually four year) contract typically with substantial entitlements in the event of early termination. Some FICs have unstable political situations and the life of the government will be less than the length of the CEO's contract, with the implication that if the government changes, the Board is likely to be replaced with a new set of appointees who owe their allegiance to the new government while they are obliged to work with a CEO who is connected with the opposition. The result is often an unworkable relationship between Board and CEO.
- Government owned agencies providing a commercial product are often under strong pressure to provide concessions to other arms of government and to the community in general. This feature is particularly noticeable in small FICs where there are strong informal relationships between many community members. In the case of national airlines, senior officials are often obliged to provide concessionary, or even free, air tickets to government officials and people with whom they have community links. Difficulties collecting debts from other government agencies or enforcing performance standards from these agencies are apparent. As a result, government agencies operating in a commercial environment often have complex, non-transparent financial accounts with significant debts often not disclosed.

⁵⁴ Please note that the recommendations are numbered to ensure consistency with the executive summary and ease cross referencing with Volume 2.

⁵⁵ See Volume 2 - Country Reports for specific examples.

⁵⁶ In no case have the study team recommended privatization of functions currently operated by a government department. In these cases the study team would recommend as a first step corporatization, which may, in the longer term, provide options for a later privatization.

⁵⁷ Readers with access to the confidential country reports can refer to specific examples of these matters.

- Comparatively, in a private company where there is a majority shareholder, the shareholder can insist on full information being supplied by the CEO. This is not necessarily the case when it is the Government that is the sole or major shareholder. Examples of companies that have not revealed important information to the government or, in extreme cases, have run airlines for own personal benefit were made apparent to the Technical Team.
- There are many documented cases, both in shipping and aviation, where government owned enterprises have been grossly undercapitalized. By comparison, private sector firms usually have better financial links with banks and other sources of capital. Hence, undercapitalization in government owned transport enterprises has been a major factor in some poor infrastructure decisions made by these firms.

For example - in aircraft leasing decisions, the tendency has been to select leasing arrangements that require low up-front payments. Operating costs, maintenance costs, surrender of lease payments, and other costs that are important over the life of the aircraft but do not have to be met at the time the aircraft is acquired are often neglected. There are several cases where inappropriate equipment was leased because of the attraction of a low initial payment and the financial implications of these poor decisions have been significant.

- A further problem with relatively large enterprises owned by very small governments is the serious level of instability this ownership imparts into government financing, making government financial planning extremely difficult. In the current climate where many airlines with substantial government ownership will face requirements to re-fleet to compete with the entry of LCC's, there is a high risk that there will be sudden requirements for governments on tight budgets to make unplanned equity injections.
- Certain government owned transport agencies in the region have complex relationships with their respective governments and this can place mutual obligations on the two parties. The difficulty is that the obligations that are made by the government can be unenforceable even when failure to fulfil an agreement by the government affects the financial viability of the enterprise.

It may be argued that some (though not all) of these issues could be addressed through better governance of government owned authorities. However, the specific recommendations for privatisation in this report are made on the basis that governance reforms, in the absence of privatization, would only address some of the symptoms of the problem without attempting to correct the underlying factors that resulted in the governance failures. An attempt to “paper over” these fundamental issues would create a situation where attempts to introduce better governance would not be sustainable in the longer term.

6.3 The role of donors in the reform process

Donors can assist in the reform process by attaching conditionalities to financial support and requiring the establishment of a maintenance fund to ensure equipment is maintained. In the Pacific region, infrastructure support should have attached conditionalities in terms of the way infrastructure is utilised and the pricing of services provided from infrastructure (such as ports and vessels).

It is possible to require recipients to conform to agreed standards in areas of good governance, including the selection of the Board members and of the CEO. Other conditionalities that are to be attached to the receipt of external assistance could include requirements to maintain proper up to date accounting records and information; production of Corporate Business Plans; and reliable financial planning systems.

Donors also need to be aware that the size of the economies concerned and their tight budgetary circumstances often mean that they often cannot service loans, even at concessional rates. There are, for example, cases where large loans have been offered for transport infrastructure by multilateral agencies and these loans had to be rejected because they could not have been serviced.

Recommendation R24: Greater Donor coordination needs to be achieved. Donors and FIC leaders should with the aim of agreeing to a coordinated response to transport issues in the region including a general strategy on which interventions can be based and priorities established.

Recommendation R25: Strong performance conditions should be attached to external support provided donors could present a unified front. Financial and other quantifiable performance covenants could be included as conditions for external support and donors would need to be prepared to withdraw support if conditions were not met.

7. Aviation sector reforms

7.1 Regional solutions

7.1.1 A single regional airline

The study team note that there has been a wide range of proposals for regional aviation, some intended for full regional application, others for sub-regional. For various reasons, none have been applied in practice, which has implied the tentative conclusion that collective airline action - e.g. involving three or more governments - has, at best, questionable prospects of success.

For example, an ADB sponsored report in 1996 designed to formulate a sub-regional airline apparently failed because of the unwillingness of the national airlines of Nauru and Fiji to participate either as “franchisees” or “direct operators”⁵⁸. Apart from more general concerns, the prospective franchisees were concerned with the potential financial risk exposure (presumably due to the various and diverse liabilities of the proposed franchisors) and had doubts about the financial viability of the proposed operation. Whilst this is a single example, there are a number of reasons why a single regional airline in the Pacific will not be viable. In broad terms, multilateral airline operations offer major problems in terms of:

- Risk exposure of the operator (or leasee);
- Likely political interference inherent in such operations;
- Requirements to offer services based on mandated routes and frequency conditions, particularly in the face of potential entry by competitors on all or part of the route network;
- Difficulties inherent in the seasonal nature of many country pair routes, particularly insofar as these tend to coincide with corresponding conflicting peak demand for air service; and
- The conflicting goals of internal airline profitability and commitment to serve possibly non-viable routes, where FIC partners require it.

None of these problems are necessarily insoluble in their own right. Nevertheless, in combination, the array of problems provides a major barrier to continued viability and success, even if such an operation could be mounted in the first place. The examples of Air Pacific (and the Pacific Forum Line - see Box 3) are testament to the inadequacy of idealistically based multilateral operations when confronted with harsh market realities. In this case, Air Pacific compromised its regional service objectives and reverted to a more commercially based network. In the current competitive marketplace, there can be little hope for success of a collective operation of this kind.

⁵⁸ This grouping was designed to service routes between: The Republic of the Marshall Islands, Nauru, Kiribati and Tuvalu and to connect them with larger ports.

7.1.2 Alliances

There are a number of opportunities where rationalisation and cooperation between airlines can offer mutual benefits both to airlines and to national goals. There are many companies that use techniques such as code sharing to improve profitability⁵⁹. Examples include Solomon Islands Airways where the airline does not operate any international aircraft, but uses seats on other airlines. Other FIC based airlines with code share arrangements include Air Vanuatu, Air Pacific, Polynesian, Air Nauru, and Air Niugini.

Additional benefits are derived from coordinating airline schedules and pricing⁶⁰ of through fares and improved connectivity can provide better travel opportunities on thinly travelled routes or on tourism routes, where connectivity and joint pricing offers a more attractive product to international tourists – and in turn to tourism receiving countries. ASPA (Association of South Pacific Airlines), with input from tourism authorities and the South Pacific Tourist Organisation (SPTO) is in a position to address these issues, at least at a preliminary level.

Recommendation R3: Association of South Pacific Airlines (ASPPA) should be supported in a formalised activity to review existing airline schedules and seek to integrate them more effectively as a system, including connectivity, complementarity and joint pricing. As a first step this will assist in developing better mutual understanding of:

- The extent to which there is already cooperation between airlines, bilaterally and multilaterally, on connectivity and price linkages; and
- How existing individual route systems can be improved in a wider network.

There are also considerable - and generally unexploited - opportunities to stimulate multi-stop tourism within the region. Relevant target markets are the USA, Europe and Asia, (and to a lesser extent, the traditional markets of Australia and New Zealand), where inbound tourism growth has largely by-passed many destinations. The current trend is for each market to promote itself independently - although there are fragmented attempts being made to address these opportunities.

There is a need to stimulate inbound tourism by using a regional, collective approach, in turn improving airline finances and national economies. Thus, while the direct relevance is to major international links, the impacts should filter through to regional feeder services. In order to achieve progress in the integration of French services, diplomatic/bilateral and commercial steps may need to be taken to improve the current regulatory barriers between the French Territories and the Forum countries.

⁵⁹ Specific examples of code sharing are provided in the Country Reports in Volume 2 of this Study.

⁶⁰ The study team would strongly oppose any attempt through ASPA to control prices. The type of pricing co-ordination envisaged might include a discount travel pass for tourists wishing to travel through a number of countries in the region, using different airlines.

Recommendation R4: PIF should consider an Aviation and Tourism Summit with a carefully defined agenda involving government/tourism bodies and airlines, at the highest levels. Main issues to be covered include:

- Joint product development, including establishment of a variety of through fares and ground packages, along with schedule coordination and connectivity to enhance the opportunities for multi-stop travel;
- Joint budgeting and promotional marketing; and
- Improving connectivity at each of these levels with the French Territories and their airlines.

7.1.3 Regional airline agreements

Airline rights should be the property of the FIC and negotiated to maximise general economic benefits. However, meaningful regional aviation agreements have been difficult to negotiate and in many cases negotiations have been dominated by the airlines for their own perceived commercial benefit. This may not be consistent with general economy wide concerns.

Notwithstanding the above, and within the framework of the Forum, considerable effort has been made recently in negotiating a Pacific Islands Air Services Agreement (PIASA). Whilst it has support from most FICs there are some reservations notably from Fiji. There are also certain points that may require clarification⁶¹. Given the resources that have gone into PIASA the study team recommend the following:

Recommendation R2: Pacific Forum Members should renew efforts to obtain a workable and strengthened Pacific Islands Air Services Agreement (PIASA) that is supported by all countries in the region. Negotiations to achieve a workable agreement should be conducted through the PIF.

The study team further recommend that FICs examine the option of negotiating an agreement that would expand cabotage to a regional concept⁶². This would mean that countries would not reserve their domestic market for domestic companies. Companies within the region would be free to compete in the domestic environment in the same way as the international environment has been opened to competition⁶³. It is noted that this may be difficult; nevertheless, there would be potential advantages in countries where domestic services are limited, such as Kiribati, Solomon Islands, Vanuatu and Tonga. It could improve services and assist in the development of outlying tourist resources.

Recommendation R8: FICs should examine the possibility of moving to a concept of regional cabotage in order to promote more services and greater competition in domestic markets. This issue should be for PIF discussion.

⁶¹ For example there is a question about whether under PIASA small FICs could award a contract for a company to provide exclusive air services on a particular route for an agreed time. There is also the question of the safeguards clauses in PIASA, which are inconsistent with WTO safeguard arrangements. These issues need to be clarified.

⁶² There are precedents for relaxing aviation cabotage as part of an air services agreement. At the Symposium undertaken as part of this study (see Chapter 1) the NZ delegate cited instances where NZ had been involved in negotiations of this type.

⁶³ It should be noted that the welfare costs of cabotage are relatively high when dealing with small countries with extensive areas such as Kiribati and Vanuatu.

7.1.4 A regional response to safety issues

A number of the island states have sought to respond to low standards and low capacity to address aviation safety oversight through creation of a regional Pacific Aviation Safety Office (PASO). PASO would cover regulation, oversight and personnel licensing in the areas of flying operations, airworthiness, airports, and security. PASO has considerable potential for achieving economies of scale through the pooling of regional resources and harmonisation of regulatory systems.

The member states of PASO comprise Tonga, Samoa, Vanuatu, Kiribati, Solomon Islands, Papua New Guinea and Fiji. For PASO to operate effectively, all member states will need to adopt standardised rules (it has been agreed that these should be based on New Zealand legislation). All member states have or are understood to be in the process of completing this task, except for Fiji and Solomon Islands.

Fiji are not currently planning to seek services from PASO; Solomon Islands will be ineligible; PNG is seeking services only in respect of nationally registered jet aircraft; and the remaining countries will seek full coverage of regulatory oversight from PASO.

PASO has addressed the issues of legal status, constitution and independence in a draft Pacific Islands Treaty on Civil Aviation Safety and Security. When ratified, the treaty, along with peer pressure, will place an obligation on member states to act in accordance with PASO recommendations.

PASO will offer user pays services, but is expected to require external assistance over an initial establishment period of five years. The ADB has commissioned a feasibility study and is considering a request from the PASO member states to provide loan funding.

Regional agencies in the Pacific have a mixed track record of success. Some aviation operators have expressed reservations about PASO in terms of increased compliance costs and (initially at least) credibility of the operation. PASO will need to quickly get ‘runs on the board’ to justify its establishment.

The study team considers PASO could be further strengthened in a number of areas. These are detailed below:

- all member states should pass standardised civil aviation laws that would require compliance with ICAO.⁶⁴ In addition it would be necessary for participating countries to pass legislation that would require the Minister for Civil Aviation, or a designated person, to act on PASO instructions⁶⁵. This would mean that if PASO issued a notice grounding an aircraft or closing an airport then the relevant Minister would be legally required to implement the notice.

The first step in this process would be to enshrine PASO in a fully ratified international treaty to allow legal status between and amongst the member states. The treaty would

⁶⁴ The first step would be to have PASO rules ratified as a full international treaty which would give it legal status among Member States and allow it to be recognized in the civil aviation laws of all participating states. (See Regional Civil Aviation Safety and Security Study, Final Report, May 20 2004).

⁶⁵The September 2002 PASO program document suggests, “PASO will provide an advisory service to the national aviation authorities.”

specifically recognize the obligation for all member states to take action on all PASO recommendations and findings. It is clear that if PASO is to be successful it cannot be simply an advisory body with domestic authorities having the option as to whether to act on PASO notices;

- guarantees to protect the independence of PASO are essential. As was pointed out in the ADB funded feasibility study of PASO, the PASO constitution, the Council of Directors, and the PASO organisation currently have no legal status and are not based on any legally binding agreement of any kind between the member states; and
- PASO needs to clearly resolve the scope of the services that it proposes to provide. In particular it is necessary to determine the extent to which PNG and Fiji would rely on PASO services⁶⁶.

With regard to this last issue, while the ADB study examined funding requirements it did not attempt to define the scope of services to be offered. The study team cannot see how funding decisions can be progressed without a fundamental decision on this matter. The ADB study of PASO identified three options for the scope of services to be provided⁶⁷:

- (a) Services are confined to Tonga and Samoa;
- (b) Full services are provided for Tonga, Samoa, Vanuatu, Kiribati and the Solomon Islands, as well as for commercial jet equipment in Papua New Guinea; or
- (c) Full services are provided for Tonga, Samoa, Vanuatu, Kiribati, Solomon Islands and commercial jet services in Papua New Guinea and Fiji.

In our view option (a) would not provide the level of demand to warrant the resources since Tonga and Samoa do not generate sufficient aviation activity to justify the significant expenditure and increased costs for airlines that the establishment of PASO would require. Whilst option (b) would be workable, every effort should be made to encourage Fiji to use the services. This is because Fiji can provide the most valuable experience of moving towards compliance in the region as it is acknowledged as having the region's best-managed regulatory system. The study team therefore are strongly in favour of option (c).

The current business model that is envisaged by PASO involves the provision of all inspection services from PASO resources thus giving PASO a monopoly of inspection services.⁶⁸ In our view there is an alternative model that would be simpler to implement and would allow the prospect of competition. Under this model agencies requiring inspection services could call for tenders to carry out these services in compliance with PASO regulations. There would be no compulsion to use PASO services; however there would be

⁶⁶ PNG and Fiji are by far the largest and most complex aviation systems in the region. Air New Guinea operates B767 aircraft, several F28 aircraft and several DHC8 turbo-prop aircraft. Fiji operates B747 aircraft (Air Pacific) and has plans to cater for Airbus aircraft.

⁶⁷ See Regional Civil Aviation Safety and Security Study, Final Report, May 20 2004 Para 103.

⁶⁸ The ADB Report recommends that the initial recertification/validation work to establish a baseline should be done with contract inspectors (Regional Civil Aviation Safety and Security Study, Final Report, May 20 2004 Appendix 11, point 3 and that new airline certification work in future years could also be contracted out (Regional Civil Aviation Safety and Security Study, Final Report, May 20 2004 ADB Report, Para 55).

compulsion to meet PASO standards⁶⁹.

It should finally be noted that PASO is being examined in a context where regional agencies in the Pacific region do not have a strong track record of success. For this reason it is essential that the outstanding issues regarding the powers, scope, institutional structure and operational approach of PASO are resolved. If these issues can be resolved, then PASO will need support. In particular it would benefit from the active support of Fiji and also secondment of professional staff from CASA and NZCAA. The possibility of staff interchange with Fiji should be investigated as well as the possibility of Fiji and PNG carrying out regulatory work on small aircraft on behalf of PASO.

It is estimated that current funding for PASO will be exhausted in mid 2004 and donors may wish to consider transitional funding until other long-term funding becomes available. Some countries that wish to use PASO services recognize that the PASO implementation plan is well behind schedule⁷⁰ and are considering interim arrangements that will require donor support. These matters are discussed in the relevant Country reports.

Recommendation R11: The study team support the concept of a regional air safety organization and believe that Pacific Aviation Safety Organisation (PASO) can fulfil this role, but that further action is appropriate, preferably before any long term funding decisions are made⁷¹:

1. Agreement must be reached as to the scope of services to be provided. The study team support the principle that the safety office should provide full (jet and non-jet services) for as many countries as possible. The study team are of the view that PASO should have responsibility for all jet services in the region.
2. All member states that will use PASO services should formally agree to pass standardised civil aviation laws that are in compliance with International Civil Aviation Organisation (ICAO). This legislation should also have a requirement for the Minister for Civil Aviation (or designated person) to act on PASO instructions;
3. Agreement to a legally binding document signed by all member states that formally recognises the PASO constitution and the Council of Directors. This will also involve the preparation of a Constitution that guarantees the independence of PASO and its professional staff; and
4. PASO should examine the possibility whereby PASO clients could sub-contract inspection services required under PASO regulations. These services would be carried out by approved agencies working to PASO requirements. This model would introduce competitive pressure into the market for inspection services and would also have implications for PASO funding requirements.

⁶⁹ This strategy would release PASO staff to concentrate on the construction and implementation of the regulatory system and to initiate the inspection and surveillance program.

⁷⁰ The PASO timetable for implementation is provided in Para 57 of the Regional Civil Aviation Safety and Security Study, Final Report, May 20 2004. It envisaged full implementation in January 2004. The latest target, is to commence operations on July 1, 2004.

⁷¹ PASO Interim General Manager, Mr John Gratton, has stated that these issues are in the process of being addressed.

7.2 The role of Government in aviation

7.2.1 Airport management: Major international airports

As noted in Chapter 3, government controls all major airports in the region. Many airports in the region are not fully compliant with ICAO safety and security standards⁷² and there are significant expenditures that will have to be incurred in the short-term if these airports are to meet compliance requirements.⁷³ Within this broad pattern of government control, there are a variety of different airport management structures in operation throughout the region. They range from statutory corporations, such as in Fiji, Samoa, and Vanuatu to a situation where the airport administration is part of the Civil Aviation bureaucracy, such as in Tonga, Nauru, and PNG.

In accordance with the need to move towards more market-based solutions to transport services in the Pacific, it is important that once airports reach a stage where they can operate as commercial entities, governments should focus on creating institutional structures that will facilitate commercial operations. The first step in this process is usually to create a Statutory Authority. This will provide an option for possible privatisation at a later date. In the design and operation of the authority, the principles of good governance for commercial activities in the transport sector, as set out in Section 6 of this Report need to be followed.

It should be emphasised that the creation of a statutory authority is not a panacea for all problems.

There are a number of airports in the region that require institutional strengthening.

7.2.2 Airport management: Minor airports

Minor airport rehabilitation needs to start with a *selective* upgrade and rehabilitation program that is supported by a credible maintenance program. Minor airports should not be rehabilitated or upgraded without a benefit cost assessment of the proposed work and credible financial arrangements in place to maintain the facility.

Recommendation: R10: Certain airports in the region require substantial new investment to upgrade facilities. Minor airports in the region also require upgrading and rehabilitation. Any financial and/or technical support for specific FIC aviation systems should be accompanied by the conditionality that in order to meet external support requirements, appropriate institutional strengthening of airport management (including benefit cost assessment of proposed work and conditional on the implementation of a credible maintenance program) should be implemented.

7.3 Allowing markets to work

7.3.1 Airline operation in a competitive environment

The immediate problem is that certain FIC airlines are in severe financial difficulty. For the year 2003, five major FIC airlines made total losses of almost \$A20 million and these

⁷² The standards are set out in ICAO Annex 14 (Aerodromes). These standards have recently been updated. The ICAO Universal Audit Program based on Annex 14 will commence in January 2005.

⁷³ Some airports also have limitations that mean that aircraft cannot be operated fully loaded.

companies are in severe difficulties, representing a major problem for national budgets. For example losses of two airlines represent 9 percent and 6.4 percent of total budgeted revenues from local sources and 62.5 percent and 29 percent respectively of anticipated grant revenues from Donors. Such problems will worsen as competitive pressures increase, such as the entry of LCCs. Other major airlines that currently compete in the region have plans to reduce fares in preparation for the new competition.

Even profitable FIC owned airlines will face competitive pressures and requirements for increased equity funds to finance fleet upgrading, representing a major call on funds from governments that are already in a difficult financial position. Hence governments will be obliged to consider priorities for funding between aviation and other more traditional requirements such as education and health.

For most of the larger aviation systems in FICs, the operation of a government owned entity is difficult due to the conflict in objectives between the economy wide concerns of the government and the commercial objectives of managing an airline. Economy wide concerns would lead most FICs to consider aviation in the context of their objective to develop the tourism sector. However, by adhering to short-term commercial objectives of some of the government owned airlines – who are having to compete with new entrants (particularly low cost carriers) – governments often find themselves attempting to restrict access to the aviation market. Consequently, this has adverse effects on the development of tourism. Tonga, Samoa, Vanuatu and PNG all have potentially valuable tourist industries and fully owned government aviation companies and will need to make difficult decisions.

In summary, these economy wide considerations lead inevitably to a decision towards privatisation⁷⁴ and governments prepared to make this difficult decision will require external support in the form of financial and legal advice. There are additional reasons for considering privatisation in particular countries.

Recommendation R1: Efforts should be made to encourage and support privatisation of certain government owned aviation companies in the region⁷⁵. Resources in the form of technical support (including financial and legal) should be made available through the PIF.

There may be domestic routes where it is not possible to have a viable commercial service but for social reasons, the government maintains that a service should be provided. Currently, this is achieved by placing pressure on the domestic carrier to operate the route even though it is loss making. Reservations about attempts to deliver welfare objectives through the transport system and particularly attempts to subsidize air routes that will tend to benefit higher income groups have been previously raised. For FICs making this decision, the study team have recommended that a more transparent arrangement is introduced that would encourage Governments to consider the opportunity cost of these arrangements.

Recommendation R9: In the case of uneconomic routes for which the government is prepared to provide a subsidy to ensure service provision, there should be a transparent franchising or competitive tendering process that would determine the operator for the route and the level of subsidy.

⁷⁴ The specific instances where privatization has been recommended are discussed in detail in the relevant country reports.

⁷⁵ These matters are addressed in detail in the relevant Country Reports where the financial position of each of these airlines is discussed separately.

7.3.2 Air freight

In some countries, lack of air freight services are seen as a constraint on economic growth. For example, FSM officials stated that their efforts to develop the fishing industry depended crucially on the provision of reliable freight services to Japan and East Asian markets. There are a number of difficulties associated with air freight in the region, which in summary include the following:

- Aviation infrastructure in the region is designed primarily for passenger traffic. The narrow bodied aircraft that are used widely in the region are not designed for air freight⁷⁶;
- Volatility makes it difficult to schedule capacity. There is a strong seasonal element in agricultural and seafood exports that are air freighted. Weather conditions and other factors can also mean that the total volume available for export can vary from year to year. The problems of scheduling capacity are exacerbated because shippers book air freight space and then cancel at the last moment because of the unavailability of product;
- Handling and packaging of air freight presents problems. Packaging has to meet certain standards. For example packaging of items with a liquid component must be such that liquids do not leak, as they are potentially corrosive. There are cases where air freight has to be rejected at port of uplift because of packaging problems. Aviation companies also mentioned the lack of adequate chilling facilities as an impediment to air freight exports from the region;
- While there appears to be only a limited role for additional dedicated freight carriers in the region, decisions in this area should be based on commercial judgments. Some governments have actively opposed proposals for dedicated freight carriers;⁷⁷ and
- In the case of imports of air freight, there are certain FICs where Customs clearance delays and offloading of freight for extended periods has occurred.

Considerable investigation has gone into determining the practicality and economics of exports using airfreight. The most recent was a 2001 study of the prospects for establishing services to offer guaranteed delivery of fresh tuna to the sashimi markets of Japan and the USA West Coast from throughout the Pacific.

The difficulties confronting one of the theoretically most lucrative high value export sectors out of the Pacific persist today and influence other freight opportunities. The results of this study are summarised in Box 2.

⁷⁶ In most cases however the airfreight services appear to be adequate. For example Air Pacific has stated that less than half of its available freight capacity is utilised.

⁷⁷ At the Symposium in March 2004 some delegates expressed the opinion that the major area that would benefit from a PIASA type agreement, providing a closer approximation open skies, would be airfreight where it would be easier to obtain approvals for the special routes required.

Box 2: The Challenges Facing Air Freight Exports from the Pacific Region

From - Sashimi Air Freight Study, Centre for Asia Pacific Aviation for Forum Fisheries Agency, 2001:

General Conclusions

- **Freight rates are generally below fully allocated costs.** Most freight rates currently applied to carriage of fresh fish on passenger aircraft are well below fully allocated cost for the airlines.
- **Fresh fish shipments from the South Pacific have been consistently allocated prices at the lowest end of the price spectrum.** This generally accounts for the reluctance of airlines, which are competing in an increasingly difficult international market, to displace other higher yield products in favour of fresh fish consignments. Additional pressure for space is due to the airlines' primary reliance on passenger carriage. As passenger load factors increase, so available freight space on longer haul service generally reduces.
- **Passenger traffic is the main determinant of aircraft equipment selection** and of scheduling between island states and key destinations. Freight carriage is secondary and is marginally priced. It does not drive decisions on capacity, frequency or timings and will not do so in the future.
- **Economic analysis indicates that current rates will be difficult to sustain.** Freight rates reported on origin-hub-spoke routes (through, for example, Brisbane or Cairns to Tokyo or Auckland or Nadi to Los Angeles) were clearly based on marginal costings or cross-subsidy from passenger services.
- **The most effective "tailored" delivery services** have involved dedicated freight connections onto long haul passenger wide-body aircraft via intermediate trans-shipment points.
- **New generation twin jet operations may reduce freight space available on passenger services.** The uncertainty associated with reliance on passenger aircraft services is likely to increase in the region, particularly on routes into trans-shipment hubs where passenger demand (timings and capacity) may not coincide with the needs of fresh fish traffic. Smaller, more economical twin-jet operations (such as B737-800 aircraft) are progressively being added to sectors within the region, which previously required B767 range aircraft. The aircraft, while better suited to long, thin passenger routes, offer more limited freight capacity than larger or earlier aircraft types when operated with high passenger loadings.
- **The need for trans-shipment is a constant constraint.** Because direct services do not exist to all the destination markets, except from Fiji, trans-shipment is unavoidable. But trans-shipment will remain subject to scheduling, equipment and capacity restrictions, handling risks and the future development of passenger services on the trunk routes and within the region.
- **There is currently a very limited number of specialist freighter operators with aircraft suitable even for trans-shipment connecting services to hub airports.** This does not appear to be due to government regulatory restrictions, but rather to the uncertain economics of dedicated operations. Important factors in this respect are:
 1. The cost of aircraft positioning, where backhaul loads are not available; and
 2. The irregularity and often small loads of fish consignments.
- **Regulatory impediments have not been a significant constraint to operation of suitable services.** National policies towards freight are reasonably liberal, but tend to

support the interest of the national airline – perhaps inevitable, when taxpayers’ investments are usually involved and the airline may be marginal or operating at a loss.

- **Despite the reliance on air freight to access target markets, the industry has generally ignored availability when establishing their business.** In the past, sashimi development strategies have been developed with, at best, only sparse reference to air freight prospects. Indeed, the approach taken has sometimes been almost adversarial, challenging air service providers to offer a suitably priced product, once fish exports are available.

Recommendations with respect to air freight have been designed to facilitate the operation of the market and relate to improving cooperation between users and airlines, improvements to the quality of the service, and measures to enable airlines to have greater predictability with respect to loads.

Recommendation R5: An economic appraisal of the proposed communication system (potentially across web-based platforms) on the scheduling and availability of air freight capacity over what are currently multi-airline networks and often involving transshipment should be implemented⁷⁸. If warranted, the design and implementation of a system should be carried out to harness potential benefits in improved cooperation, coordination and communication between exporters, freight forwarders and air freight companies.

Recommendation R6: Introduce an airfreight clearance system that allows freight forwarders to notify customs if they believe cargo may not comply with customs regulations. Implementation should be targeted at FICs experiencing delays in customs clearance of air freight imports.

Recommendation R7: Exporters and forwarders should offer reliable and reasonably predictable loads and should consider the proposal for aviation companies to require a non-refundable deposit when booking space. While potentially politically unpopular, the proposal should be treated as a commercial decision for aviation companies and not be influenced by governments. This is an issue that should be progressed through ASPA.

⁷⁸ Recommended in the *Sashimi Air Freight Study*, Centre for Asia Pacific Aviation for Forum Fisheries Agency, 2001.

8. Shipping

8.1 Possible regional solutions

8.1.1 A single regional shipping line

The experience with a regional shipping line, the Pacific Forum Line (PFL) is documented in Box 3. In its early years PFL attempted to meet the requirements of the region. This threatened its commercial viability and it was obliged to concentrate on core routes. The outcome is that PFL now operates in a similar way to any normal commercial line. Given the general satisfaction with international services as they currently operate, there seems to be no need for a regional shipping line.

Box 3: Pacific Forum Line (PFL): Lessons of Regional Cooperation in Shipping⁷⁹

The Pacific Forum Line (PFL) was set up in 1978 as a response to a perceived crisis in South Pacific shipping. In the 1960s and 1970s services to and from Pacific Island nations were provided by the Union Steam Ship Company (Union Company), Karlander, Compagnie Generale Maritime (CGM), together with two government-owned shipping lines, Pacific Navigation Company of Tonga and Nauru Pacific Line.

Shipping services to and from Pacific Island nations generally lost money in the early 1970s. The Union Company's services consistently lost money, as did the lines owned by Tonga and Nauru. These losses stemmed from:

- The imbalance in Pacific Island trade, exports (particularly the banana trade) having declined while import volumes continued to grow;
- The fragmentation of services;
- The sharp rise in costs incurred by conventional vessels due to higher labour costs and declining stevedoring productivity; and
- The loss of passengers to airlines.

By the mid 1970s it was generally recognised that losses would be stemmed only if the Pacific Island trades were containerized and existing vessels were replaced by smaller, self-sustaining vessels built to cater for the unique requirements of the trade. However, the lines then serving the trade were not in a sufficiently strong financial position to re-equip.

Given these problems, the South Pacific Regional Shipping Council, set up by the South Pacific Forum at its Rarotonga Meeting in 1974, proposed the setting up of a regional shipping line. The proposal was accepted by the Forum meeting held in Nauru in July 1976. All South Pacific Forum members were entitled to become shareholders. Ten member governments - Cook Islands, Fiji, Nauru, New Zealand, Niue, PNG, Samoa, Solomon Islands, Tonga and Tuvalu – became 'contracting parties' or foundation shareholders. The governments of Kiribati and the Marshall Islands became shareholders at a later date.

PFL was established under the laws of Samoa. Each contracting party subscribed WS\$10,000. Contracting parties were required to give a year's notice of their intention to withdraw their shareholding and were obliged to sell their shareholding to other shareholders. With hindsight, PFL's Memorandum of Understanding included mutually contradictory objectives – to provide

service to and from isolated Pacific Island nations and to be a self-sufficient, profitable commercial operation.⁸⁰

The losses incurred by PFL in its first months of operation led to an urgent call for an injection of capital, the initial capitalisation of WS\$100,000 being totally inadequate in the face of competition from the existing players. Recapitalisation of the line in 1979, coupled with successive increases in the overdraft limits guaranteed by the New Zealand government, enabled the line to continue operating until the early 1980s. If PFL was to survive, further recapitalisation and a change of strategy were essential.

The Touche Ross Report (1982) argued that PFL could operate viably providing the line was further recapitalized, services were concentrated on core routes – notably those from Australia and New Zealand to Fiji, Tonga and Samoa, and various management reforms were implemented.

In August 1982, the European Investment Bank loaned the line US\$6 million and a further US\$12.6 million was provided by regional governments (New Zealand, US\$6.3 million; Australia, US\$2.3 million, island shareholders US\$4 million). PFL now adopted a more narrowly commercial approach, focusing on core routes. As Nightingale notes, management was now constrained in supplying services to small island states. For example, PFL only maintained the feeder service to Kiribati and Tuvalu because it was financed by aid from the Australian and New Zealand governments. By the early 1990s, the projected losses from the feeder service had become unsustainable.

Discussions with stakeholders in the various Pacific Island nations, as well as discussion at the Suva Symposium, revealed a number of concerns relating to PFL. In particular, a number of interviewees were unhappy with the line's commercial focus. Only a minority of PFL shareholders – notably the Cook Islands, Fiji, New Zealand, Samoa and Tonga – receive a direct PFL service. The PFL service to PNG is provided by 'slot chartering' space on Swire vessels. The other shareholders – including Kiribati, Marshall Islands, Nauru, Niue, Solomon Islands and Tuvalu receive no direct PFL service.

As noted above, the emphasis on core commercial operations was adopted by PFL following heavy losses in the late 1970s and early 1980s. Given the intensity of competition in regional shipping markets in 2004, the study team would caution against hasty attempts to broaden PFL's sphere of operation.

Some interviewees, as well as participants in the Suva Symposium, suggested the need for a "funding injection" to enable PFL to offer a service to all shareholder nations. Others suggested that the number of shareholding governments should be increased. The study team note that all South Pacific Forum members are entitled to become shareholders. There are currently twelve shareholders – Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, PNG, Samoa, Solomon Islands, Tonga and Tuvalu.

Australia, Palau, the Federated States of Micronesia, and Vanuatu are the only members of the Forum who are not shareholders of the line. Whilst there is nothing to stop these countries from becoming 'contracting parties', it seems unlikely that the number of shareholding governments will increase in the near future. Moreover, given the relatively satisfactory operation of commercial shipping services to and from the region (see above), the advantages in increasing shareholder funds in PFL is not clear to us.

⁷⁹ This section draws on an interview with John MacLennan, CEO of PFL, and on Tony Nightingale, *The Pacific Forum Line: a commitment to regional shipping*, Christchurch: Clerestory Press, 1998.

⁸⁰ See Tony Nightingale, *The Pacific Forum Line: a commitment to regional shipping*, p.93.

8.1.2 A regional approach to maritime training

Employment in the maritime industry is an important source of employment in the Pacific region. As vessels become more technologically sophisticated the skills required to gain employment are increasing as is the need for specialised training. At present there is a plethora of maritime training institutions in the Pacific, with the quality of training offered by these institutions varying markedly.

A fully equipped training facility that includes a regular vessel suitable for training represents a major investment for any one country. Accordingly, it may be more appropriate to develop a regional training facility that could provide state of the art training. The first step is to carry out an audit of current regional training institutions so that training facilities can be rationalised, with linked training facilities in the region being coordinated through the Australian Maritime Training College at Launceston.

Recommendation R21: PIF members should undertake an audit of Regional Maritime Training Institutions aimed at achieving a limited number of better equipped and coordinated institutions resulting in Class 1 and 2 Watch-keeping officer and Watch-keeping rated training being concentrated in one or two regional maritime training institutions. The coordinated program should be linked to the Australian Maritime College so as to provide overall guidance.

8.1.3 A regional approach to ship repair and maintenance facilities

Certain FICs lack adequate ship repair and maintenance facilities. This problem is particularly acute with slipways capable of handling the larger coastal vessels, making it necessary for vessels employed in coastal and inter-island routes to undertake voyages to ship repair and maintenance facilities elsewhere - for example, in Fiji, PNG or Australia. In some cases, the age and physical condition of the vessels makes such voyages hazardous. However, given economies of scale in ship repairing, a recommendation for further investment in national ship repair facilities in the smaller FICs would burden them with loss making enterprises.

8.1.4 A regional approach to coastal and inter island ship design

Many vessels currently employed in coastal and inter-island trades are unsuitable for the task and many new vessels are provided by aid funding but are not necessarily suited to the task in which they are employed. Second-hand vessels are chosen on the basis of affordability, and are frequently unsuitable for the trade in question. Typically, second-hand vessels do not comply with the requirements of recent international conventions.

The Regional Maritime Program has recommended that coastal and inter-island vessels be designed to standard specifications, based on 45m, 35m and 20m landing craft.⁸¹ Such vessels should be of robust construction; offer high standard 'basic' equipment (derricks etc suitable for low maintenance environment, engines suited for operation on low grade fuel etc); have bow ramps operated by chains or wires (rather than being operated hydraulically); have one or two derricks; have facilities for passengers; and have removable awnings for cargo decks. Whilst a standard design would not suit all vessels it would go a long way to ensure the operating efficiency of vessels in the region.

8.1.5 Regional ship replacement fund

The coastal and inter-island shipping sector in most FICs consists of a relatively large number of small operators, most of whom have limited financial resources. Many domestic shipping operators, particularly small companies, operate on very tight profit margins, making it extremely difficult (if not impossible) to accumulate sufficient capital to purchase new vessels. Replacement tonnage is provided either through aid funding or is purchased second-hand (more typically third or fourth-hand). Coastal and inter-island shipping operators experience great difficulties in obtaining access to funds for ship replacement. Sources of funds include:

Retained Investment: internal sources of funds for ship replacement include retained profits, accumulated depreciation and reserves. As noted above, many domestic shipping lines generate minimal profit, making it extremely difficult if not impossible to accumulate sufficient capital to purchase new or second-hand vessels.

Equity Investment: in general, the shipping sector is unable to attract domestic equity investment due to the absence of developed capital markets in FICs and the low profitability of the sector. As ESCAP (1997) notes, raising equity capital in international equity markets is constrained by the solvency of the state in which the shipping line is registered and coastal shipping sector's poor record of profitability.⁸²

Commercial Banks: ESCAP (1977) notes that in the early 1980s commercial banks were willing to loan up to 80-90 per cent of the cost of new vessels, with a repayment period of ten years. However, financial institutions reviewed their lending policy following the bankruptcies of a number of established shipping companies.

According to ESCAP, in the late 1990s commercial banks offered loans covering 60-70 percent of the cost of new vessels, with repayment required over a period of seven to eight years. Loans for second-hand vessels provide finance for 50-60 percent of asset value, with the loans having to be repaid in two-three years.⁸³ Relatively short repayment periods, coupled with relatively high interest rates, make such loans unattractive - or untenable - for coastal shipping operators.

National Development Banks: most FICs have their own development bank and whilst development banks are said to be prepared to accommodate ship financing loans, subject to the viability of the proposal, constraints on availability of public funds have limited their ability to provide loans to shipping sector.

International and Regional Development Banks: the World Bank and the ADB are not directly involved in ship financing. However, ESCAP notes that the ADB has indirectly financed ship purchase through the scope of broadly based maritime transport development projects or through sub-loans made available to Development Finance Companies. More recently, the ADB has focused on expanding and improving existing port facilities and commercialising the operation of fleets and ports.

⁸² United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.31.

⁸³ United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.32.

In short, the Pacific Region lacks sources of finance for ship acquisition and replacement and few FICs can afford a ship financing programme at the national level. In the absence of new policy initiatives, the shipping sector appears locked into a “spiral of decline” - in which old vessels are replaced by other old vessels. In the present climate, there appears to be little prospect of reducing average age of fleets (15+ years over region). Given this finding, the study team support the setting up of a Regional Ship Replacement Fund to finance ship replacement and acquisition.

The study team suggest that a committee be set up to investigate the proposal. The committee should take into account the following considerations:

- If the Regional Ship Replacement Fund is to become a reality, individual FICs will need to contribute seed money. The Fund would also need to attract contributions from international funding agencies;
- The Regional Ship Replacement Fund should be set up as a “revolving fund”, repayments being channelled back into the fund for further lending;
- Coastal and inter-island shipping operators should be encouraged to develop proposals for ship replacement. Such proposals should be vetted by member governments according to published and transparent criteria and acceptable proposals should be forwarded to the administrators of the Regional Ship Replacement Fund;
- Regional Ship Replacement Fund loans would be channelled via national governments to successful applicants. National governments would be responsible for ensuring that the terms and conditions of loans were observed; and
- Provision should be made for loans to be conditional on the acceptance by governments and shipping operators of managerial, pricing or other disciplines to be determined by the administrators of the Regional Ship Replacement Fund.

There will be cases where donors provide vessels to FICs and in such cases the donor should be satisfied that the recipient has a system in place that will finance operating costs and maintenance and that the vessel is appropriate for the use intended. If the vessel is intended to provide services the donor should be satisfied that appropriate user charges are made to cover costs and maintenance. Unless this is done, the benefits from support are unsustainable. In examples where this has not been carried out, the result is that the vessel quickly deteriorates and the recipient is obliged to make representations for a further loan.

8.16 A regional approach to strengthening maritime administration

The Independent Review of the SPC’s Regional Maritime Programme⁸⁴ notes that few, if any, FICs have a coherent maritime policy to guide decision making in the sector. This is despite the dependence of most FICs on shipping services carrying imports and exports. Over 95 percent of Pacific region imports and exports being shipped by sea; there is a strong dependence on coastal vessels providing freight and passenger services to outlying islands; and in some cases, the sector has a significant role in providing employment opportunities. As such, the importance of the sector does not appear to be fully recognised in government

⁸⁴ Secretariat of the Pacific Community, *Review of the Regional Maritime Programme: Final Report*, May 2003, p.2.

decision-making in the region. Given the rapid pace of change in the Pacific, the need for institutional reform and capacity building, and the need to tighten security in the aftermath of 9/11, greater priority should be attached to raising political awareness of the sector's importance and implementing the necessary reforms.

It is also clear that many of the issues relating to the maritime sector can only be resolved through decisions at Ministerial level. From our discussions in Forum member countries, as well as group discussion at the Suva Symposium, a clear consensus favours the re-establishment of annual regional ministerial meetings to address pressing issues in the maritime sector.

Recommendation R20: Under the auspices of the PIF, member governments should reintroduce annual maritime sector ministerial meetings aimed at developing a coherent regional approach to maritime policy.

Concerns about maritime safety and security have led to increased regulation of the maritime sector. Technical standards relating to the physical condition of vessels as well as their crewing and operation are set by international conventions administered by the International Maritime Organisation (IMO), a technical agency of the United Nations charged with coordinating and improving maritime safety.

Given the heavy portfolio responsibilities of most Ministers and senior bureaucrats, it is difficult to keep up with the wide range of issues affecting the maritime sector. Furthermore, many FICs do not have the capacity to meet the obligations imposed by international conventions. The study team note that the burdens of increased maritime regulation can be reduced by the existence of a regional body charged with the task of maintaining a watching brief on such developments, the dissemination of information and the giving of assistance relating to the implementation of regulations. A regional maritime body can assist by providing accurate and timely information on the rights and responsibilities of flag states in relation to the maritime sector.

As discussed in Chapter 4, there are some conflicting regional perceptions regarding the effectiveness of the existing Regional Maritime Program. The study team believe that there is an urgent need to further develop regional maritime assistance.

Recommendation R19: The Regional Maritime Assistance Program should be strengthened under the auspices of the PIF and member governments should be able to obtain resources through this program for development of compliance strategies and institutional strengthening of maritime authorities.

8.1.7 A regional approach to hydrography

Accurate up to date charts and publications are essential for the safety and efficiency of maritime transport. The provision of visual aids to navigation, such as navigation lights, markers and radar reflectors, are useful when they are identifiable against known reference points on a chart. The costs associated with the establishment and maintenance of a hydrographic service are substantial. Ships and aircraft are required for survey work, highly qualified personnel are required and training must be received on a regular basis to maintain skills, expensive computer data bases must be developed and maintained, and sophisticated equipment to assist in chart production must be purchased.

Visits to hydrographic service offices in FIC member states highlighted the potential benefits of regional co-operation in the field of hydrography. For example, whilst the ships used for hydrographic work are highly specialised, and hence costly to acquire and operate, an individual FIC is unlikely to employ a hydrographic vessel on a full time basis. A regional hydrographic service should be more effective and efficient than a series of national hydrographic services. The resources of the Royal Australian Navy to coordinate the regional work could be of great assistance.

Recommendation R22: There are regional maritime issues peripheral to the PRTS, requiring further investigation beyond the immediate scope of the study:

- FIC member governments should set up a committee of experts to advise on the costs and benefits of developing a regional ship repair capability. If possible this should be owned and operated by the private sector. No support for rehabilitation of ship repair facilities should be considered until the possibility of a regional facility has been explored.
- Pacific Island governments should set up an expert committee to report on the costs and benefits of developing standard vessel designs for coastal and inter-island shipping.
- Under the auspices of the PIF, FIC governments should set up a committee to consider the costs and benefits of setting up a Regional Ship Replacement Fund to finance ship acquisition and replacement.
- FIC member governments should set up an expert committee to advise on the costs and benefits of setting up a regional hydrographic service. Consultations with the Royal Australian Navy should be initiated.

8.2 The role of government in shipping

8.2.1 Ports

Maritime infrastructure (major port facilities, navigation aids etc) in the FIC region is typically provided by central governments, with a high proportion of port infrastructure being funded by donor grants. Control of ports is either in the hands of a government department or a corporatised port authority.

Recommendation R17: FIC governments should introduce measures designed to increase the autonomy of government owned ports. This could include corporatisation. Where possible, opportunities for private sector participation should be introduced and support could be offered to assist with transfer in certain countries where privatisation plans are at an advanced stage.

Wharves in the outer islands are generally owned and operated by provincial or local governments rather than the central government or the national port authority. The pressures giving rise to economic efficiency are muted under government ownership, in ports, as they are in coastal shipping:

- Government enterprises are not subject to takeover, so financial markets cannot act as an effective discipline on management;
- Government enterprises frequently operate in monopolistic (rather than competitive) markets. In such markets, the pressure to introduce new services, lower prices and operate efficiently is weak;

- Governments and/or politicians may exert political pressure on the public enterprise, persuading it to adopt policies that may not be conducive to its long run health; and
- Incentive structures are usually flawed. Government enterprises cannot use a single measure of performance, such as return on capital, to monitor performance. Whereas the managerial literature suggests that managers perform best when they are set certain specific objectives against which their performance is monitored, public enterprise managers are usually set a number of performance objectives.

International experience suggests that there are benefits in encouraging commercial disciplines and/or private sector participation in the port sector. Commercial discipline may be introduced when ports are corporatised, providing government allows the port corporation freedom to manage its day-to-day affairs. The state of Victoria's "guiding principles" for reform of the port sector provide a checklist of desirable qualities:

- An environment should be created which encourages competition and the provision of services by the most effective provider;
- Asset ownership should rest with the party best able to use the asset;
- The private sector should have a predominant role in commercial service provision and port investment;
- Non-commercial activities should be separated from commercial activities;
- Monopolistic activities should be separated from competitive (or potentially competitive) activities wherever practicable; and
- Consumer interests should be protected where market power is concentrated.

Whilst this list may need to be modified in the light of conditions prevailing in FICs, the study team would argue that it offers a useful first approach to port reform.

Our discussions with government, port authorities and shipper groups in various FICs confirmed the World Bank's observation that there appears to be a growing awareness of the need to increase the autonomy of government-owned ports and expand the opportunities for private sector development. However, they also suggested that corporatised ports continue to be subject to a range of operational and financial constraints imposed by government. These constraints include: ministerial directions, which may conflict with commercial decision making; controls on port charges; obligations to fulfil community services, often without compensation; limitations on borrowings; and public service conditions of employment.

The study team note that port charges vary widely across the region. Whilst port charges are a relatively minor component of voyage costs, the study team suggest that port tariffs should be reviewed to determine whether they are truly cost based and/or whether they can be used to encourage efficient use of port facilities.

As previously noted, the existing stock of FIC port infrastructure is adequate for current and likely future demands. Wharf facilities in the outer islands are generally inadequate, as are cargo handling and storage facilities. Many Ports designed for the coastal and inter-island

trade are in a state of disrepair as a result of years of lack of maintenance. This is particularly true in PNG. There would be benefits in carrying out maintenance and rehabilitation, provided rehabilitated ports were maintained in the future.

Recommendation R15: FIC member governments should give first priority to maximising the benefits obtainable from existing port infrastructure. Greater resources should be allocated to asset management and planned maintenance of existing infrastructure.

8.2.2 Maritime security: International ship and port facility security code

Maritime security arrangements are being tightened and the USA has imposed new maritime security arrangements. The international community has also reacted to the threat of terrorism by developing a maritime security regime known as the International Ship and Port Facility Security Code (ISPS Code) and failure to comply with the code by 1 July 2004 may lead to serious repercussions for individual ships, shipping companies, port authorities and, more generally, for international seaborne trade. Many of the FICs remain unclear as to their obligations for increased security and how they can fulfil these obligations by July 2004.

Recommendation R16: In view of the 1 July 2004 deadline for compliance, member governments need to take urgent action to implement the ISPS Code. A component of the Regional Maritime Assistance program fund could enable countries to obtain technical support to meet their compliance obligations.

8.2.3 Navigation aids

In discussions in several FICs the problems posed by a lack of navigation aids and/or the tendency for navigation aids to disappear or be vandalized were raised. Our attention was drawn to PNG's Community Engagement Program, which aims to identify the true owners of land on which navigation aids are to be built, and to build community engagement and a sense of ownership of the navigation aids with the expectation of reducing the vandalism.

8.3 Allowing markets to work

8.3.1 Reforming the market for coastal and inter-island trade

Coastal and inter-island shipping services (inter-island services) play a pivotal role in linking scattered settlements in Pacific Island states. However, substantial distances between sparsely populated islands and relatively "thin" flows of freight and passengers create difficulties for service providers. Low-income levels limit the ability of inter-island shipping operators to recover the cost of service provision, leading to low levels of maintenance and an inability to replace ageing and sometimes unsafe vessels.

Government owned and operated coastal and inter-island shipping services are typically inefficient and loss making, requiring substantial subsidies (explicit or implicit) to keep services operating. Accordingly, there are good reasons to commercialise the government owned business enterprises operating in the coastal trades. Commercialisation may take the form of *corporatisation* (i.e. the creation of a corporate entity to remove government from day-to-day operation of commercial shipping service) or *privatisation* (i.e. sale of government assets to private sector in expectation that they will be used more efficiently and productively).

Recommendation R14: Certain Pacific Island governments should consider commercialising (corporatisation or privatisation) the remaining coastal and inter island-shipping services operated by government shipping lines.

Low traffic density and long distances mean that shipping services to remote communities and/or outer islands are unlikely to be commercially viable. If left to market forces, the outer islands would not be served. However, there are strong social, political and nation building reasons for providing such services.⁸⁵

Historically, subsidised shipping services on routes considered non-viable by commercial operators have been provided by Government owned vessels or by vessels owned by a corporatised Government entity. Ministries of Finance have typically determined the amount of the subsidy and service provision has been organised and/or provided by the Department of Transport. In many cases, the services operated by government shipping lines have proved operationally and financially unsatisfactory.

The study team recommend that in these cases government attempt to deliver these services through the market. International experience suggests that the most cost effective method of involving the private sector in the provision of shipping service to outer islands is through some form of franchising or competitive tendering. The cost of subsidised shipping services to remote communities or outer islands will be a function of the required quality and frequency of the service. Such a subsidy may or may not be accompanied by a system of route licensing.⁸⁶ Guidelines for the design of a franchise system to deliver outer island services through private sector operators are contained in Box 4

Box 4: Guidelines For Design of a Franchise System for Outer Island Services

The following observations, which draw on the experience of several franchising schemes, may be of use to FICs designing a franchising scheme for outer island services:

Reform Prior to Award of Franchise: subsidization of outer island shipping services is likely to be considerably more expensive if the tendering process is undertaken prior to reform of the shipping sector. Where possible, the study team suggest that desirable reforms – which might take the form of corporatisation or privatisation, abolition of cabotage, labour market reform etc - should be undertaken prior to the award.

Define the Service Requirement: the franchising authority should clearly define the nature and frequency of the services to be provided and the contractual provisions required. Issues to be considered include: what is the purpose of the subsidy? What standard of service is required? On what basis are fares and freight rates to be set? How should the subsidy be administered or managed?

Franchise Administering Authority: whilst the concept underlying the franchising of specified shipping services is relatively simple, the franchising process needs to be carefully

⁸⁵ There are cases where provision of a modest subsidised shipping service may reduce the demand for a more expensive subsidised domestic air service. The outer islands of Vanuatu are an example of this situation. In this case there were statements from potential beneficiaries that they valued a shipping service that might call once every 6 months over an air service because the shipping service provided the potential for commercial development of agriculture.

⁸⁶ A route licensing is a system designed to protect the route franchisee. There are arguments for and against route licensing in this context. One of the main arguments in favor of route licensing is that it eliminates the risk of opportunistic competition and thereby reduces the potential financial risk of the franchisee. However, it is difficult to see why opportunistic competition should be a threat on such routes since the reason for subsidising them is that private operators find them unprofitable to serve without a subsidy.

planned and managed. Contracts should be drawn up carefully and should lay out precisely the service required, the type of vessels to be used, tariffs and charges, contingency arrangements, arrangements for payment, responsibilities and liabilities of the contractor, and conditions under which the contract may be cancelled. A Franchise Administering Authority should be created to manage the subsidy scheme.

While the Authority might be located within the Department of Transport or Marine Department, the study team suggest that the managerial, legal and financial skills are such that the Authority should be separated from the normal line functions. The Solomon Islands Shipping and Marine Sector Study recommends that the franchising scheme be administered by a Shipping Authority or by a Marine Department with a significantly enhanced capacity.

However, the Meyrick Report into the feasibility of establishing a Government Commercial Shipping Company to service Fiji's Outer Islands recommends the creation of a 'Virtual Shipping Corporation' (i.e. a non-vessel owning body) to deliver the required service through a system of contractual arrangements with private shipping companies.

The Tender Process: as noted above, franchises for the operation of subsidised services should be assigned via a competitive bidding process. The tendering process needs to balance the following objectives:

- Ensuring that prospective franchise holders have the financial and operational capacity to provide the required services;
- Ensuring that all potential tenders who could provide the required services are invited to tender; and
- Encouraging bids from competent operators who do not necessarily have experience of operating this type of service.

The study team agree with the conclusion of the Solomon Islands Shipping and Marine Sector Study that this is most likely to be achieved with a two-stage bidding process, involving a pre-qualification phase followed by a formal tendering phase. Pre-qualification process should be designed to ascertain whether a prospective bidder offers credible credentials – financial and technical capability and relevant operational experience.

Tenders to operate the subsidised services should be invited from all pre-qualified applicants. The tender documents should define the service requirement (see above) in sufficient detail to enable tenderers to make a realistic appraisal of the costs and benefits of operating the service(s). As noted above, the tender documents should lay out precisely the service required, the type of vessels to be used, tariffs and charges, contingency arrangements, arrangements for payment, responsibilities and liabilities of the contractor, and conditions under which the contract may be cancelled.

Management of the Franchised Service: as noted above, the franchising scheme should be administered by a Shipping Authority or a Marine Department with the managerial capacity to carry out this task (See Box 1 on Good Governance).

The objective in subsidising shipping services to outer islands should be to provide regular and predictable services at a predetermined interval. Thus, in designing a franchising scheme, there will be a requirement for the Government to finance the difference between the cost of operating the shipping service to the community or island in question and the revenue that an efficient shipping operator could reasonably expect to obtain from the service.

Recommendation R13: In the case of uneconomic outer-island routes, for which the government is prepared to provide a subsidy to ensure service provision, there should be a transparent franchising or competitive tendering process that would determine the operator for the route and the level of subsidy.

Competitive Restrictions on Domestic Trade: ESCAP (1997) notes that almost all FICs have some form of legislation providing for the issue of trading licences (as distinct from safety certificates) to vessels employed in domestic (coastal and inter-island) trading.⁸⁷ Such legislation sets out to:

- Reserve domestic (coastal and inter-island) trades for vessels registered in and/or beneficially owned by nationals of the FIC in question. Most legislation allows for the employment of foreign flag vessels when no suitable domestic vessel is available;
- Prevent over-tonnaging of coastal and inter-island trades; and
- Ensure provision of adequate services, not only in the heavily trafficked inner island trades but in the thinly trafficked outer-island trades.

In general, licensing does not appear to be fulfilling the above objectives in the FICs. As ESCAP (1997) notes ‘Over-tonnaging appears to be prevalent, especially in the larger shipping countries, and the supply of poorly paying services to the outer islands has become a critical social and economic problem.’⁸⁸

As noted above, the majority of FICs have legislation reserving coastal and inter-island trades for locally registered vessels (i.e. they practice cabotage), although the specific provisions of the legislation vary from country to country. In general, coastal and inter-island shipping is reserved for national flag carriers except where a requirement for a particular type of vessel creates a need to employ a foreign flag vessel.

In so far as the interests of locally owned and registered ships are protected at the expense of foreign owned and registered vessels, cabotage is clearly discriminatory. In a world in which barriers to trade are being reduced and countries are moving towards regional trading arrangements cabotage appears increasingly anachronistic.

In the extreme case in which coastal trades are completely closed to foreign shipping, the cabotage laws imply a zero import quota. The study team note that cabotage is a form of protectionism that is likely to lead to higher freight rates and, hence, lower levels of coastal trade than would be the case in a more competitive environment.

When considering amendments to cabotage, a variety of policy options are available:

- a. *Modified Cabotage Regulations:* existing cabotage rules might be relaxed by exempting certain trades from the cabotage rules, by instituting a quota system (whereby foreign vessels would gain partial access to the coastal shipping market), by replacing existing licensing provisions with a tariff or tax that could be progressively reduced, and/or by adopting a Single or Continuing Voyage Permit system, enabling foreign flag vessels to

⁸⁷ United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.6.

⁸⁸ United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Study on Shipping and Port Capacities in the Island Developing Countries*, New York, 1997, p.6.

operate on the coast for a single voyage or a specified time period;

- b. *Regional Cabotage*: under this option national cabotage rules would be replaced by regional free trade in shipping services. Those FICs choosing to take part in the regional cabotage initiative would exchange cabotage rights. In other words, a shipowner domiciled in any signatory nation would be able to operate international or coastal shipping services throughout the region; and
- c. *Open Seas*: under this option any user of coastal shipping services would be free to purchase the services of a shipping operator of his choice, be it a domestic or overseas carrier. Under this option the government would continue to regulate to ensure compliance with safety and environmental laws.

The opening up of coastal trades to international competition by abolishing or modifying cabotage rules has the potential to lower domestic transport costs and encourage innovation in the domestic shipping market.

For example, vessels employed in international voyages, which call at two or more ports within a FIC might be permitted to carry coastal cargoes. The backhaul rates offered by such services will normally be lower than those offered by coastal shipping. The modification of cabotage rules may also lead to the entry of foreign shipowners into coastal and inter-island trades, leading to greater competition, improved service and lower freight rates. The study team note that provinces of FICs that are closer to ports in other countries than to their own capital (e.g. Temotu province in the Solomon Islands is closer to Vanuatu than to Honiara) may gain from the abolition of cabotage.

The study team also note that the abolition or modification of cabotage may have a negative impact on some players. For example, opening up of coastal trades to foreign competition would have a negative impact on seafaring employment in an economy whose entrepreneurs fail to take advantage of the opportunities created by the opening of shipping markets. In such cases, government may experience a loss of tax revenues.

In conclusion, the study team agree with the World Bank that FICs need to provide an “enabling environment” for coastal and inter-island shipping through “incentives and market conditions, which promote efficiency through entry, exit and pricing freedoms for private operators or autonomous government-owned enterprises.”⁸⁹

Recommendation R12: Forum Island Countries that could benefit from services and greater competition in shipping should allow regional cabotage.

8.3.2 Removing monopoly positions and improving productivity

The study team note the great variation in stevedoring productivity and stevedoring charges across the region (refer to Table 10). In general, it is recognised that a monopoly provider of stevedoring services has no incentive to operate efficiently, especially where government has sanctioned the stevedore’s monopoly power. Whilst the study team recognise that competition between stevedores is not feasible where ship calls are infrequent, the study team would argue that competition between stevedores should be encouraged where possible.

⁸⁹ World Bank, *Pacific Islands Transport Sector Study*, Volume 1: Transport issues – A Regional Perspective, Report No. 10543-EAP, March 1993, p.xv.

List of references consulted

- Air Fares (Air Pacific, Fiji Air, Sun Air, Air Vanuatu, Van Air, Air Niugini, Airlines of PNG, Polynesian Airlines, Sol Air, Air Nauru, Air New Zealand, Royal Tongan Airlines also Schedules provided by major Airports in the Region-All schedules relate to first quarter 2004).
- Asian Development Bank (ADB), *Vanuatu: Economic Performance and Challenges Ahead*, April 2002.
- Asian Development Bank *Regional Civil Aviation Safety and Security Study*, Final Report, May 20 2004.
- Asian Development Bank *Swimming Against the Tide? An assessment of the private sector in the Pacific*, 2004
- (Australia) Australian Competition & Consumer Commission (ACCC), *Part X Investigation: Asia-Australia Discussion Agreement for Australian Southbound Liner Trades from North East Asia*, Position Paper, April 2004.
- (Australia) Productivity Commission *International Liner Cargo Shipping: A Review of Part X of the Trade Practices Act*, Report #9, September 1999.
- Baumol, W.J. 'Natural Monopoly and Contestable Market Analysis', Centre of Policy Studies, Monash University, *State Enterprise and Deregulation*, Special Study No. 5, 1983.
- Containerisation International* (various issues)
- European Commission, European Development Fund and (Solomon Islands) Ministry of Transport, Works and Aviation, *Solomon Islands Shipping and Marine Sector Study*, Final Report, February 1999.
- Financial Accounts (Air Vanuatu, Van Air, Air Niugini, Polynesian Airlines, Air Nauru, Royal Tongan Airlines, Air Pacific latest accounts available as at 2004)
- Forum Secretariat *Pacific Islands Air Services Agreement*, 2002
- Fiji Institute of Technology *Upgrading the School of Maritime Studies to cater for Regional Demands*, Project Dossier, January 2002.
- Flight Schedules (Air Pacific, Fiji Air, Sun Air, Air Vanuatu, Van Air, Air Niugini, Airlines of PNG, Polynesian Airlines, Sol Air, Air Nauru, Air New Zealand, Royal Tongan Airlines also Schedules provided by major Airports in the Region-All schedules relate to first quarter 2004)
- Guild, R. 'Assistance and Opportunities in Pacific Transport', Pacific Department, Asian Development Bank.
- Japan International *Project Identification: Sea Transport Development*

Cooperation Agency (JICA)	<i>Oceania</i> , Final Report by Sinclair Knight Merz, March 1997.
Manufacturers Council PNG	<i>4th MSG International Shipping Conference</i> , May 2003
Meyrick & Associates	<i>Feasibility Study: Government Shipping Corporation, Fiji</i> , Final Report, July 2003 (Meyrick Report).
(Nauru) Air Nauru Officer, R.R.	Statement of Views, 2004 'Accountability and Monitoring the Performance of State Enterprise', Centre of Policy Studies, Monash University, <i>State Enterprise and Deregulation</i> , Special Study No. 5, 1983.
Pacific Forum Secretariat PNG	<i>Review and Analysis of Forum Island Country Shipping Regulations</i> , Draft, 2000. <i>Short Term International Visitor Arrival Report</i> , PNG Tourism Promotion Authority, 2001
PNG Harbours Board Samoa	<i>Activity Statement</i> , 2003 <i>Central Bank of Samoa Bulletin</i> , December 2003
Samoa Secretariat of the Pacific Community, Tonga Tonga	Shipping Corporation Ltd, <i>Annual Report</i> , 2000 <i>Review of the Regional Maritime Programme</i> , Final Review Report, 2003. <i>Report of the Minister of Civil Aviation</i> , 2002 <i>Coastal Shipping Statistics</i> , Statistics Department, 1993
Tonga	Royal Tonga Airlines Documents, including spread sheets, relating to B757 purchase
Vanuatu	Statistical Year Book, National Statistics Office, 2002
Vanuatu	Quarterly Statistical Indicators, National Statistics Office, September 2003
Vanuatu	National Accounts of Vanuatu 1997-2002, National Statistics Office, 2002
United Nations Economic and Social Commission for Asia and the Pacific	<i>Study on Shipping and Port Capacities in the Island Developing Countries: Report of the Study on Policy Options for Replacing Ageing Ships in the Pacific Island Fleets</i> , 1999.
Winters, L.A. & P.M.G. Martins	<i>Beautiful but Costly: An Analysis of Operating Cost of Doing Business in Small Economies</i> , Draft, July 2002
World Bank	<i>Pacific Islands Transport Sector Study</i> , Volume 1: Transport Issues – A Regional Perspective, Report No. 10543-EAP, March 1993.