Cities, Seas, and Storms

Managing Change in Pacific Island Economies

Volume I
Summary Report

November 13, 2000

PAPUA NEW GUINEA AND PACIFIC ISLANDS COUNTRY UNIT • THE WORLD BANK

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Acronyms and Abbreviations

ADB	Asian Development Bank
AUSAID	Australian Agency for International Development
CICERO	Center for International Climate and Environmental Research
CROP	Council of Regional Organizations in the Pacific
CSIRO	Commonwealth Scientific and Industrial Research Organization
EEZ	200 Mile Exclusive Economic Zone
ENSO	El Niño Southern Oscillation
ESCAP	Economic and Social Commission for Asia and the Pacific
FFA	Forum Fisheries Agency
GDP	Gross domestic product
GEF	Global Environmental Facility
HA	Housing Authority
IGCI	International Global Change Institute
IPCC	Intergovernmental Panel on Climate Change
NEMS	National Environmental Plan
NGOs	Non-governmental Organizations
PICCAP	Pacific Islands Climate Change Assistance Programme
PROUD	Pacific Region Observatory on Urban Development
SOPAC	South Pacific Applied Geoscience Commission
SPC	Secretariat of the Pacific Community
SPREP	South Pacific Regional Environmental Programme
TAC	Total allowable catch
UNDP	United Nations Development Programme
UNFCC	United Nations Framework Convention on Climate Change

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Executive Summary

As the 21st century begins, Pacific Island countries are being confronted with new challenges and opportunities arising from changes in their physical, social, and economic environment. Pacific Island countries can actively engage in foreseeing and managing the process of adaptation to these changes, or they can have unplanned adaptation imposed on them by forces outside their control.

Managing change will be critical in three major areas: the growth of towns, the interaction between the Pacific Island people and the ocean, and the effects of global climate change. Each of these three themes has region-wide implications, and presents particularly complex challenges. More importantly, within each of these forces of change lie substantial opportunities to effect lasting improvements to the livelihoods of the Pacific Island people well into the new century.

The ability of Pacific Island countries to respond to these changes will be strongly conditioned by their institutional structures at the local, national and regional level. Of particular importance will be the extent to which traditional and more formal structures of governance can cooperate by taking advantage of their comparative strengths, while minimizing conflict and inefficiencies in their interaction.

Choosing a development path that maintains the quality of the social and physical environment will also be a key factor enabling Pacific Island countries to attract foreign investment in an increasingly competitive global economy. The quality of urban planning and governance, the management of coastal areas where so many communities and economic activities are located, and the adaptations made by the island governments to the impacts of climate change will all be critical factors for decisions on whether or not to invest in a particular country.

Managing change in these areas will be central not only to the Pacific Island countries' future competitiveness, but also to the well being of the Pacific Island people. The three themes selected for this report resonate throughout the Pacific Islands, and the countries' response to the challenges and opportunities they present will shape the development paths of the entire region.

The short-term outcome of the report is intended to be an improved understanding of the need and scope for adaptation policies in face of the challenges presented by the growth of towns, the use of the ocean, and the impacts of climate change. While it is certain these three themes occur within the context of other forces such as globalization and bear on other critical issues such as education and health, substantial work has already been done to document these issues. It is hoped that by taking a new and specific look at three areas with immediate relevance to the region, this report can offer timely analysis and advice to Pacific Island countries. Over the long term, it is hoped that the report can assist Pacific Island Governments, businesses, and communities to better adapt to change by building on the strengths unique to their countries and their people.

Beginning with an introduction that provides the context of the discussion (chapter 1), this summary report is divided into five chapters. Chapter 2 discusses the management of Pacific towns. Chapter 3 examines the management of the use of the ocean. Chapter 4 discusses adaptation to climate change. Chapter 5 combines the main recommendations of the report into a general adaptation strategy.

This summary report is the first of a four-volume series. Volume II presents a more detailed discussion on the management of Pacific towns. Volume III discusses the management of the ocean. Volume IV focuses on adaptation to climate change, and includes the assumptions under which the analysis was based. Background studies commissioned for this report are listed in *References*.

Managing Pacific Towns

The Pacific Islands have experienced major demographic shifts for several decades. High population growth has led to migration from smaller outer islands to larger islands and from rural areas to towns. As a result, more than 35 percent of the people of the Pacific now live and seek their livelihood in towns. Within 20 years, more than half of Pacific countries will be predominantly urban. Key forces shaping the future of Pacific towns include population growth and migration, the role of the urban economy, and provision of urban services and housing.

Issues and Opportunities

Contrary to popular belief, urbanization has significantly improved the economic prospects and quality of life for a large and increasing proportion of the people of the Pacific. As in other parts of the developing world, urbanization has been an inevitable response to deteriorating or stagnating conditions in rural areas and outer islands, few if any can offer the employment opportunities and access to the cash economy provided by the urban environment.

In reality, urbanization has facilitated national social and economic development. Most new jobs are found in towns, and the urban economy generates upwards of 60 percent of the Gross Domestic Product (GDP) in many, if not most, Pacific Island countries. The urban economy is now the major contributor to economic growth, diversification, and competitiveness in the region. This is largely based on the significantly higher productivity in urban private sector industry and services, as compared to the rural economy. Provision of basic services such as health and education would also have been considerably more difficult and costly if they had to be provided to a population scattered in remote islands. Without the growth of towns, the economic performance of many Pacific Island countries would have been far more modest than it has been to date.

However, these positive impacts remain unrecognized by many policy makers, who continue to view towns with concern, if not alarm. Difficulties in providing and maintaining public infrastructure and services, proliferation of informal settlements, worsening environmental conditions and increasing social problems associated with unemployment and underemployment are often cited as major concerns. Consequently, policy responses have often relied on strategies to encourage urban dwellers to return to the rural areas from which many came.

These concerns are not unfounded. Income inequalities are growing in Pacific towns, and poverty and vulnerability are evident in an increasing underclass of landless urban poor. Without attention, these emerging problems will grow, affecting the quality of life, discouraging much needed private investment, and placing key economic sectors (such as tourism) at risk.

Urbanization trends are also having a profound effect on customary traditions, relationships, and decision-making processes as subsistence lifestyles in rural areas have become less appealing to young town residents, and traditional leadership structures become less able to respond to population for higher standards of living.

In general, the potential economic benefits of towns are being jeopardized by a lack of vision of the social and physical environment desired by town dwellers in the Pacific, an absence of appropriate policies, and poor urban management and service delivery.

An Agenda for Change and Adaptation

Dealing with the worsening problems caused by urbanization and realizing its potential to increase standards of living calls for a policy and institutional response that goes beyond uncertain resettlement schemes. Indeed, in light of the importance of the urban economy and the growing population of urban dwellers, the time

has come for urban management strategies to feature prominently in national economic and social development plans, and for accountabilities to be defined.

These strategies should address the current structural problems in urban planning, with a view to build a broad-based vision of how to achieve a more equitable distribution of opportunities for all Pacific Islanders, while safeguarding the environment. Shaping this vision requires the participation of local level traditional institutions, the civil society, the churches, the private sector, and the government at all levels. Such a participatory process could also serve as a vehicle to improve governance as a consensus was reached on the policies and practical measures to enhance urban-rural linkages, and to harness the potential of towns to absorb population growth more productively.

National urban summits would be an ideal vehicle towards achieving this sort of consensus, by widening the debate to include a broader cross-section of stakeholders-including marginalized groups such as the landless urban poor. A regional center– which could be known as the Pacific Regional Observatory on Urban Development (PROUD)– could serve as a regional knowledge bank and a forum for dialogue on urban and regional development. The seeds for such an initiative already exist in the region, through the recently formed expert group on urbanization of the Committee of Regional Organizations of the Pacific (CROP).

Improving governance in urban areas should proceed based on one key assumption. Higher level institutions should embody, to the extent possible, the basic norms and values of the people they are intended to serve. This implies a shift in the role of higher level institutions from actually making decisions and devising plans, to providing assistance to the representatives of the people so they can more effectively meet the needs of urban communities. The result of such a process will be decisions that have a higher level of ownership among the participants and a stronger likelihood to be implemented.

The challenge in urban areas will be to find means to include all key affected residents in the decision-making process. Explicit attention needs to be paid to the needs and priorities of poor and marginal stakeholders or they could act as disintegrative social forces in the urban environment. This is a daunting task, but it is not beyond the capacity of Pacific Island societies. The tradition of negotiation and consensus building is strong throughout the region and in most cases sufficiently flexible to incorporate different interests.

Adaptability has long been a characteristic strength of Pacific people. It therefore lies largely within the power of Pacific Island societies, acting alone and through regional cooperation, to enhance the positive impact of urbanization and the contribution it can make to improving the competitiveness of Pacific Island economies and the quality of life of their people.

Managing the Use of the Ocean

The Pacific Ocean occupies 180 million square kilometers—half of the earth's sea surface and more than a third of the Earth's surface. Managing the use of this immense ocean will become a growing challenge for Pacific Island countries in the twenty-first century.

Three issues related to ocean use currently pose great challenges as well as great opportunities for Pacific Island people: the management of coastal areas and their resources, the management of tuna fisheries, and the policies for seabed mining.

The Coast

Coastal areas serve not only as an integral part of Pacific Islanders' culture, but also represent vital sources of food and income and play major roles in the protection against storms. For long, the coastal seas and lagoons have been viewed as an infinite source of fish, and a receptacle for much of the waste generated by towns and villages.

This perception has to change. Coastal areas throughout the Pacific are threatened by

overfishing, pollution, mining, and poor coastal planning, leading to the depletion of fisheries and to coastal degradation. As most economic activities and communities are located at or near the coast, these problems are imposing significant economic and social costs on Pacific Island countries.

Addressing these challenges will require close partnerships between coastal communities and Pacific Island governments. Neither governments agencies nor communities can manage coastal areas on their own. The distances involved and the existence of customary marine tenure in many islands make it virtually impossible for government-led efforts to succeed in isolation. At the same time, communities need help in managing problems-such as pollution and dredging-that cannot be easily addressed at the local level. Collaborative, or co-management partnerships between coastal communities, governments, and non-governmental organizations (NGOs) have the greatest potential to succeed in managing coastal areas and restoring their productivity and functions.

To be effective, co-management partnerships should meet three conditions:

- The roles of coastal communities and their external partners—governments or NGOs—need to be clearly defined, in a way that draws upon the comparative strengths of each partner.
- Effective communication forums─such as island councils—need to be established between communities and their external partners.
- Intersectoral planning among government agencies needs to be strengthened to prevent conflicting or overlapping policies in coastal areas.

These activities do not require large budgets. Rather, they require a commitment from governments and donors to work closely with local level institutions to provide the kind of assistance communities need to manage their coastal areas.

Tuna Fisheries

The deep ocean presents challenges and opportunities of a different kind. Chief among these is the management of tuna fisheries in the Central and Western Pacific, the most important tuna fishing ground in the world. Because tuna are highly migratory, their management requires close regional collaboration.

Pacific Island countries and distant water fishing nations have put considerable efforts into negotiating a new regional convention to manage and conserve the tuna resources of the Western and Central Pacific. But weak collaboration among Pacific countries and uncertainties on key aspects of the convention—namely, the financial contributions of member states and the allocation of the total allowable catch—may reduce the coastal states' ability to maximize future benefits from tuna exploitation in their exclusive economic zones (EEZs).

As the new regional management regime is adopted, Pacific Island countries need to collaborate closely as a group to preserve independent monitoring in their EEZs, retain a fair share of the total allowable tuna catch, and negotiate optimal access fee agreements with distant water fishing fleets.

Seabed Mining

Although the exploitation of deep sea minerals is yet to commence, seabed mining could become a reality in the Pacific within the next 10-30 years. The potential for the industry is reportedly large.

Under the Law of the Sea Convention, Pacific Island countries who qualify, have until 2004 to extend maritime claims from their 200-mile EEZ to the limits of the continental margin. Extending these claims could give coastal states the rights to additional seabed mineral deposits that may occur in these areas, and should therefore be completed as a matter of urgency.

Given the potential environmental impacts and large scale of seabed mining operations, it is also critical that Pacific Island countries adopt

appropriate offshore mineral policies. These policies and subsequent legislation should create a conducive climate for foreign investment, but at the same time establish strict environment safeguards, independent environmental monitoring, and a forum for public participation in licensing decisions. The following environmental safeguards are recommended for the development of these policies:

- Assess environmental impacts in actual field conditions prior to the issuance of exploitation licenses.
- Adopt a regional code of environmental practice.
- Establish a regional system for independent monitoring.
- Impose strict penalties for pollution.
- Require up front rehabilitation deposits and environmental bonds.
- Ban seabed mining in areas of high biological value.

Regional collaboration among Pacific Island countries will be important not only to survey areas of the continental shelf, but also in the development of future arrangements for environmental monitoring, and in the drafting and implementation of national offshore mineral policies.

Adapting to Climate Change

According to climate change models, the average air temperature may increase by 0.9^0–1.3^0C and the sea level may rise 23-43 centimeters by 2050. While some policymakers dismiss the impacts of climate change as a problem of the future, there is evidence that similar impacts are already being felt. Growing urbanization and squatter settlements, degradation of coastal ecosystems, and rapidly developing infrastructure on coastal areas are intensifying the islands' natural vulnerability to climate events.

Impacts of Climate Change

Climate change is likely to have substantial and widespread impacts on Pacific Island countries. Among the most substantial damages would be losses of coastal infrastructure and coastal land resulting from inundation, storm surge, or shoreline erosion. But climate change could also cause more intense cyclones and droughts, the failure of subsistence crops and coastal fisheries, and the spread of malaria and dengue fever.

Climate change would affect most Pacific Islanders, but have its greatest impact on the poorest and most vulnerable segments of the population—those most likely to live in squatter settlements exposed to storm surges and disease and those most dependent on subsistence fisheries and crops destroyed by cyclones and droughts.

By 2050, if no adaptation is undertaken, a high island such as Viti Levu in Fiji could experience average annual economic losses of US$23-$52 million, equivalent to 2-4 percent of Fiji's GDP. A low group of islands such as the Tarawa atoll in Kiribati could face average annual damages from climate change of US$8-$16 million, as compared to a GDP of US$47 million. These costs could be considerably higher in years of extreme weather events such as cyclones, droughts and large storm surges.

A Strategy for Adaptation

The development choices made by Pacific Island governments today will have a profound impact on the future vulnerability of the islands and on the magnitude of climate change impacts. Acting now to reduce vulnerability to extreme weather events would go a long way toward preparing Pacific countries for the future.

As a first step, it is recommended that Pacific Islands countries adopt a 'no regrets'

adaptation, policy favoring measures that would be justified even in the absence of climate change. These include better management of natural resources—particularly of coastal habitats, land, and water—and measures such as disease vector control and improved spatial planning.

Under a 'no regrets' adaptation policy, Pacific Island governments would take adaptation goals into account in future expenditure planning, would support community-based adaptation, and would require all major infrastructure investments to meet adaptation criteria. Adaptation would be viewed as a key feature of national policy in its own right, and would be taken into account in the development of policies in a wide range of sectors and activities.

The question of who will fund adaptation is a difficult and sensitive issue. Insofar as 'no regrets' measures help reduce the islands' vulnerability to current climate events (independently of climate change), Pacific Island governments would be justified in funding adaptation from reallocations of public expenditures and development aid. Donors could support this process directly, or as part of natural resources and environmental management assistance.

However, this report clearly shows that the Pacific Islands are likely to experience significant incremental costs associated with climate change. It is urgent that the international community develop financing mechanisms to help countries in the receiving end of climate change to fund incremental 'no regrets' adaptation. Countries that have taken early action using their own resources should not be penalized with lower allocations. These and other disincentives against 'no regrets' policies need to be urgently discussed in international forums. Of paramount importance, however, will be for the international community to move rapidly to develop a financing mechanism that can assist countries such as the Pacific Islands in taking early action on adaptation.

Conclusions

In meeting the challenges and opportunities presented by the growth of towns, management of the oceans, and adaptation to climate change, Pacific Island countries should consider:

- Strengthening regional collaboration in areas where there is a clear advantage to do so, such as management of tuna resources and seabed mining, and broadening of regional networks to exchange information on urban planning, management of coastal areas, and adaptation to climate change.

- Building intersectoral links among government agencies and improve policy coordination across sectors.

- Fostering partnerships between formal and informal institutions with related interests.

- Mainstreaming adaptation and management into national economic and development planning.

These recommendations are meant not only to assist Pacific Island countries in meeting the challenges of urbanization, ocean use and climate change, but also to encourage them to utilize the opportunities they represent. The growth of towns, in conjunction with proper planning and community participation, can be a vital source of economic growth in the Pacific. The coastal and offshore resources of the ocean, if managed, can continue to play an integral role in the lives of Pacific Islanders. And the challenges posed by changing climate present an opportunity for much-needed adaptation measures that can reduce Pacific Islands' vulnerability to present day extreme weather events. By embracing these opportunities, Pacific Island countries can actively engage in the process of adaptation to both domestic and external changes, and effect lasting improvements to their societies and economies.

Chapter 1
Shaping the Future

Not everything that is faced can be changed, but nothing can be changed until it is faced – James Baldwin

As the new century gets under way, the people and governments of the Pacific Islands confront a future that will differ drastically from the past. Their physical climate, access to resources, cultural traditions and ways of life, domestic and external relations and economic structures are all undergoing simultaneous and interactive change. Some of the changes — the growth of towns, the weakening of traditional institutions, the degradation of the environment — come from within. Other changes — climate change, globalization — are caused by forces external to the region. The sum effect is turbulence and instability in the familiar parameters that governments, households and businesses have relied on to guide their policies and behaviors.

Pacific Island countries[1] have some grounds for confidence in their ability to meet these challenges. They have a long and impressive record of adaptation and survival to natural disasters and periods of social and economic instability. Despite pressure, their traditional institutions and value systems retain considerable vitality. As a group, they are relatively free of grinding poverty and disease. They maintain generally good relations with one another and with wealthier nations around the Pacific Rim. Their economies are open, their governments are generally solvent, and trade and investment on the whole are able to move freely. Official aid helps most Pacific Island countries sustain their balance of payments and finance public sector investment. And backed by bilateral and multilateral donors, the countries maintain a set of regional organizations with wide responsibility for technical and political collaboration.

But this is not a time for complacency. Some challenges facing the Pacific region are more amenable to management than others which may be outside their immediate control. In both cases, however, change is inevitable. The countries of the Pacific can seek to manage and adapt to change–and thereby benefit from it–or they can let it act on them and risk significant adverse impacts and dislocation. The very prospect of change can undermine the confidence that people and governments have in their capacity to manage, and it carries the risk that apparently easy but unwise solutions may be chosen.

To minimize this risk, Pacific Island people need a solid basis on which to shape their future. This basis needs to be anchored in a dispassionate assessment of the past, and a careful examination of present social and economic circumstances. On this may be built a set of achievable goals and strategies that people at large can understand and support.

A. Purpose and Scope of the Report

This report aims to help the people and governments of the Pacific Islands deal proactively with some of the major challenges and opportunities confronting them in the beginning of the twenty-first century. It focuses on three specific areas of public policy and private activity, where different kinds of challenges are reshaping the lives of Pacific Islands people. The three areas are the growth of towns, the use of the ocean, and the effect of climate change.

The three themes were chosen because of their interactions and relevance to all Pacific Island

[1] For the purposes of this report, the designation "Pacific Island countries" excludes Papua New Guinea, which is the subject of a separate Country Economic Memorandum.

countries, because deficiencies in the response to change in these sectors are causing widespread concern, and because each of them offers substantial opportunities to make lasting improvements to the social and economic conditions in the region.

The growth of towns is handicapped everywhere by a lack of understanding of the social and economic nature of urbanization, poor physical management of the towns, land use issues, and failure of governments to grasp the strongly positive development potential of urban settlements. A frequently neglected issue, the management of towns has immediate impacts on the well-being of hundreds of thousands of Pacific Island people. It is in the larger towns that the greatest strains are being felt on traditional institutions and value systems, and on their ability to act as social support systems and safety nets. It is also in urban areas that effective poverty alleviation measures are most urgently required.

The Pacific Ocean is the most important physical influence on the social and economic activity of the islands. In its role as the home of the world's largest tuna fishery it has been the setting for the island countries' most successful efforts in regional cooperation, now being tested by new negotiations about the management of the high seas. The apparently vast mineral resources of the seabeds may also soon begin to be exploited.

The effect of climate change and the scope for human response to it is a vast and rapidly evolving subject, very difficult for communities and governments to grasp, but of immense and immediate impact on the Pacific Islands.

The stakes involved in developing appropriate policies for managing the ocean and responding to climate change are very large, and the high level of uncertainty and marked differences of view among the players render coherent policy-making particularly problematic.

The three areas of concern, and the intellectual and financial resources they demand, are drawn into dynamic interaction in the management of coastal areas, where most Pacific towns are located and where much of the islands' vulnerability to climate change occurs. The health and safety ramifications of, for example, coastal area management are far reaching and are relevant to each of the three themes chosen for this report.

Woven through the three themes, and strongly conditioning the way Pacific island countries react to them, are two widespread sources of stress. The first, institutional change, involves the interaction between traditional forms of authority and a variety of modern and largely imported institutions, as well as the mutations that are affecting them. This is primarily a social and political phenomenon. The second, the relentless forces of globalization of trade, investment, and economic governance, is primarily economic in nature and driven by international considerations. Each trend shapes and acts on the impact of the other.

Throughout the region, traditional governance systems that in the past took a comprehensive view of society's needs, and provided informal but well-understood accountability and participation are coming under stress. The modern structures erected alongside or in place of them are usually specialized by sector, have difficulty handling complex issues that affect diverse groups of people and often seem to be costly and ineffective, with their regulatory functions prone to the influence of domestic or foreign interests.

At the same time economic globalization is reducing what little influence communities and governments had on trade and investment decisions. The combined result can be a message to people at large that anything goes and nobody cares. The effects are pervasive, leading to a general passive attitude to urban growth, the use or abuse of the ocean, and climate change.

Every person and every community in the Pacific islands is being affected by the growth of towns, by extreme weather events, and by what is happening in and around the ocean. Everyone's response to those changes is being conditioned by the mutation of traditional

authority systems, and by the impact of globalization. These are long-term phenomena, in the sense that they have been emerging for some time and they will not quickly disappear, but they have immediate and increasingly frequent impacts. Families, jobs, businesses, local and national governments, foreign relations and the fabric of Pacific Islands' society are being molded by these powerful influences.

The three themes of this report — towns, ocean, and climate change — are discussed in turn in Chapters 2 to 4. For each theme, it is argued that managing the challenges and taking advantage of opportunities calls for a more inclusive institutional framework, and stronger partnerships between Pacific Island governments, traditional organizations and the broader civil society. These common messages are discussed further in Chapter 5.

B. Origins of the Analysis

This report builds on earlier regional economic reports by the World Bank on the Pacific Island economies, and draws on a wide range of country and regional reports by the Asian Development Bank (ADB), the United Nations Development Programme (UNDP), bilateral donors and regional agencies. To provide a strong analytical basis for the report, a number of detailed background studies were also commissioned.

Building upon Past Regional Economic Reports

In its 1996 Regional Economic Report, *"Building a Resilient Economic Base for the 21st Century,"* the World Bank examined how the Pacific Island nations could position themselves to confront the opportunities of the 'Century of the Pacific.'

The 1996 report noted the vulnerability of the island economies to losses from extreme climate events, the importance of improving the management of coastal and offshore fisheries, and the key role of regional collaboration in the effectiveness of national economic management. These issues are revisited and given a fresh perspective in this report.

The 1998 Regional Economic Report "*Enhancing the Role of the State in the Pacific Island Economies*" focused on the role and performance of Pacific Island governments in economic and social progress. The report argued that it was more important than ever that fiscal policies promote financial stability, that governments concentrate on their 'core functions' and that public sector resources be well managed.

The 1998 report proposed a set of changes in the way Pacific Island governments managed their affairs: to counter fiscal difficulties, the report recommended that the organizational structure of the public sector be reviewed, and most likely reduced. It also recommended that governments become more inclusive of the commercial and civil society and more transparent to the public. The crucial role of an effective budget system for public finance was strongly emphasized. These recommendations reinforced parallel moves at regional level by the Pacific Islands Forum, and accompanied a series of national public sector reform programs (largely funded by the ADB) aimed at improving standards of governance and public sector performance.

The current report stresses the vital role of Pacific Island governments in improving the governance of towns, so that urban-based economic and social activities can develop in a secure setting; in taking broad-based action to manage coastal areas and offshore resources; and in adopting practical measures to reduce the risk of damage from climate events. At the same time the report recognizes the severe limitations of governments acting alone, through the segregated department structure that is prevalent in most Pacific Island countries. In all three areas of study, the report advocates greater inclusion of institutions and persons in the governance process, more priority for regional collaboration, and stronger connections among governmental agencies.

The report is based on a detailed examination of the situation and prospects of selected Pacific islands, from which indicators and policy advice

were deduced with a wider relevance to all Pacific Island countries.

While building on past Regional Economic Reports, this report differs from them in several major ways: first, it places a stronger emphasis on medium-term development issues affecting the broader Pacific Island society, rather than on short-term macro-economic analysis. This longer-term view was thought to be appropriate for the Year 2000 Regional Economic Report, as Pacific Island countries look ahead into the new century.

Second, the report is intended not only for Pacific Island audiences, but also to reveal the region to a wider international public. In addition to this summary volume, the Year 2000 Regional Economic Report includes three specialized volumes, background studies, and dissemination materials aimed at different audiences. It is hoped that this multi-product output will result in a wider discussion of the critical development issues addressed by the report, and in a better understanding of the contribution that the Pacific Island region can make to the discussion of these issues at the international level.

Finally, the report was developed through a partnership approach. The analysis of climate change impact, for example, was conducted by experts from 21 national, regional and international organizations. The institutional analysis involved anthropologists from three countries. The ocean management discussion was based on a 1998/99 survey of 31 coastal communities in five Pacific Island countries, and on collaboration with regional and international specialists. The analysis of Pacific towns builds upon earlier surveys in Samoa, Kiribati and Fiji. In all three themes, World Bank specialists were involved in managing and reviewing the findings of the background studies. This approach helped combine the country knowledge of national and regional experts with the analytical input of international specialists. It is hoped that such a process will contribute to a more direct application of the report's recommendations to the Pacific Island region and beyond. Contributors to this report are listed in the *Acknowledgments,* and background studies are cited in the *References*.

C. Economic and Development Context

Pacific Island countries share with other small states an undiversified economy with limited institutional capacity, little or no access to global capital markets, and extreme vulnerability to economic and environmental shocks. Unlike the Caribbean and Indian Ocean countries, however, the Pacific Islands have maintained strong indigenous cultures and traditions. Yet the system that underpins these traditions is increasingly under strain.

As noted by the World Bank Pacific Regional Strategy (World Bank, 2000b) "*a major challenge (…) is to provide sustainable and meaningful economic and social opportunities and services for growing populations (…) within a fast-paced social, cultural and economic change. Most (countries) have broad based economic reform programs under development or in place which have at their core macroeconomic and fiscal stability (….). The degree and extent of broader civil society involvement in and ownership of the reform program varies (however)*" (box 1.1).

The Pacific Island countries will need flexible and responsive economies to position themselves strategically in the emerging global market. Pacific Islanders could be forgiven, however, for feeling that globalization was thought up by someone who wished them no good. Speakers at international meetings regularly point out that globalization offers opportunities to those able and willing to take them. But among the small states, the Pacific Islands are among the smallest, most remote and most uncompetitive in terms of location-related costs, narrow skills base and undeveloped infrastructure (Commonwealth Secretariat and World Bank 2000).

Box 1.1. Structure of Pacific Island Economies

The small size of the domestic market interacts with a narrow resource base to make Pacific Island economies relatively undiversified and highly open on trade accounts, with openness being expressed through a high share of exports to gross domestic product (GDP), a high share of imports to GDP or both. The remoteness and isolation of these countries from major centers of trade and commerce makes it more difficult to compensate for the limited domestic markets by turning to world markets. Transport costs are high because of small cargo volumes. The ratio of freight and insurance debits to import costs (an indicator of transport costs) is 20 percent or higher for Pacific Island countries compared with the median value of 14 percent for all developing countries.

The constraints of a narrow resource base and small size are most apparent in 'advanced' manufacturing activities such as capital goods, metal working, and intermediates. These activities are characterized by economies of scale in production, product development and research and development. The share of manufacturing in GDP in Pacific Island countries is generally under 10 percent. Manufacturing is thus limited to basic small scale 'low technology' activities like food processing and breweries which are not greatly impacted by market size. In Fiji the share of the manufacturing sector is 15 percent because of the sugar and garment industries, and of a similar magnitude in Samoa with an automotive wire harness manufacturer playing a key role.

In the absence of a large manufacturing sector Pacific Island countries are dependent on the primary and tertiary sectors of the economy as a source of output, employment, and foreign exchange. In the agricultural sector a large share of production is in the form of smallholder operated, semisubsistence, household enterprises growing chiefly root crops and garden vegetables. In Fiji, agriculture, especially sugarcane, is organized primarily along commercial lines, although the subsistence sector remains important. Large scale agriculture comprises oil palm, coconut, cocoa, coffee plantations, and beef cattle (in Vanuatu), with the bigger and more capital intensive operations wholly or partially foreign owned. The sharp fall in prices of traditional Pacific Islands' export crops has stimulated producers to move into nontraditional crops to exploit niche markets in squash, vanilla, melons, and coconut cream.

The contribution of the tertiary sector ranges from 55 to 60 percent in Fiji, Samoa, Tonga, and Vanuatu, while in FSM, Marshall Islands, and Kiribati it is greater than 75 percent. In the tertiary sector the two important activities are public services and tourism related services. Tourism's key role as a foreign exchange earner in the Pacific Island countries is illustrated in table 1.1.

The economic contribution of the fisheries sector comes from subsistence activities employing traditional methods, commercial fishing, and downstream industrial processing. National accounts statistics show a contribution ranging from about 2 percent in Fiji to about 9 percent in Marshall Islands, but these are greatly understated as they fail to take full account of artisanal and subsistence production. For example, in Kiribati where commercial fishing contributes about 3.5 percent to GDP, the share of subsistence fisheries is estimated at nearly 9 percent. Trade data on table 1.1 show that fish exports figure prominently in most countries, but especially in Micronesian countries where they range from 50 percent to nearly 90 percent of total commodity exports. Pacific Island countries also receive access fees from licensing Distant Water Fishing Nations vessels. Total revenues from access fees vary significantly across countries, reflecting the great variation in the distribution of offshore fish resources. For the Micronesian countries, fishing fees have in the recent past contributed amounts equivalent to 50 percent to 100 percent of revenues raised from taxes.

Table 1.1. Main Merchandise Exports and Tourism Receipts[a]

Country	*Main Merchandise Exports*	*Percentage of total Merchandise Exports*	*Tourism Receipts (percentage exports of goods and services)*
Fiji	Sugar	26.4	25.1
	Garments	22.3	—
Federated States of Micronesia	Fish	87.7	7.6
	Garments/buttons	5.7	—
Kiribati	Copra	51.6	15.7
	Seaweed	7.2	—
Marshall Is	Chilled fish	67.4	8.3
	Coconut oil	13.4	—
Solomon Is	Logs	51.1	—
	Palm oil	11.0	—
Samoa	Fish	40.0	51.3
	Copra	15.9	—
Tonga	Squash	44.4	29.1
	Fish	19.6	—
Vanuatu	Copra	40.2	41.7
	Beef	12.1	—

Notes: — Not available or not applicable.
a. Average for latest three years for which data are available.
Sources: National and IMF statistics.

Change Management and Competitiveness

With accelerating globalization, the underlying competitiveness of Pacific Island economies becomes of paramount importance. Most Pacific Island products or close substitutes are in abundant supply from areas outside the region, and world markets offer few niches that can support higher production costs. Countries that are further away from their physical markets─ the situation of most Pacific Island countries─ have to offset their higher external transport costs by lower costs elsewhere, such as land rents and wages.

In this context, the quality and cost of the social and physical environment will be of paramount importance to attract competitive investment. Lack of security, inadequate infrastructure and services, lack of public safety and political unrest, and unhealthy environments impose additional costs to enterprises, and can easily make the crucial difference to investment decisions on a highly competitive global economy.

Most investments in the Pacific Island region will be in or near towns or based on sustained access to the natural environment and its resources. The quality of urban planning, governance and management, the financial soundness of the urban government, the nature of relations between the town communities, the urban environment, and the condition of the urban infrastructure will make a crucial difference to the attractiveness of the investment climate. Investors are sensitive to risks from urban crime and unreliable public utilities. They can insure against some of these risks, but the additional cost is a significant incentive to move elsewhere. Even if they cannot move, investors will want to recoup the cost of protecting themselves by lowering other costs, such as wages, taxes, rents and royalties.

Similar considerations apply to the risks arising from climate change and severe weather conditions. A government that is seen to be planning ahead on a 'no regrets' basis by investing in sensible improvements to infrastructure and sound management of coastal areas is reducing the costs that have to be covered by individual investors and increasing the surplus available to the factors of production. Such governments are much more likely than others to attract and retain private investment in the future.

Offshore fisheries and seabed mining provide examples of the potential weakness of small states acting alone. For them the so-called 'level playing field' is an illusion, as the balance of capital, technology, access to information and skilled negotiators, and ability to identify and pursue their own best interests are heavily weighted towards foreign interests. It is vital that Pacific Island states act together and in good time to protect both their economic interests as well as the sustainability of their ocean resources.

The Importance of Towns

The significance of the growth of towns in the Pacific Island region is twofold. First, it persists despite the costly efforts of governments and aid donors to reverse it over the course of several decades, by persuading people to stay in rural areas and investors to join them there—in other words it is clearly driven by powerful social and economic forces. Second, it is dynamic: by taking advantage of economies of scale and specialization it feeds on itself, delivering lower unit costs and greater efficiencies to public and private sector activities, enabling lower-cost and better services and attracting more customers and investors.

These are the reasons for urban growth almost everywhere. Such outcomes have been, and can continue to be, positive for economic growth. If the growth of towns is well funded and managed, its economic outcome can also be positive for community and individual welfare.

Unhappily the state of several of the larger Pacific towns shows that in the absence of good urban management the quality of life will inevitably decline. Disparities of wealth and welfare will increase, the incidence of poverty will rise, over-stretched and under-funded public

utilities will fail to meet the needs of the people, peri-urban shanty-towns will grow, and both traditional and modern forms of behavioral restraint will break down.

It need not be so. This report argues that the deterioration of conditions in Pacific towns can be turned around over the medium term by a fundamental change of attitude and sense of priorities at national and local levels.

Fighting the process of urbanization, trying to drive or attract people 'back to the village', is a wrong policy and a waste of resources. Those resources will be better spent on establishing sound systems of urban government that can mobilize resources and provide the needed infrastructure and services for the sustained growth of the towns. Conditions are so poor in some Pacific towns that it will be years before this position can be achieved, but there are untapped human resources in all towns that can work remarkable changes if they are mobilized and drawn into the process of urban governance.

Giving greatly increased attention to managing towns is not to turn away from rural development, but to redefine it as complementary to town-based economic activities. Where comparative advantages so indicate—as in development of a port to serve a growing hinterland—new towns may be created, to be well managed from the start. To reorient policy in this way, planners must have a strong sense of spatial interaction, and public investment must be directed to markets and transport infrastructure. Public and private investment should be based on comparative advantages, so that what works best in rural areas is done there, what works best in urban areas is done there, and the connections between them are made reliable and affordable.

The Economy and the Ocean

The description of Pacific Island economies in box 1.1 and chapter 3 indicate that official GDP data generally understate the contribution of fisheries to national incomes. Apart perhaps from the making of copra, fishing is the only form of economic and subsistence production that is practiced in virtually every Pacific Island. Its prominence in the formal sector varies dramatically with climate conditions, size and location of the resources, and market prices. But its less publicized role at the village and subsistence level is large and persistent.

There is a growing recognition that coastal areas require an integrated approach to management, which recognizes not only their value for fisheries production, but also their role in coastal protection against storms, their value in tourism, and their role in culture and recreation. Managing coastal areas—and in the process reducing the islands' vulnerability to extreme weather events—will become increasingly crucial to the future sustainability of Pacific Island economies.

Frequently coastal communities realize that their coastal resources are overexploited, but need help to translate their concerns into effective action. There are many lessons to be exchanged around the region from successes and failures by both governments and non-governmental organizations. Communities and governments are becoming increasingly aware that formal and non-formal management regimes may be effectively combined to manage coastal areas.

At the capital-intensive offshore level the growing pressure on the resource from distant water fishing nations led to extensive negotiations over a new regional management regime. It is important that Pacific Island cooperate closely in defining the benefits and responsibilities that this new management regime will entail in their Exclusive Economic Zones.

The emerging potential for exploiting seabed minerals has vast implications for the Pacific Island economies. The distribution of these resources is uneven and the costs of extracting them are expected to be large. The timing and nature of any commercial extraction is highly uncertain but early and coordinated action at regional level is essential to establish threshold conditions for their potential commercial

exploitation, and to put in place appropriate environmental safeguards.

The Changing Climate

The main problem with assessing the economic impact of climate change—and in identifying a cost-effective response—is the uncertainty surrounding estimates of the time and magnitude of changes to be expected. At the edge of the debate there are still some who doubt whether the earth will get warmer, the sea level will rise and more severe weather will be experienced. But the weight of scientific opinion now seems to agree that there is a human cause for global climate change.

The difficulty lies in the complexity of predicting the changes, the short history and variability of the historical data, and the problem of clearly distinguishing between cyclical effects (climate variability) and long-run climate change from which there would be no escape.

In these circumstances one possibility is to do nothing, and by implication hope that climate change goes away. This is *de facto* the present position of many governments, including those of several Pacific Island countries). Another possibility might be to assume the worst and embark upon major investments in coastal protection—such as seawalls—and relocation of vulnerable infrastructure and human settlements. The first approach seems unwise in the light of strengthening indications of the direction and nature of climate change. The second is impractical and unaffordable.

This report takes the view that Pacific Island countries should adopt a strategy of precautionary investments on a 'no regrets' basis—that is, by taking measures that make economic and financial sense even if climate change does not happen as expected, or happens more slowly than currently predicted. These 'no regrets' measures include coastal management, control of urban pollution, improvements in public health, sustainable management of watersheds, multicrop agriculture, and water resources conservation among others.

The adaptation strategy proposed in this report is closely related to what is required to improve the management of towns and coastal areas. To be effective, adaptation will have to be taken at many levels — national, island, community— and by a range of institutions, both public and private. It will also require a sustained and well-directed program of information, advice and collaborative planning.

D. The Capacity to Respond

For Pacific Island countries to respond effectively to the challenges and opportunities that they face, the way in which they organize and govern themselves will have to continue to evolve. Formal institutions of government will need to become more adept at working across sectors and interests. The process of government and decision making will have to become more open to the multitude of formal and informal institutions that comprise contemporary Pacific societies. Finally, adaptation strategies will need to look to a revitalized notion of regional partnership, both within and between the countries of the region.

Governments

At independence the Pacific island countries acquired a variety of formal structures of governance, most with a 'strong' centralized government devolving limited powers to the island or village level. As Pacific Island people become better educated and informed, they are increasingly critical of failings of their government institutions. The nature and intensity of the criticism has varied, but recurrent themes in most Pacific island countries have concerned inefficiency, poor service delivery, nepotism and corrupt practices, the politicization of the public service, the self-serving nature of politicians and a lack of credible strategic vision.

Against this backdrop of dissatisfaction, the adoption in many Pacific Island countries of public sector reform met with considerable popular support. For the most part, however, the public sector review remained centralized, and

did not question the sector-based 'department' concept of governmental organization.

This report highlights the disadvantages of segregating the activities required for effective management of towns, ocean use and climate change into separate, and sometimes mutually antagonist, departments. Processes and political will are required in all Pacific Island countries to dismantle departmental barriers and connect up the disciplines and skills required for a comprehensive adaptation strategy that is appropriate to each country or island conditions. Several examples of stronger inter-sectoral collaboration are emerging throughout the Pacific (see Chapter 3) and these should be further encouraged and maintained.

Traditional Institutions

Traditional institutions in the Pacific have been changing in response to the monetization of wealth, the wide but uneven spread of education, increased urbanization, and the growing individualization of economic activities. In most of the Pacific, traditional institutions retain considerable vitality and dynamism while evolving to survive in new contexts and to meet new demands. In some areas traditional structures are under considerable stress or have even undergone substantial erosion.

Throughout the region, there have been attempts to incorporate traditional institutions and values into formal systems of governance. Such attempts have sometimes led to more effective governance and greater involvement of the local level in planning and decision making at the national or municipal level. In other cases, they led to unforeseen changes in traditional institutions, with both positive and negative consequences.

In countries where traditional institutions have been given a place in the formal machinery of governance, and are on the government payroll, it is important that they be subjected to the same standards of accountability applicable to the formal governmental institutions. If this is not done, the temptation to divert non-traditional resources to "traditional" purposes is likely to be irresistible. With that proviso, the incorporation of traditional institutions into modern governance systems can clearly play an important role in the adaptation process.

Where traditional structures have not been formally incorporated into modern governance systems, they are also undergoing change, in some cases weakening and fading away, but in others adapting to new needs in the communities they serve. In controlling the movement of young people into town, in managing aspects of peri-urban squatter settlements, in readiness to take part in the management of coastal areas, and in the growing concern for the safety of low-lying areas and islands, there is evidence of traditional systems of authority adapting to new needs and re-emerging with a new lease on life. The challenge for government, municipal authorities and non-governmental organizations is to link up with such traditional groups in ways that do not suffocate them with bureaucracy or drain their energies with promises of external funding, but which take advantage of their inherent strengths.

Civil Society

There is a rich variety of civil society organizations in most Pacific Island countries. Organized religion plays a prominent part in public and private life, though the modalities of its influence vary considerably across the region. Religious organizations have a strong potential to help their followers to manage and adapt to change at the individual and community level. In many countries churches are important players in the delivery of basic services such as education and health care. In dealing with the turbulence and stress of urban growth, in the pooling of community and government resources to manage coastal areas and inshore fisheries, and in developing proactive attitudes to climate change, religious institutions have a vital role to play and should be brought into the governance process.

Secular non-governmental organizations (NGOs), when well run and supported, can be particularly effective at reaching where governments and churches do not go, sensitizing

and acting as advocates for people—such as the urban poor—who would otherwise lack a voice in the development process. NGOs can also cut across traditional social groups or religious barriers, airing issues that are taboo in religious or official circles. These attributes can play a valuable role in the improvement of town governance and services, the development of co-management arrangements for coastal areas, and the design of 'no-regrets' responses to climate change.[2]

For NGOs to contribute fully to managing change they have to become more integral parts of the governance system than has been the case in the past. Where this is lacking, permanent places should be found for NGO representatives in the planning process for all three areas covered by this report.

Revitalizing and Building Regional Partnerships

At the regional level there are concerns similar to those found at the national level. Pacific Island countries and their aid donors maintain a set of regional institutions organized around clusters of disciplines. Greater attention is needed to opening and using better channels of communication among the Pacific regional organizations and between them and donor agencies. Institutional loyalty should not get in the way of closer collaboration and readiness, on occasion, to cede organizational 'turf' in order to build a team appropriate to the task. More effective regional collaboration, at several levels, will be important for all three of this report's areas of concern.

With this overview of the background and main themes of this Regional Economic Report, we now turn to a more detailed discussion of each of the three key challenges facing the region.

[2] A special category of secular NGO of considerable importance in most Pacific Island nations is made up of sporting institutions, which attract much media attention and public discussion. Competitive sports can bring together groups which might not otherwise cooperate or interact and provide an environment for working off rivalries that might otherwise erupt in the streets or workplace. The development role of sports organizations is particularly relevant to the growth of towns and improvement of urban governance. Provision of adequate sports facilities is an essential component of healthy urban living in the Pacific.

Chapter 2
Managing Pacific Towns

Major demographic shifts have been taking place for several decades in the Pacific Islands. The pace of migration from smaller outer islands and rural areas and the resulting growth of towns have had profound effects on traditional societies in the region. This chapter reviews the forces behind urbanization and examines both the benefits and challenges that urbanization presents (Section A); discusses urban governance and planning, land management, and disaster management and mitigation (Section B); and presents an agenda for adaptation and change (Section C). A summary of key recommendations is included in Section D. Further analysis on the management of Pacific Towns can be found in Volume II of this report.

A. Increasing Urbanization in the Pacific

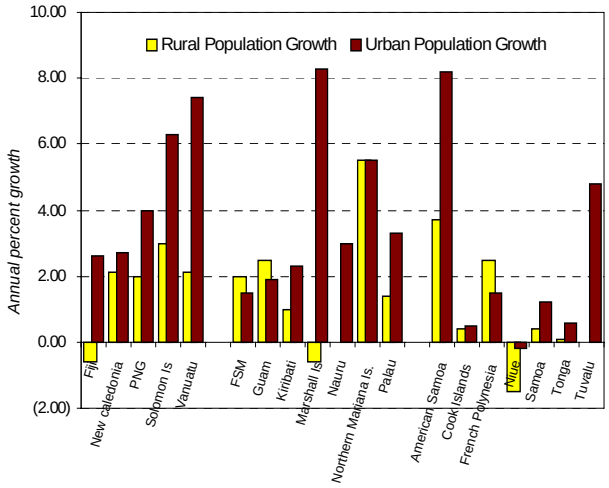
More than 35 percent of the Pacific Island people live and work in towns. Throughout the region, the growth rate of the urban population has outpaced that of rural areas, and eight of the 22 Pacific Island countries are now predominantly urban (figure 2.1). By 2020, more than half of the population in a majority of Pacific Island countries will live in towns.

Throughout the Pacific, high population growth has led to migration from smaller outer islands to larger islands and from rural areas to towns, especially national capitals. Key drivers of these trends include push factors, such as declining agricultural commodity prices and livelihood opportunities and insufficient rural land to confer social standing, as well as pull factors, such as the prospect of cash employment and the availability of public services in towns. In many rural areas, people aspire to urban, non manual labor. Strong kinship traditions have enabled rural migrants to fulfill these aspirations by moving to towns.

Urban migration is not a new phenomenon in the Pacific: the most dramatic migration from outer islands to towns took place in the 1950s, 1960s, and 1970s. Today, migration is a less significant factor than natural population growth in many towns. However, the young age structure and high fertility rates of Pacific towns virtually ensure that they will continue to grow rapidly, even where urban conditions and the quality of life are deteriorating.

Benefits of Urbanization

Figure 2.1. Urban and Rural Population Growth in Pacific Island Countries



Urbanization in the Pacific Island region has been an inevitable response to deteriorating conditions in rural areas and outer islands, few (if any) can offer the employment opportunities provided by the urban economy. Most new jobs have been generated in towns, and the urban economy is now the major contributor to economic diversification, competitiveness, and growth in the region. Urban centers' substantial contribution to GDP reflects largely the significantly higher productivity of urban private sector industry and services relative to rural activities. Without the growth of towns, the economic performance of many Pacific Island countries would have been far more modest than it has been to date.

Box 2.1. The Changing Urban Economy

In the transition from colonial government centers to modern towns the capitals in many Pacific countries have become diversified, playing an important role in many activities such as tourism. Indeed, the 500 tourist hotel beds in Port Vila represent most of Vanuatu's tourist accommodation. In Samoa, most secondary and tertiary sector activities (including manufacturing, distribution, restaurants and hotels, and government services) are located in Apia, the center of the tourism industry. These activities make a substantial contribution to foreign exchange earnings.

In the Solomon Islands, Fiji and Vanuatu, the urban economy is estimated to contribute at least 60 percent of the GDP. For example, because of Honiara's preeminent position as the center of services, paid employment, and industry, economic performance in the capital had a significant effect on the economic growth of the Solomon Islands. Currently, Honiara accounts for more than 50 percent of the formal employment and for a significantly higher proportion of all paid wages.

Urbanization has also facilitated social development in the region: provision of basic services—(including health and education) would have been considerably more difficult and costly if it had to be provided to a widely dispersed populations in remote islands than it has been to the populations concentrated in towns.

Key Challenges Related to the Growth of Towns

Despite the substantial benefits of urbanization, many policymakers in the region continue to view the growth of towns with concern. They quote the profound effect on customary traditions and relationships as well as the difficulty of providing and maintaining public infrastructure and services, the proliferation of informal settlements, the worsening environmental conditions, and the increasing social problems associated with unemployment as evidence of the ills of urbanization.

These concerns are not without foundation. Unemployment and social problems are increasing in many towns and environmental conditions and health are deteriorating. Income inequality is growing, and evidence of poverty, vulnerability, and hopelessness is increasingly visible among the underclass of landless urban poor. Crime in many towns is increasing and, in some countries, militant groups are finding ready recruits. Moreover, a number of Pacific Island societies continue to struggle with very high suicide rates, especially amongst young urban dwellers. Unless urgent attention is paid, these emerging problems will grow, reducing the quality of life and placing key economic sectors, (—such as tourism) at risk.

Urgent Problems

Unemployment. Formal sector job growth in the urban economy has fallen well short of the level needed to productively absorb the rapidly increasing population in towns—it now accounts for only about 20 percent of the labor force in most Pacific Island countries.

Social Problems. Demands for higher standards of living in urban areas have made it difficult for traditional leadership structures to respond in ways perceived as adequate by town dwellers. A large and increasing proportion of the young urban populations do have not strong links with their traditional village communities. Thus, traditional safety nets developed by Pacific Island societies over hundreds of years are becoming increasingly strained as expectations are modified by development, and many communities grapple with the transition from subsistence to cash-based livelihoods. As a result, the number of people living below the poverty line in urban areas is increasing. The proliferation of overcrowded squatter and informal settlements and increasing unemployment in many towns are also leading to a number of social problems such as poverty, the breakdown of the extended family, increased crime, and vandalism.

Health Problems. The most prominent public health problems in Pacific Island countries, especially among the poor, remain those of (largely preventable) infectious diseases, in particular respiratory diseases related to overcrowding and gastroenteric diseases related to water pollution, poor sanitation, and inappropriate health and hygiene practices. At the same time, even the poorer countries in the region are experiencing increasing incidence of

so-called "lifestyle diseases" such as stroke, hypertension, and heart disease due to more sedentary lifestyles and less nutritional diets of imported processed food.

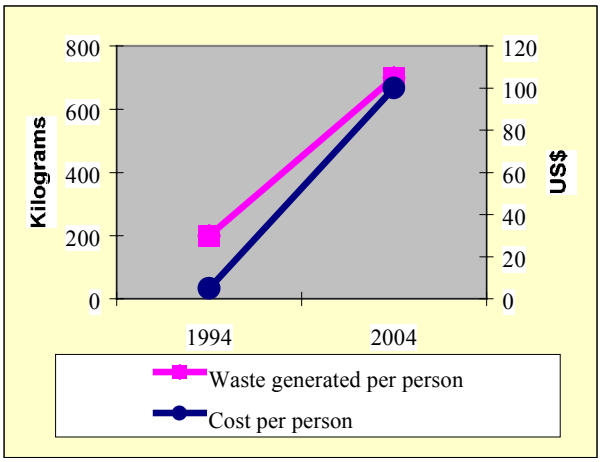
Lack of Adequate Education. Notwithstanding a policy orientation in many Pacific Island countries that seeks to minimize or even reverse urbanization, education systems are orienting young people to non-manual employment in towns, primarily in government. However, education has not equipped them with the technical and business skills demanded by the emerging urban economy or, in some countries, prepared them sufficiently for further education.

Pressure on Urban Infrastructure and Services. In many Pacific towns, urban services were established before independence and are being increasingly overwhelmed by the rapidly growing urban population. The practice in many Pacific Island countries of delaying essential maintenance, in expectation of aid-funded capital replacement, threatens to reduce the effectiveness of existing infrastructure and undercut the justification for new investment.

- *Water Supply.* The problems associated with delivering satisfactory water supply in Pacific towns are primarily political and institutional rather than technical. They reflect inappropriate policies, undue government interference, and the lack of appropriate incentives for consumers to reduce demand to sustainable levels, all of which undermine the ability to appropriately operate and maintain water supply systems.

- *Sewerage and Sanitation.* Proper sanitation is essential for urban areas. However, in many Pacific towns, improvements in water infrastructure are made without parallel investments in wastewater management, invariably increasing public health risks. There is a limit to the effectiveness of septic tanks in urban centers such as Honiara, Suva, and towns in atoll countries. Other low-cost sanitation technologies, such as composting toilets, however, have proven successful in countries such as Kiribati and Tonga.

Figure 2.2. Solid Waste Trends in the Pacific



Source: World Bank (1995a)

- *Solid Waste Management.* The institutional framework for disposal of solid and industrial waste (including hazardous waste) is outdated and ineffective. Without exception, solid waste collection, lacks sufficient financial resources and technical expertise. Even where the percentage of waste collected is high, the maintenance of equipment and facilities is poor and long-term sustainability is in doubt. There are also serious problems with waste disposal. Municipal garbage dumps are usually located on or near coastal areas and are used for land reclamation. They are inadequately sealed from flooding or seawater infiltration, creating a potent environmental hazard.

  As figure 2.2 shows, solid waste volumes will increase in many Pacific Island countries, particularly with rising incomes and changing consumption patterns. Improvements in waste disposal alone will not be enough given the limited land area. Waste volumes will have to be reduced through community awareness and education campaigns aimed at minimizing waste and increasing recycling. These programs should be combined with other measures, such as a tax on imports that contain non-biodegradable packaging materials, as recommended by the Environmental Protection Agency of the Marshall Islands. Based on experience in

other countries, a 30 percent reduction in waste volumes should be achievable.

- *Drainage.* Poor drainage disrupts economic activity, compounds the problems of poor housing—particularly for low-income families—and increases health risks. In many Pacific towns, flooding continues to be frequent, severe, and costly (figure 2.3). Planning schemes, where they exist, have traditionally paid little attention to known flood risks.

- *Power Supply and Telecommunications.* The growing interest in commercializing utility operations in Pacific Island countries is perhaps most evident in power and telecommunications. In those sectors, reliable and competitively priced services are essential to attracting the investment necessary for growth in urban economic activity and employment, particularly in new higher value–added activities in information industries. An example is the Marshall Islands Energy Company which has updated its distribution networks using commercial loans.

- *Housing.* Housing development in many Pacific Island countries has been constrained by construction standards that fail to meet consumer demand, and by constraints to the development of customary land and absence of secure land tenure. As a result, the private housing sector plays only a limited role in employment and economic growth, and has generally been affordable only by the highest income families.

  For urban migrants, housing needs have traditionally been met by the extended family and kinship group. This system, however, is highly dependent on increasingly scarce urban land. A large and growing proportion of urban migrants are renting or illegally occupying land in slum areas at the edges of towns, where basic services and secure tenure are lacking.

Figure 2.3. Poor Drainage in Majuro

Box 2.2. The Impact of Housing Standards

Two recent donor-financed housing projects, one in Fiji and the other in Vanuatu, demonstrate clearly the impact of different housing standards.

In **Fiji**, most plots developed by the Housing Authority (HA) were initially sold without houses. Many purchasers built their own houses incrementally over several years while they lived on the plot (thereby also saving rental costs elsewhere). This sometimes started as a small shack in the back of where the prime residence was being built. The local government and HA tacitly tolerated such an approach, which quickly filled all plots; by project completion most houses were already completed to a fairly good standard.

Later, when HA switched to pre-building houses, only the lowest cost terrace (attached) houses on small plots of about 100 square meters sold well, while many of the expensive, large 2 and 3 bedroom houses remained in inventory for years.

The demand for lower cost houses also led some local builders and lumber yards to offer very popular pre-fabricated house packages which were erected—by the suppliers or the owners themselves—on serviced plots at competitive prices.

In **Vanuatu**, by contrast, the local government resisted the minimum 130 square meter plot sizes and prevented any incremental "starter home" construction of the type common in Fiji. They insisted on high-cost, fully completed houses that were not affordable to lower-income families. As a result, less than 20 percent of the 500 odd plots developed by the National Housing Corporation were occupied by project completion.

B. Issues and Opportunities

Urbanization has increased the diversification and competitiveness of economies in the region, and can continue to improve living standards. But this potential is being jeopardized by a lack of vision of the kind of economic, social, and physical environment desired by town dwellers

in the Pacific, an absence of appropriate policies, and poor urban management and service delivery.

Dealing with the worsening problems caused by urbanization and realizing its potential to increase living standards calls for a policy and institutional response that goes beyond resettlement schemes of uncertain viability. Indeed, in light of the importance of the urban economy and the proportion of the population that lives in urban areas, the time has come for urban management strategies to feature prominently in national economic and social development strategies, and for accountabilities to be defined.

The problems are structural. The task is strategic. The way ahead lies in reshaping the debate on urbanization with a view to building the broad-based vision of how to achieve a more equitable distribution of opportunities while safeguarding the fragile environment of the islands. Shaping this vision will require a consensus throughout Pacific Island societies on policies and measures that enhance urban-rural linkages and harness the potential of towns to absorb population growth more productively.

Improving Urban Governance and Management

The current institutional structure in most of the region is characterized by national government planning and control that does not involve local authorities in a coordinated manner; poor communication among municipal governments, rural local authorities, and urban villages in the same metropolitan area; a tax burden to support urban development that falls unevenly on beneficiaries in the urban region; and a lack of capacity to address the needs of the population, which vary greatly across jurisdictions.

Several obstacles stand in the way of good urban governance. National governments—and to a large extent lower levels of government—tend to be organized along Western models, which are poorly integrated with traditional structures and processes. There are very few urban managers and virtually no capacity to enforce compliance with building codes or other regulations, much less to formulate integrated plans to guide urban development.

Until recently, there has been little, if any, recognition of the need to reduce the number of the many national, provincial, local, and quasi-governmental agencies charged with urban management functions. In Port Vila (—Vanuatu), urban planning involves the municipality and at least five national and provincial departments. In Fiji, responsibility for Suva is shared by three local governments and five national and municipal agencies. In South Tarawa (—Kiribati), urban services are provided by seven different ministries and departments. Throughout the region, there appears to be little support for strengthening local governments, despite their crucial role in planning and coordination.

Establishing a coordinating locus for managing towns, creating a more inclusive process representing a broad base of stakeholders, and rationalizing the institutional framework for planning and delivering urban services will be vital to halting the declining productivity and deteriorating quality of life in Pacific towns.

Strengthening the Responsiveness of Government to Local Needs: Towards Community-Based Planning

Improvement of governance in the urban environment should be based on one key assumption: to the extent possible, higher-level institutions should embody the basic norms and values of the people they are intended to serve rather than impose on them a new set of norms and values. In addition, the decision-making process should be more responsive to shared norms of how decisions should be reached. This

implies a shift in the role of government experts away from actually making decisions and devising plans to advising representatives of the people on how to most effectively meet the needs expressed by local communities.

The challenge in urban areas is to find a means to include all affected residents in the decision-making process. Explicit attention will need to be paid to the priorities and needs of women and youth groups as well as marginalized stakeholders, including communities from different clans and ethnic groups and the landless urban poor, or they could act as disintegrative social forces in the urban environment.

The lines of communication between local and higher levels need to be improved. There should be a well-defined point of entry for those at the local level who wish to communicate their needs and priorities to higher levels. Strengthening the communication between different levels of government would greatly improve the ability of local communities to make their needs known to higher-level officials. It would also provide communities with a source of accurate and clear information.

As traditional community-based institutions become more inclusive, they should be formally recognized as the representative institutions of people at the community level. At the same time, these bodies should be empowered to determine who will represent them at higher institutional levels, where decisions are made that affect development, service delivery, and other public activities.

Throughout the region, municipalities and town councils could be used to disseminate information on government services more effectively. They could also serve as forums in which communities could voice their views on the management of local affairs, on government policies and plans, and on land use and environmental issues of their concern.

The likelihood of success in this process would be improved by clearly articulating the incentives for greater inclusion. Such an inclusion would give the group access to additional human and other resources, and expand support from the community for local level demands. It would also strengthen the legitimacy of the traditional structures and decision making processes—such as the *Matai* in Samoa or the *Unimane* in Kiribati—as the "voice" of the community beyond the more restricted group it represents.

Improving Land Use Planning

Appropriate land use planning is central to effective environmental management. But as seen, the institutional arrangements for land use planning are generally weak, and the options for effective interventions to solve environmental problems associated with land use remain limited.

Throughout the Pacific, information gaps are a major stumbling block to the adoption of effective planning. Many of the data required to prepare urban plans are not available, and research on how households and firms cope with deficiencies in urban services has not been carried out. In the absence of an overall planning framework, development controls are frequently applied in an ad hoc, inconsistent, and even corrupt manner. Planning legislation is either outdated or nonexistent, and few towns have an approved land use plan.

Despite these deficiencies, an effective approach to planning was made in Ebeye, in the Marshall Islands. The major landowners gave the Kwajalein Development Authority a leasehold interest over more than 75 percent of the island. This enabled the Authority to establish commercial zones, expand recreational facilities, and build the island's first high school. Similar reforms have proven more difficult in the capital, Majuro.

Ironically, Kiribati—one of the more traditional Pacific countries—has made some of the most progress toward developing an appropriate municipal framework for coordinated urban planning (box 2.3).

Box 2.3. Urban Management and Planning for South Tarawa

The Urban Management Plan for South Tarawa prepared by the Land Management Department of the Ministry of Home Affairs and Rural Development clearly defines the context and rationale for urban management, the main issues, and the objectives for managing the urban environment. With the benefit of considerable community consultation, the plan provides an indicative planning strategy and direction, together with a proposed framework to address key issues to guide future urban development in the short to medium-term. Significantly, the plan identified "lack of coordination, commitment and an absence of a single integrated policy framework, which cuts across all sectors of South Tarawa" as the primary obstacle to effective urban management (Jones 1995).

Building on this experience and with support from the Asian Development Bank, the Government initiated work on an Integrated Urban Plan and Program for the whole of South Tarawa. This plan was intended to provide a development "vision" for the area, and offer a broad strategic structure that could, amongst other things, identify land to accommodate future population growth as well as infrastructure, a detailed planning and financing framework for infrastructure development, and an economic appraisal of water and sewage improvements.

Whilst the plan fails to address the intractable land supply issue and related modalities for implementation, it's recommendations include a number of innovative approaches, such as government land purchase strategy, voluntary property trusts, and the use of Comprehensive Urban Development Zones.

The computerized Geographical Information System land use system being developed by the Land Management Department is being used to help solve actual ownership disputes and to illustrate the importance of related land-use considerations. The system offers great potential as a contribution to more effective land management. However, its success will depend on political commitment and resources for its continued development and operation, as well as the extent to which other government agencies tap into this valuable information resource (Jones 1995).

More than 80 percent of land in the Pacific region is under some form of indigenous control, with strict kinship rights affecting its development. In urban areas, this ranges from about 40 percent in Kiribati to nearly 100 percent in the Marshall Islands (table 2.1).

While customary land ownership and kinship traditions of sharing resources have protected communities against poverty by ensuring that all family and clan members have access to land, they have also complicated the provision of services and limited the growth of income opportunities. Around many towns, land remains in unproductive or under-productive use. Use of customary land remains problematic even for essential public facilities such as water supply and waste disposal, since customary landowners usually oppose regulations that might restrict their rights. Landowners in South Tarawa, for example, succeeded in pressuring the government to return land that had been set aside for urban water supply reserves. Easing the constraints on land use and availability would significantly increase the productive potential of Pacific towns.

Table 2.1. Land Ownership in Selected Pacific Island Countries

	Customary Land (%)	*Government Land (%)*	*Freehold Land (%)*
Fiji	83	9	8
Vanuatu	98	2	–
Solomon Islands	97	3	–
Federated States of Micronesia	–	60	40
Kiribati	40	60	–
Marshall Islands	100	–	–
Tonga		100	–

– Not applicable.
Source: Connell and Lea (1993).

Pacific Island governments are rightly keen to protect their cultural traditions. But interventions in the land market need not challenge customary values placed on land. The issue is not one of changing the traditional land tenure system but of unlocking land tied up in unproductive use or held speculatively. For example, many of the customary land owners in Port Vila would like to register their land holdings and use them to secure financing for land development. However, formalizing custom land holdings is time consuming and costly, and few custom owners can readily afford it.

Forging a broad-based consensus that action is necessary to avert further deterioration in living standards holds the key to gradual progress in this area. The problem should be brought into the public domain and openly discussed among key stakeholders—including landowners and other affected parties—with a view to agreeing on practical measures to promote the efficient use of land while protecting natural resources for the wider public good.

In a number of countries, individualism is replacing close kinship structures with their emphasis on reciprocity, inherited social status, and rank. Concepts of property and ownership are shifting from a group to an individual orientation. In Fiji, for example, the importance of the *Mataqali* as a land-owning unit has gradually diminished, as access to land has become more individualized.

To facilitate improved land management, there is merit in networking and pooling sources of knowledge within the region, discussing examples of good practice and experience in addressing land use problems, and collaborating in pilot approaches in keeping with the established traditions and needs of individual Pacific Island countries.

Addressing Environmental Issues

Environmental management issues in Pacific Island towns require urgent attention. These issues have become particularly important in recent years because of the rapid increases in urban population pressures, often on small and low land masses; the vulnerability of urban areas to sea level rise; the economic and cultural dependence on the natural environment; the prevalence of natural disasters; and the vulnerability of freshwater lenses on atolls to environmental and climate change impacts.

Most Pacific Island countries have prepared National Environmental Management Strategies (NEMS) and some, such as Fiji, are particularly active in promoting recycling, awareness campaigns, and conservation of water resources. However, many NEMS do not deal extensively with the "brown" environmental issues of urban wastes. Recognition is not yet widespread that environmental management of urban areas—particularly integrated planning and management of inland and coastal areas—is a prerequisite for successful long-term economic development.

In some countries, the lack of legislation hurts efforts to protect the environment. Kiribati, for example, has no legislation dealing effectively with the collection and disposal of waste, or land-based pollution of the sea or lagoons.

In countries where such legislation exists, implementation and enforcement of environmental regulations on areas such as inappropriate land use, water quality, waste management, sanitation, and coastal infrastructure remains weak. Enforcement of protective measures may continue to be limited until political support and institutional responsibilities are clarified.

Improving Disaster Management

Pacific Island countries are exposed to the full range of natural hazards, including tropical cyclones, floods, landslides, extended droughts, volcanic eruptions, and earthquakes (table 2.2). Accelerated changes in demographic and economic trends, climate change, and sea level rise are all increasing the vulnerability of a population increasingly concentrated in towns, virtually all of which are located along coastal areas. Lower-income communities—which gravitate to marginal lands such as foreshore mangroves, floodplains, and stream banks—are particularly vulnerable to natural disasters.

Many Pacific Island countries have experienced and will continue to experience increased vulnerability to natural hazards as a result of high population growth rates, over-development, increased exploitation of coastal resources, mangrove clearance, and sand and aggregate extraction (figure 2.3).

Potential impacts include a reduction in the protective capacity of coral reefs, resulting in coastal erosion, inundation, and flooding. These impacts are expected to be exacerbated by

Table 2.2. Pacific Island Countries Vulnerability to Natural Disasters

	Cyclones	*Coastal Flooding*	*River Flooding*	*Droughts*	*Earthquakes*	*Landslides*	*Tsunamis*	*Volcanos*
Fiji	High	High	High	Medium	Medium	High	High	–
Vanuatu	High	HIgh	High	Low	High	HIgh	High	–
Solomon Islands	High	High	HIgh	Low	High	High	High	High
Federated States of Micronesia	Medium	High	Low	High	Low	Low	High	High
Kiribati	Low	High	–	High	Low	Low	High	–
Marshall Islands	Medium	High	–	High	Low	Low	High	–
Palau	Medium	Medium	–	Medium	Low	Low	Medium	–
Tonga	High	High	Medium	High	High	Low	High	High

Source: SPREP (1994)

climate change, sea level rise, and changes in storm intensity (see chapter 4). As population growth continues to put pressure on natural resources and on the environment, the risks to public infrastructure and to the large and growing proportion of economic activity in coastal towns will increase.

Disaster management needs to go beyond minimizing loss of life. Physical losses—including losses resulting from business interruption—can impose significant burdens on the population. Secondary loss from damage to communication and power infrastructure can be particularly significant in countries such as Vanuatu, Fiji and Samoa, where major tourism assets are located in or near urban areas.

The Costs of Doing Nothing

The near absence of effective policies, plans, strategies, and institutional arrangements to guide urbanization will not only close off opportunities to harness the economic growth potential of towns, but will have an increasingly negative impact on the existing productive capacity of the urban economy and reduce the quality of life of its people.

Further pressure will be placed on infrastructure services and the institutions charged to deliver them. Unemployment will likely increase. Environmental conditions will worsen, and serious outbreaks of epidemic illnesses may become more frequent.

Figure 2.3. Sand Mining at Shoreline

The pace of urban growth is challenging the ability of traditional safety nets to protect people from poverty, and a growing permanent urban underclass is already emerging in many Pacific towns. Not surprisingly, further deterioration in urban conditions will be felt most directly by the poor. The increasing hopelessness among these very youthful urban populations is almost certain to lead to increased levels of crime and urban violence.

A 'no action' scenario is thus likely to lead to an increasing gulf between the 'haves' and the 'have-nots' in terms of access to land, shelter, basic services, and quality of life. Lack of action threatens to reverse recent progress in improving the coverage, quality, and reliability of urban utility infrastructure and services, as responsible agencies become increasingly dependent on government subsidies and external assistance.

This scenario is not inevitable. Early action by political and community leaders and other key stakeholders could set in place the building blocks to reduce these risks. The region's long tradition of family and kinship could be harnessed through an urban dialogue intended to create a shared vision and consensus on the strategies, roles and responsibilities of each stakeholder in achieving a more equitable distribution of opportunities. Achieving this consensus requires a more inclusive process, one which is able to involve policymakers, public sector institutions, customary landowners, and ordinary urban residents in decision-making. The well-established cultural traditions of communal decision-making in the Pacific make doing so a realistic proposition.

C. An Agenda for Managing Change and Adaptation

The Need for an Urban Policy

Few Pacific Island country governments have recognized the productive and employment-generating potential of the urban economy, and fewer still have articulated strategies to realize this potential. This lack of planning has left Pacific Island countries poorly prepared for economic globalization.

National development strategies in many Pacific Island countries recognize the overarching problems resulting from rapid, unplanned urbanization, but do not contain a comprehensive set of policies to deal with them, nor is there a process through which issues affecting town communities are systematically reviewed. As a result, urban policy results by default from the interplay sectoral policies, with no single body taking responsibility for urban issues. The benefits that might be derived from a comprehensive urban policy that is integrated into national development strategies are consequently not realized.

Starting Points for a New Strategy

A more effective strategy for stemming the decline in urban conditions calls for Pacific Island countries to articulate a vision and create a comprehensive strategy for restoring the quality of life of town dwellers and for increasing the potential and competitiveness of the urban economy. The starting point for doing so lies in:

- Recognizing the major contribution of the urban economy to national employment and GDP and the need for appropriate policies that can be integrated into national development strategies.
- Understanding the important role that urban-rural links can play in revitalizing regional economic efforts and improving the social and economic infrastructure of both rural and urban areas. Balanced urban-regional strategies need to be framed through a participatory process oriented to economic opportunities that reflect regional comparative advantages.
- Taking action to address the lack of data on urban conditions and issues, particularly on land ownership and use, population, health, education, economic activity and employment, income, and poverty.
- Incorporating a spatial component in national economic growth and social development strategies that focuses attention on towns.
- Reviewing education sector strategies relative to the skills required in the domestic and international economy to improve competitiveness in response to globalization.
- Strengthening disaster planning and management, through adaptation measures that reduce the social and economic disruption of these events.

Expanding Livelihoods and Improving Productivity

A recent UNDP report on human resources (UNDP 1999a) observed that whilst most employment programs in the Pacific Island region target formal employment, only a minority of workers are currently in paid, formal sector jobs, and this situation is unlikely to change in the foreseeable future. The report

concludes that if governments want to encourage informal sector growth, they must examine the institutional and policy environment in which these enterprises operate and devise more supportive regulations and development programs, particularly involving women and the urban youth. These mainly involve credit schemes, start-up programs, and various types of special assistance to disadvantaged groups.

Conditions that would enable small enterprises to succeed—which are often lacking in Pacific Island countries—include adequate transport and communications infrastructure, non-formal education and skills development, assistance with production and marketing strategies, access to credit, information about viable business prospects, and removal of obstacles such as legal restrictions and unsupportive government policies.

Improving the information base on existing employment and labor patterns would facilitate these policies and strategies. In addition, tapping into the improving experience with micro-credit schemes in many countries around the world may provide valuable lessons of experience for Pacific Island countries.

Developing an Inclusive Approach to Urban Planning, Management, Service Delivery, and Quality Control

The prospects for sustaining the benefits of development efforts in urban areas can be improved by integrating traditional decision-making structures and community groups in the wider decision-making processes of Pacific towns, through ongoing consultation and participation. For such a process to be fruitful, information on government services, policies, and proposals must be disseminated and stakeholder views actively sought.

Nowhere is broad-based consensus more urgently needed than on issues related to land use, which directly affects the economic potential, environment and health of the people living in Pacific towns. Public information campaigns can be an effective vehicle for building public awareness of the link between land use planning and environmental and health concerns, and can help initiative meaningful stakeholder consultations.

The formal and informal institutional mechanisms that might be used for making the voices of communities heard are likely to differ from country to country. However, throughout the region, municipalities and town councils could be used more effectively to disseminate information on government services. They could also serve as forums in which communities could voice their views on the management of local affairs, on government policies and plans, and on land use and environmental issues affecting them. This process may also help address problems of resource constraints and poor coordination among central agencies, and between them and local governments. Such a mechanism could be particularly effective if local governments were made responsible for coordinating planning and service delivery functions in their areas.

Developing a Shared Vision

Many traditional development efforts in the Pacific have focused on short-term priority improvements to urban infrastructure and utility services as a basis for starting to address some of the urban management problems. Certainly, infrastructure and utilities must keep pace with economic growth if productivity is to be maximized. However, the crisis of urban management is so great and the stakes are so large that without fundamental improvements in the urban management process, the potential impact of these development efforts remains at substantial risk.

Pacific Island countries should consider convening an "urban summit" as a forum in which all stakeholders could engage in shaping a common vision for their towns. This vision would define priorities and achievable goals for stemming the decline in income-earning prospects and quality of life. Stakeholders could also agree on actions to be taken, including actions for improving land use and availability, the roles and responsibilities of the government, private sector, and civil society, and a timetable for implementation.

In principle, this vision would create a strategic development framework that would cut across institutional boundaries through a multi-sector, multidisciplinary, and partnership-based decision-making processes. Community development indicators and benchmarks could be used to monitor progress and to update and modify the programs as necessary.

Strengthening Urban-Rural Links

The future in the Pacific will be increasingly urban, and continued growth in the population of key towns is inevitable.

However, physical and socio-economic planning needs to be integrated in a way that recognizes the symbiotic relationship between towns and their hinterlands. Urban and rural development plans should be complementary and mutually supportive. Good transportation and communications links with rural areas would also ensure that the benefits of urbanization are spread more widely.

In many Pacific Island countries, the most dramatic population growth has been in informal peri-urban settlements. These communities contribute to the urban economy–, but fall outside town boundaries, lack access to many public services, and are not captured in urban statistics. Policies and innovative institutional arrangements need to integrate these economies into the towns' social and economic mainstream.

Forging better links between rural and urban areas will also help rural communities. Tafea Province in Vanuatu, for example, has adopted a highly participatory approach to development which brings together community members and staff from various government departments in a technical assistance group to improve the province's development. The output is a community-formulated resource development action plan that is "owned" by a broad-based constituency of stakeholders, all of whom have a strong interest in the plan's success. The impact of this approach will depend, at least partially, on effective economic links with Port Vila. Such an approach could well be appropriate for other Pacific Island countries.

Develop Appropriate Adaptation Measures for Improving Urban Services and Environmental Health

Pacific Island governments need to take an integrated, proactive, and policy-driven responses which address the range of factors that place urban communities at risk. The key priorities should be improving sanitation, water supply, and living conditions; protecting groundwater and coastal ecosystems; preventing sewage, chemical, and solid waste pollution in order to reduce the damage to reefs and the disruptive effects of disasters; and improving health facilities and services.

Measures for Improving Use of Freshwater Resources

Adaptation options aimed at improving use of freshwater resources include demand management measures such as pricing policies that discourage high usage, consumer education and awareness, supply enhancement measures such as leakage control, and water conservation and plumbing. In the short term, leakage control is likely to be more cost effective than development of alternative sources of supply. It should be possible to reduce current physical water losses from more than 50 percent to 25–30 percent.

Effective land use planning and management is most important for the protection of water reserves. It is imperative in many Pacific Island countries that agreement be reached with private landowners and the community at large on appropriate arrangements governing land use to protect existing and future water resources through the establishment of 'groundwater protection zones'.

Measures for Creating Non-polluting Sanitation Systems

Appropriately designed composting toilets have proven to be simple to construct and effective in protecting groundwater supplies and conserving water (as no flushing is required).

Figure 2.4. Rainwater Catchment in a Low-income House in Majuro

Measures for Reducing Illness

Reducing the availability of mosquito breeding sites can lower the incidence of dengue fever. The most effective way to do so is through a community-based approach. The vector control program in Fiji relies on community participation to remove or modify potential mosquito breeding sites such as used tires, container-type rubbish, and water storage drums. Public education initiatives and enhancement of vector surveillance and monitoring methods are also appropriate.

The incidence of diarrheal diseases can be reduced by enhancing sanitation services and practices to minimize pollution of groundwater, lagoons, and coastal waters; improving water quantity and quality by protecting and developing groundwater sources; and improving primary health care facilities, especially in treating infant and childhood diarrhea. In turn, the risk of ciguatera poisoning can be reduced by curbing pollution of coastal waters.

Adopt an Effective Housing Sector Strategy

The first step in developing an effective housing sector strategy is to understand the problem. Data should be collected on existing conditions and needs. Realistic assessments should be made of housing affordability and demand.

The next step is to understand the land and housing markets. The availability of land and housing (types, standards, prices, owned versus rented) should be determined, and constraints to land supply identified.

The financing aspects of the housing market need to be understood, including constraints to mortgage lending, housing, and financing. Generally speaking, the government should limit its role to studying the sector, identifying constraints, setting policies, and playing an enabling role. Private sector developers and contractors should acquire and service land, with private builders constructing houses for sale or rent. Banks should mobilize savings and make mortgage loans at market rates.

Most importantly, formal housing sector activities need to be seen as part of a more holistic shelter strategy that also includes sites with low-cost services, upgrading of basic infrastructure, utilities and social services, and improved security of tenure and livelihood for squatter and informal settlements.

Improve Disaster Mitigation

As with other disasters, adaptation to climate and sea level rise will not be achieved by an ad hoc response to specific threats. Rather, disaster management should be viewed as an essential element of strategic risk management, and of development strategies for urban communities. It presents an opportunity to rethink the way local governments can fulfil their statutory functions.

The basis for designing adaptation efforts is the historical record of extreme events, including their timing, location and intensity. Interpretation of these records provides the basis for hazard mapping and estimation of event frequency and likely consequences. Hazard maps can be used to identify existing development that is at risk and to designate areas which should either be avoided or for which special land use controls and construction standards should be required. For obvious

reasons, hazard mapping for key urban areas is particular important, more especially so in high-density residential areas and where public or private capital investments are concentrated.
Disaster mitigation programs require policies and procedures that coordinate and mediate among government agencies, as well as between the government, private sector and communities. Interventions must be acceptable to the communities that will be most directly affected. The highest level of political support and leadership will be needed to bring key players together and give legitimacy to disaster mitigation programs.

Given the limited human and financial resources available and the sensitivity of traditional landowners, adaptation programs need to draw on the views of a wide range of stakeholders and target sectors and areas in which the public interest is at greatest risk. Scoping exercises should be carried out to determine which sectors will be most affected and what coordination arrangements would be appropriate. The views of landowners, kinship groups and families, and community, village, and religious leaders as well as commercial enterprises should be solicited.

To generate interest and commitment, it is important that adaptation activities yield early results and reach as wide a constituency as possible. Public education and awareness programs provide an effective and affordable way to achieve this goal. Regional cooperation is needed to compile loss scenarios for various parts of the country in order to provide a comprehensive account of the losses, and determine the costs of relief and rehabilitation. The benefits of such a regional effort would be large relative to the costs. A dissemination program could be installed in a regional center as a component of the regional observatory concept proposed later in this chapter. At the national level, governments should lead by adopting good practices themselves, prohibiting construction of government-owned structures and facilities in hazard-prone areas. Governments could also improve building codes, create incentives for compliance, provide technical assistance, and promote low-cost arrangements for retrofitting buildings to reduce vulnerability to damage. The focus should be on risk management rather than only on disaster preparedness. The potential for risk transfer through weather indices and insurance, as are being tested in the Caribbean and Nicaragua, should also be explored. Finally, adaptation measures should be incorporated in donor-assisted development projects.

Whatever form they take, adaptation and disaster mitigation should become institutionalized so that they become an extension of the responsibility that comes with customary traditions. This requires ownership of the concept by the people, which in turn requires promotion of the concept through community participation.

Pool Regional and International Knowledge

Establishing policies for decision-making on urban issues requires a greater understanding of the issues, constraints, and opportunities affecting residents and businesses in Pacific towns. It requires that information about basic services be collected. And it requires benchmarking the performance in delivering urban services against recognized standards of good practice in other similar small town environments. Finally, it calls for coordinated institutional arrangements and a regulatory environment that minimizes transactions costs and encourages investment.

Efforts are being made throughout the Pacific Island region to address these problems. Each country suffers from a relatively small knowledge base, however, and countries have found it difficult to benefit from information and experience of other countries in the region.

To strengthen regional cooperation, a repository of knowledge and experience could be established at the regional level to enable individual countries to gain insights into options and approaches to town management. Such a repository would enable Pacific Island countries to network with regional and international experts and NGOs who often have the most to contribute to shaping approaches to urban problems.

National urban summits would also be an ideal vehicle for widening this debate. A regional center—which could be known as the Pacific Region Observatory on Urban Development (PROUD)—could serve as both a regional knowledge bank and a forum for examination of and dialogue on urban and regional development issues. International assistance could be sought to reinforce the capacity of regional agencies, which is considerable albeit fragmented; to support institutional strengthening and capacity building; and to facilitate networking to maximize access to international experience. The seeds for such an approach already exist in the region, through the recently formed expert group on urbanization of the Committee of Regional Organizations of the Pacific (CROP) which has been entrusted to develop a Pacific Habitat Agenda and Action Plan.

D. Summary of Key Findings and Recommendations

Major demographic shifts have been taking place for several decades in the Pacific islands as an inevitable response to deteriorating conditions in rural areas and outer islands, and to the higher employment opportunities provided by the urban economy. The young age structure and high fertility rates of many Pacific towns virtually ensures that towns will continue to grow rapidly and that by 2020 more than half the population in a majority of these countries will live in towns.

Benefits and Challenges of the Growth of Towns

Without the growth of towns, economic performance in many Pacific countries would have been even more modest than it has been. Most of the new jobs have been generated in towns, and the urban economy is the major contributor to economic diversification, competitiveness, and growth in the region. Urbanization has also stimulated social development, namely by facilitating the provision of basic services such as health and education.

Managing Risk – Shaping the Future

Prospects for contiunued improvement in living standards are being jeopardized by the absence of appropriate policies, poor urban management and service delivery. A 'do nothing' strategy will not only close off opportunities to stimulate the economic growth potential of towns, but will have an increasingly negative impact on the existing productive capacity of the urban economy. Unless this is addressed, emerging problems are likely to grow, leading to increasing poverty, vulnerability, and hopelessness among landless urban poor. Crime and militant groups are likely to rise in many Pacific towns. Environmental, health conditions, and quality of life may be reduced, placing key economic sectors (such as tourism) at risk.

The Way Ahead

National development strategies in many Pacific countries recognize the overarching problems resulting from rapid, unplanned urbanization, but they do not contain comprehensive policies and accountabilities to deal with them, nor is there a process through which issues affecting town communities are systematically reviewed. Without fundamental improvements in the urban management process, the potential impact of national development efforts will remain at considerable risk. Urban management strategies should focus on developing a more inclusive approach to urban planning, management, service delivery, and quality control as a way to improve urban governance.

This could be achieved by:

- *Developing a Shared Vision*. National urban summits could provide a forum in which all stakeholders could engage in shaping an urban vision, and thereby create a strategic development framework for urban areas.. A regional center─ the Pacific Observatory on Urban Development (PROUD)─could serve as a regional knowledge bank and as a forum for dialogue on urban and regional development issues.

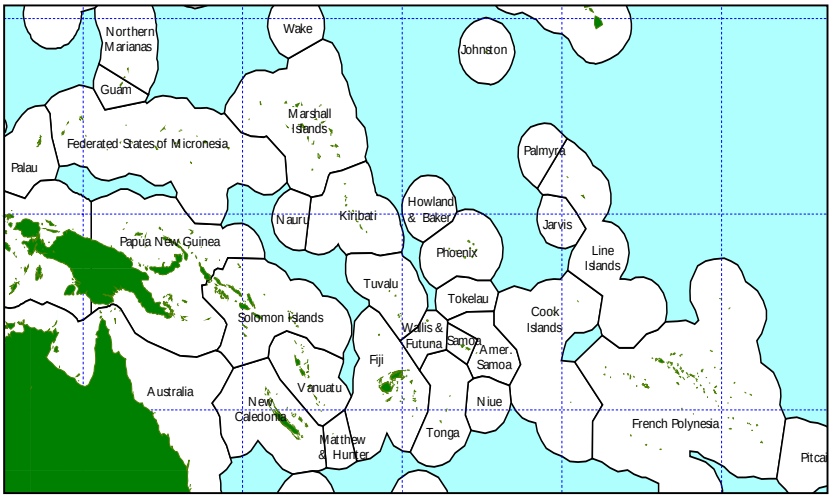
- *Understanding the Problem*. Action should be taken to address the lack of data on urban conditions and issues, particularly on land ownership and use, planning, population, health, education, economic activity and employment, and income and poverty.
- *Defining a new role for Local governments.* Local governments should become a coordinating locus for managing towns, creating a more inclusive process representing a broad base of stakeholders, and rationalizing the institutional framework for planning and delivering urban services. Town councils could be used to disseminate information on government services more effectively. They could also serve as forums in which communities could voice their views on the management of local affairs, on government policies and plans, and on land use and environmental issues.
- *Strengthening Community Planning and Responsiveness to Local Needs*. Higher-level institutions should represent the norms and values of the people they serve. Technicians and other experts should move progressively away from actual decision-making to advising representatives of the people on how to most effectively meet the needs of the urban communities.
- *Improving Land Use*. In many Pacific towns, utilization of customary land remains problematic, even for essential public facilities services such as water supply. The issue is not one of changing the traditional land tenure system but of unlocking land that is tied up in unproductive or speculative use. The problem should be brought into the public domain and openly discussed among key stakeholders (including landowners and other affected parties) with a view on agreeing on practical measures to promote the efficient use of land while protecting natural resources for the wider public good.
- *Reinforcing Economic Competitiveness, Stimulating Urban Unemployment.* Formal sector job growth in Pacific towns has fallen well short of the level needed to productively absorb the rapidly increasing urban population—it now accounts for only about 20 percent of the labor force in most Pacific countries. Education sector strategies need to be formulated based on the skills required by the domestic and international economy. Strategies should also encourage further informal sector growth through more supportive regulatory systems and development programs, particularly aimed at women and youth.
- *Addressing Environmental Issues*. Many National Environmental Management Strategies do not deal extensively with the "brown" issue of urban wastes. There needs to be a recognition that environmental management of urban areas—particularly integrated planning and management of land and coastal areas—is a prerequisite for successful long-term economic development.
- *Improving Disaster Management*. Accelerated changes in demographic and economic trends, climate change, and sea level rise are all increasing the vulnerability of Pacific towns. Disaster management should be viewed as an essential element of national strategic risk management as well as development strategies for urban communities.
- *Reinforcing Urban/Rural Links*. Urban-rural links can play an important role in revitalizing rural and regional economic efforts, and improving the infrastructure of rural and urban areas. Urban and rural development plans should be complementary and mutually supportive. Balanced urban-regional strategies could be formulated through a participatory process that focused on economic opportunities, reflecting regional comparative advantages and potentials.

Chapter 3
Managing the Use of the Ocean

Managing the use of the immense Pacific Ocean will be a key challenge for Pacific Island countries in the twenty-first century, requiring stronger collaboration among communities, governments, and organizations throughout the region.

This chapter examines how Pacific Island countries could best address this challenge in face of current trends. The chapter is divided into five sections, addressing the most pressing issues in ocean management. Section A describes the nature of the challenges and opportunities the ocean presents. Section B outlines a strategy for managing coastal areas in the Pacific. Section C focuses on the management of shared tuna fisheries and on ways Pacific Island countries could optimize their benefits under a new regional management regime. Section D analyzes the policy and regulatory environment for offshore mining. Section E summarizes key findings and recommendations. Further analysis of ocean management and a statistical annex are included in Volume III of this report.

Fig. 3.1. The Exclusive Economic Zone of Pacific Islands



Courtesy of Secretariat of Pacific Community

A. The Nature of the Challenges

The Pacific Ocean occupies 180 million square kilometers—half of the earth's sea surface and more than a third of the earth's surface. Scattered in the western half of this immense area are 200 high islands and 2,500 low islands or atolls, which together make up the 22 countries and territories of the Pacific Islands (figure 3.1).

In this "sea of islands"[3]—where the ocean exceeds land masses by an average factor of 300 to 1—the people of the Pacific have developed a unique relation with the ocean that has helped define the ways communities communicate and are governed, and continues to be a source of cultural significance and inspiration.

The relation that Pacific Island people have with the ocean is dualistic. The vast offshore areas—the deep ocean—represent the frontier, a region of underexploited resources of high economic and strategic value. But for most Pacific Islanders, it is the coastal areas surrounding their islands that provide the food, income, culture, and recreation that are so important to the Pacific way of life.

Yet coastal areas are increasingly threatened. Overexploitation, pollution, mining, and poor coastal planning are leading to depletion of fisheries and to coastal degradation, undermining the livelihood of coastal communities.

The deep ocean presents challenges and opportunities of a different kind. Chief among them is the management of the migratory tuna fisheries of the Central and Western Pacific, the most important tuna fishing ground in the world. Pacific Island countries and distant water fishing

[3] Hau'ofa 1993.

nations are at the verge of undertaking key decisions that will affect the benefits they derive from tuna resources for years to come.

Another emerging challenge in offshore areas is seabed mining. The recent resurgence of investors' interest in exploratory licenses makes it urgent for Pacific Island countries to adopt suitable offshore mining policies, and to extend potential national claims to the limits of the continental margin.

The three key challenges mentioned above — management of coastal areas, management of tuna resources, and regulation of offshore mining — are the most urgent issues that Pacific Island countries currently face in ocean management. Many other challenges and opportunities could emerge in the future. The Pacific Ocean has long been an area of strategic importance for national and external interests, and these are expected to continue to be a major shaping force in the future.

B. Managing Coastal Areas

Much of the daily life of Pacific Islanders is spent near the coast. For them, coastal areas are vital sources of food, income, tourism, building materials, and protection against storms.

Pacific Islanders depend heavily on subsistence fisheries for their food security. Seafood comprises 28 and 67 percent of the animal protein consumed in Fiji and Kiribati -- substantially higher than the world average of 17 percent. The value of subsistence fisheries for food security can be gauged by how much Pacific Island countries would have to pay for imported substitutes if these fisheries ceased to exist. Fiji, Samoa, the Solomon Islands, and Vanuatu would each have to spend an additional US$7–$15 million a year for substitutes with similar protein content. Kiribati would require US$18 million in alternative protein sources — equivalent to 38 percent of its GDP (table 3.1).

Many Pacific households supplement their income through the occasional sales of coastal products. While only about 20,000 Pacific Islanders were officially employed in coastal fisheries in the mid-1990s, an estimated 88 percent of households in Kiribati, 50 percent of rural households in Fiji, and 35-40 percent of households in Samoa fish on a part-time basis (KDOF 1999; SFD 1998; FFD 1997). Coastal products such as trochus shells, beche-de-mer (dried sea cucumber), giant clams, and pearls are significant contributors to national exports. Trochus shells, used in the manufacture of high quality buttons, are exported at volumes of 2,300 metric tons a year — 59 percent of the world supply. Pearl exports, primarily from French Polynesia and the Cook Islands, generate some US$100 million in annual revenues (Icecon 1997; Dalzell and Adams 1994).

Tourism – a US$1 billion a year industry in the region – is highly dependent on the quality of the coastal environment. And in many Pacific Island countries, sand, coral and coastal gravel remain the only source of construction materials.

Coral reefs, mangrove forests, and other coastal habitats also play essential roles in protecting the coast against storms and inundation. In Fiji, the annual value of this coastal protection function is estimated at US$550 million for reefs and US$60 million for mangroves (Sistro 1997).

Table 3.1. Value of Seafood to Food Security

Country	*Seafood available for consumption (kilograms per capita)*	*Seafood as percent of animal protein*	*Value of subsistence fisheries to food security (US$ million)* [a]	
			In protein equivalent	*In calories equivalent*
Fiji	51	28	6.7	3.9
Kiribati	150	67	18.0	7.0
Samoa	46	—	13.9	5.3
Solomon Is.	33	77	13.3	11.6
Vanuatu	21	33	14.7	8.9
World Average	16	17	—	—

— Not available.

Notes: For valuation methodology, see Volume III, Annex B.

a. Cost of importing equivalent amounts of protein, or of purchasing substitutes with equivalent caloric content.

Sources: Seafood consumption: 1995 per capita supply from national statistics. Seafood as percent of animal protein and world averages : 1997 data from FAO (2000). Others: World Bank estimates and Preston (2000).

Current Trends

A 1998 World Bank-sponsored coastal survey of 31 coastal communities in the Pacific[4] revealed a widespread perception that coastal resources were declining. Only 10 percent of the 399 responses perceived that fishing catch per unit of effort had improved over the past decade. The main reasons cited for the perceived decline included overfishing; destructive practices such as the use of traditional poisons; more effective fishing technology; pollution; construction of causeways; siltation; and habitat degradation. Coastal resources were perceived to be declining even in isolated sites where population densities remained low.

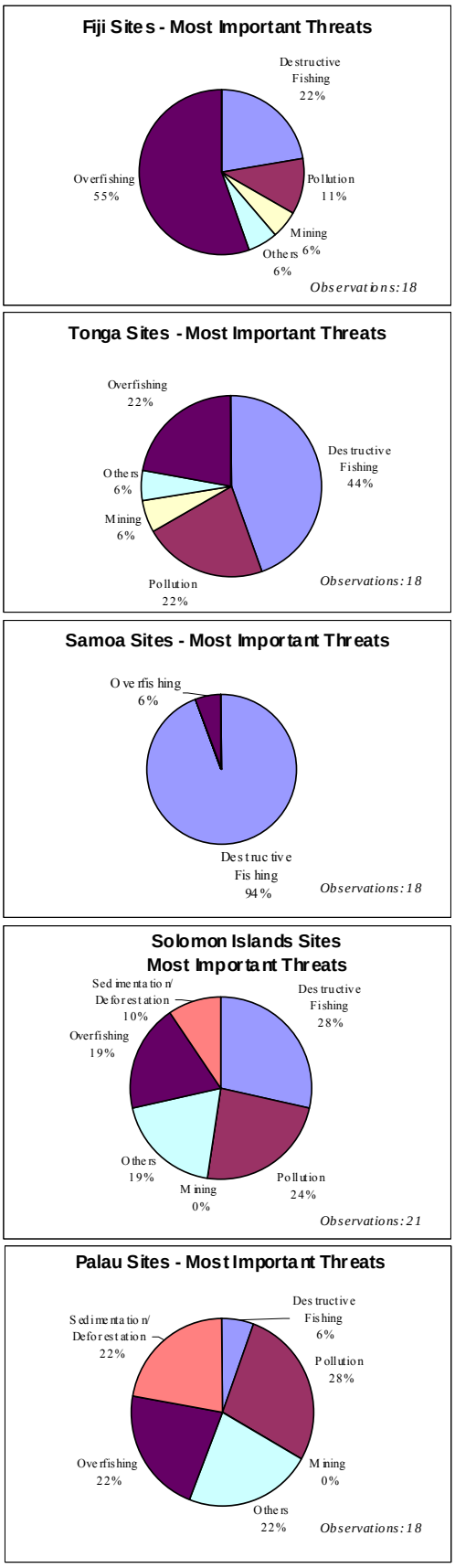
About half of the survey responses also perceived coastal habitats to be declining -- particularly coral reefs, coastal lagoons, and intertidal areas. In Fiji, 19 percent of the coral reefs are now believed to be under high stress (WRI 1999). Water pollution, commonly viewed as an urban problem, also appears to be increasing in the sites surveyed in Palau, the Solomon Islands, and Tonga (figure 3.2). Overall, the communities surveyed by the coastal study perceived pollution as the fastest rising threat to their coastal resources.

Damage to coastal areas is imposing substantial economic costs on Pacific Island countries. In Fiji the loss of coral reefs that are now under high stress could cause economic impacts on the order of US$38 million a year. In the island of Upolu, Samoa, the losses in productivity of degraded coral reefs resulting from urban pollution have been estimated at nearly US$170 per hectare of reef per year (World Bank 1995b). Coastal degradation is also resulting in land erosion, a higher incidence of ciguatera poisoning, and a rising exposure to storms and floods.

Pacific Island governments can no longer afford a policy of inaction. Halting the degradation of coastal areas is desirable on ecological grounds, but it is first and foremost a sound economic

[4] The survey was carried out in 31 sites in Fiji, Palau, Samoa, Solomon Islands, and Tonga (World Bank 2000a). This section draws on the results of this survey, as well as on contributions by John Virdin (Virdin 1999) and by Garry Preston (2000).

Figure 3.2. Community Perceptions of Most Important Threats to Coastal Resources



Source: World Bank (2000a).

decision: as the analysis of climate change will indicate (chapter 4), improved coastal management is one of the most cost-effective ways to reduce the islands' vulnerability to climate events, and to protect the resources on which so many coastal communities depend.

Key Challenges

Helping Communities Manage the Coast

In a region with nearly 3,000 islands, managing coastal areas is a daunting task[5]. Pacific Island governments have wisely recognized that, for the most part, they lack the staff or budget to manage these vast areas, and will need to rely on local communities for much of the management interventions.

But communities also need urgent help. Findings from the coastal survey indicate that community-based management is insufficient to address the current threats to coastal areas. Help was felt to be most needed in:

- Raising the communities' awareness of the need to restrict their own fishing effort.
- Addressing threats that cannot be handled locally (such as pollution, poaching, and the impacts of major coastal infrastructure).
- Facilitating the application of customary laws (by incorporating them into by-laws, for example).
- Providing advice on technical aspects of resource management.
- Preventing abuses of power by local leaders.

Improving the Response of Government to Local Needs

Pacific Island Governments in general do not view coastal management as a high priority. Findings from the coastal study indicate that on average less than 25 percent of staff time at national fisheries agencies is spent on coastal management. Among the 31 sites surveyed, 48 percent had never been visited by a government official to discuss coastal management issues. Distances alone could not explain this finding, as three of the sites were located within short distances from the fisheries agencies' headquarters.

Some of the key impediments are institutional. While traditional Pacific societies were holistic, modern governance systems are commonly modeled on those of the former colonial powers, with weak central planning and well-defined sectoral agencies. These systems are ill suited to the integrated nature of the challenges facing the small islands.

Government staff also have few incentives to assist communities in coastal management. First, in contrast to infrastructure projects, the results of which are visible and easy to report, management assistance is typically process oriented and the results are less concrete. Second, extension workers involved in coastal management are mostly junior-level staff who tend to be promoted to "more quantifiable" activities as soon as they acquire the knowledge that would have made them more effective at the community level. Third, finance ministries in some Pacific Island countries expect sectoral agencies to contribute to public revenues. For fisheries agencies, this encourages a focus on license fee collection and tuna fisheries development at the expense of much needed coastal management support. Redeployment of license fee revenue to development activities in other sectors also plays a role in the weak attention generally paid to coastal management.

Finally, many Pacific Island countries lack the capacity to respond rapidly to the requests of coastal communities. Donor-driven priorities, weak communication links, and strict sectoral mandates are often to blame, but governments also continue to support programs that may be of debatable value to coastal communities. Aquaculture, tuna fisheries and deep slope fisheries, for example, are commonly promoted as income-generating alternatives to coastal fisheries, yet feedback from the communities surveyed by the coastal study indicated that they have not been effective in relieving pressure on coastal resources (World Bank 2000a).

[5] Coastal management consists of measures such as closing reefs or mangrove areas to allow for natural regeneration, minimizing waste disposal, prohibiting destructive practices, and building infrastructure in ways that minimize impacts.

A Strategy for Coastal Areas: the Co-Management Approach

As seen, coastal areas in the Pacific are facing urgent challenges that neither governments nor communities can manage on their own. A collaborative partnership between coastal communities, governments and other external organizations – a "co-management" approach ─ offers the greatest prospects for Pacific Island countries to effectively manage their coastal areas (figure 3.3).

In many rural areas of the Pacific, there are strong traditional decision-making processes that can play a vital role in this process. Co-management requires working with these traditional institutions, increasing the effectiveness of local governments in meeting local needs, and involving national agencies where necessary. Such a decentralized process has the best chance of being responsive to the conditions and needs of coastal communities.

An effective co-management strategy should therefore:

- ❑ Identify clear institutional roles for each partner which build upon their comparative strengths;
- ❑ Ensure effective two-way communication between coastal communities and their external partners; and
- ❑ Establish intersectoral planning and coordination among government agencies responsible for coastal areas.

Drawing on the Strengths of Each Partner

Communities and their external partners should have clearly defined roles that maximize their comparative strengths. Monitoring compliance with management rules, for example, is best done by communities, while urban pollution is best handled by the government. A clear division of responsibilities helps achieve results and minimize the costs of management.

The results of the coastal survey suggest the following roles for the key institutions involved in coastal management:

Figure 3.3. A Co-Managed Fish Sanctuary in Samoa

The Role of Communities. Local communities, and particularly traditional leaders, should be given the major responsibilities for managing coastal areas outside towns. Their responsibilities might include:

- Adopting and enforcing local management rules (such as prohibiting sand removal).
- Managing threats to coastal areas that are within their control (such as local garbage).
- Restricting their own harvesting effort to allow resources to recover.
- Controlling poaching by people from outside the community (in collaboration with the government).
- Mobilizing the community for joint action (such as clean-up efforts).

The Role of Governments. Government agencies such as Fisheries and Environmental Divisions have a critical role to play in providing an enabling environment for community-based management and handle threats beyond communities' control. They should be responsible for:

- Providing a legal framework that supports community user rights over coastal areas (preferably exclusive user rights) and recognizes community management rules as by-laws.

- Reducing the harvesting of coastal resources through export or point-of-collection restrictions and limits on commercial harvesting licenses.
- Requiring environmental impact assessments for all new projects likely to affect the coast.
- Improving waste management in and around towns.
- Carrying out awareness activities aimed particularly at community leaders.
- Ensuring accountability and transparency in the issuance of fishing licenses.
- Supporting collaborative enforcement with communities, particularly to address threats external to their sites.
- Facilitating consensus building and conflict resolution between communities for the management of larger areas of the coast.
- Ensuring adequate incentives and technical back-up for extension staff working at the community level.
- Using alternative income-generating programs cautiously. While their objective may be laudable, extension staff and scientists are often not well positioned to provide communities with the sound business advice they need to make the enterprises succeed. Linking communities with private sector investors may be a more effective way to increase local incomes.

Depending on the location and culture, co-management can be largely community based or more reliant on the government (in town areas, for example). Other partners such as non-governmental organizations, high-level policy makers, and donors can also play vital roles in facilitating co-management (box 3.1).

Box 3.1. Role of Other External Partners in Co-Management

Roles of Nongovernmental Organizations

NGOs can play a pivotal role in catalyzing community action. According to the coastal survey, the partners most appreciated by coastal communities were those that maintained a long-term commitment to the partnership, provided assistance when so asked by the communities, relied on local institutions and processes, and promoted solutions that were technically and financially sound.

Roles of High-Level Policymakers

High-level policymakers in Financial and Economic Ministries can play key roles improving the macroeconomic incentives in support of coastal management. This includes recognizing coastal management as a national priority in development plans, supporting intersectoral planning, re-orienting development aid towards long-term support to coastal management, and removing the incentives that lead fisheries agencies to favor offshore fisheries development over coastal management – either by separating licensing and management functions or by allowing the agencies to retain license revenues to support coastal management.

Roles of Donors

Donors should provide long-term assistance to flexible, intersectoral programs that support community-based planning and encourage Pacific Island countries to develop their own solutions to coastal management. Donor-supported research should have immediate application at the local level, and training programs should be conducted in-country to prevent the draining of capacity caused by frequent attendance at regional meetings.

Ensuring Effective Communication

An effective two-way communication between communities and external partners is critical to the success of co-management. With government agencies often located far from coastal villages, it is essential that communication links be kept active. Only by institutionalizing the means by which communities convey requests for and receive assistance can the government response become more demand based and effective.

Several lessons can be drawn from the coastal study survey. First, it takes a long time for communities to absorb and process information provided by external partners. The assistance needs to be provided on a long-term basis and the information conveyed in as many ways as possible. Second, external partners need to be

able to respond rapidly to requests for assistance by communities -- requiring both reliable communication channels and access to information. Third, the assistance needs to be able to adapt to the changing nature of the threats affecting coastal areas.

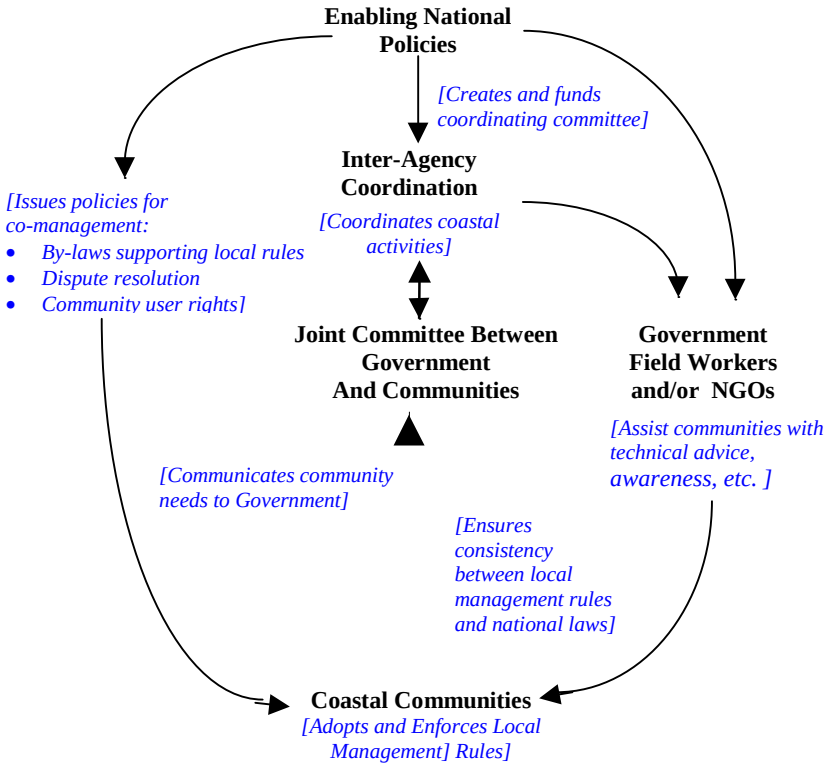
How can Pacific Island countries best address these challenges? Several recent initiatives suggest three possible solutions:

Find strength in numbers. Joint programs by different government agencies or between governments and NGOs increase the number of field staff assisting the communities, and help ensure that the assistance is multisectoral. The Samoa Visitors Bureau, for example, conducts periodic "road shows" from village to village, at which staff from various agencies — tourism, environment, health, and agriculture — offer advice to communities. Kiribati has also started sending multisectoral teams to the outer islands.

Develop a network of experts. Some of the advice that coastal communities request is highly technical. Field workers need access to a network of specialists who can provide quick responses to these requests and keep them informed of the latest developments. The Secretariat of the Pacific Community could play a major role in managing such a network by connecting field workers with regional experts through electronic mail.

Strengthen local committees. To the extent possible, there should be a single point of entry for communities seeking external assistance in coastal management. Some examples are starting to emerge in the region. In the Marshall Islands, the Environmental Protection Agency is working with island governments—where traditional leaders are represented— to develop coastal management plans. In the Federated States of Micronesia, joint committees made up of community representatives and state governments are starting to address the management of coastal resources. And in Samoa, fisheries extension staff conduct regular meetings with the village fisheries advisory committees established under a village fisheries extension program (King, Fa'asili and Taua 1998).

Figure 3.4. The Institutional Setting for Co-Management



Establishing Intersectoral Planning and Coordination

As seen in Chapter 2, poor coordination and overlapping mandates are chronic problems for many Pacific Island governments. Sand mining licenses are issued with little consultation with environmental agencies, and coastal infrastructure is often built without assessing its environmental impact. For co-management to be successful, intersectoral coordination among government agencies responsible for coastal areas must be improved. Coordination can take place through an interagency coordination committee, or through the same forum where communities, government and NGOs interact (the "Joint Committees" shown on figure 3.4).

Several Pacific Island countries have taken steps to improve intersectoral coordination. In Palau, a task force was created to draft the national tuna

management plan. The task force included representatives from the environment, marine resources, foreign affairs, tourism and labor departments, the Attorney General's office, NGOs, and the Association of Governors. In Samoa, the Director of Environment plans to create an interagency committee to address environmental management. One of the ideas proposed is that staff from non-environmental agencies represent Samoa at regional environmental meetings, to help broaden national support for environmental management.

Many of these efforts have been spurred by two recent initiatives: the Biodiversity Strategy Action Plans (coordinated by the South Pacific Regional Environmental Programme) and the Tuna Management Plans promoted by the Forum Fisheries Agency. The initial funds for these committees provided the impetus for their operation, and allowed them to start addressing coordination issues outside of the original mandate for which they were created.

Funding Co-Management

The reliance of these emerging initiatives on external funding is a major concern for the future of co-management in the Pacific Island region. As funding runs out, some committees may cease to operate. It is essential that Pacific Island governments recognize the importance of these committees and provide funding for their continued operation.

Co-management does not require a large allocation of public expenditures. The Samoa fisheries extension program, for example, operates with an annual budget of only about US$81,000 for on-going support to about 60 villages and extension of the program to 10 new communities per year (Legislative Assembly of Samoa 1999; Kallie 1999). In the Marshall Islands, the cost of the UNDP-funded coastal management plan for the Majuro atoll totaled US$367,000 for four years of operation (UNDP 1996). Compared with the potential costs of coastal erosion or the loss of traditional fisheries, these expenditures are well justified.

C. Managing Tuna Fisheries[6]

The ocean surrounding the Pacific Islands is the most important tuna fishing ground in the world. It provides a third of the world's tuna catch and 40–50 percent of the total supply to tuna canneries. Annual production during the 1990s averaged nearly 1 million metric tons, with a landed value close to US$2 billion at current times (SPC 2000; FFA 2000).

Despite this value, the share captured by Pacific Island vessels remains modest. Most of the region's tuna is caught by distant water fishing nations, with Japan, the Republic of Korea, Taiwan (China), and the United States as the most important players. Catches by Pacific Island country fleets represented only about 11 percent of the total landed value in 1998 (figure 3.5).

Distant water fishing nations pay license fees to Pacific Island countries for the right to fish in their Exclusive Economic Zones (EEZs). In 1997/98, these fees amounted to over US$54 million, with Kiribati, the Federal States of Micronesia, Papua New Guinea, the Marshall Islands, and the Solomon Islands as the top beneficiaries.

Pacific Island countries have long sought to increase their benefits from tuna resources – with some success. Starting with the creation of the Forum Fisheries Agency (FFA) in 1979, the coastal states have collaborated closely in the management of their shared tuna resources. This collaboration has paid off: regional operations such as the vessel monitoring system, the regional register system, and joint research, which cost US$3.5 million a year, would have cost close to US$21 million if they had been developed by individual countries.

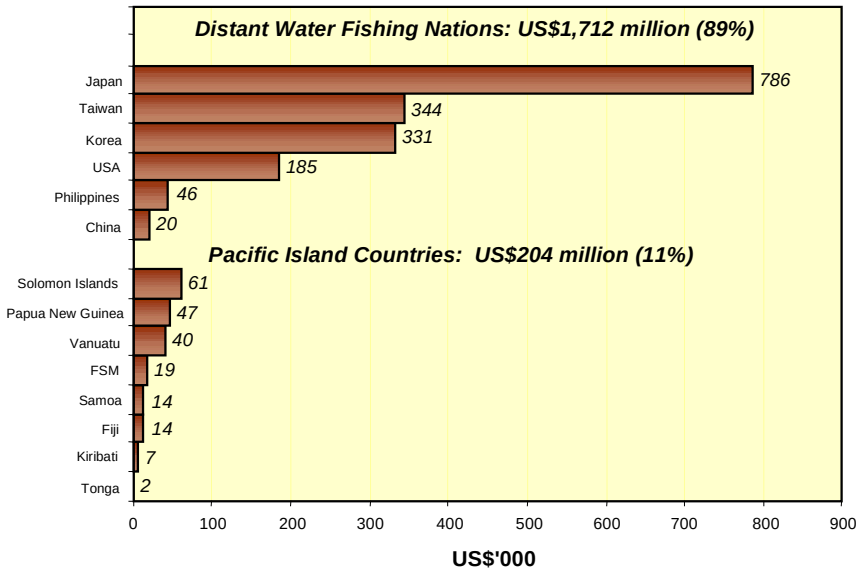
Regional collaboration has also strengthened the Pacific Island countries' leverage with distant water fishing nations. The regional register, for example, prevents vessels with unpaid fines or outstanding offences – vessels who lack "good standing" – from operating in the waters of any of the 16 members of the Forum Fisheries Agency. Foreign vessels have been known to

[6] This section is based on background studies by van Santen and Müller (2000), and Preston (2000).

pay fines of US$1 million rather than lose their good standing in the region (Moore 1987).

Despite these successes, many Pacific Island countries have suffered crippling financial losses on their public investments in tuna fisheries. Early promises of high employment and export value failed to materialize as public ventures suffered from poor management, declining tuna prices, and competition from countries with lower operating costs. Overall, an estimated US$200–$300 million in past investments has failed to yield minimum economic returns. This means that for the region as a whole, the revenues from access fees have largely been lost through failed local investments.

Figure 3.5. Value of Pacific Island Tuna Catch by Fishing Nation (1998)



Sources: Forum Fisheries Agency (2000) ; van Santen and Müller (2000); Preston (2000)

In 1987, Pacific Island countries collaborated in negotiating the U.S. Multilateral Treaty, allowing access by U.S. purse seiners to waters of FFA member countries. The treaty, renewed in 1997, provides for a fixed annual fee of about US$18 million, a relatively high return when compared with bilateral agreements. Up to 50 percent of this value is paid through aid (Duncan and others 1999).

The U.S. treaty is the only multilateral access agreement in the region. All other agreements have been negotiated bilaterally between coastal states and individual distant water fishing nations. Common reasons offered by Pacific Island countries for this preference include fears of losing sovereign rights and bilateral aid, and reluctance to "subsidize" less well-endowed countries. As the analysis will show, however, multilateral agreements could be more effective than bilateral arrangements in ensuring that Pacific Island countries derive optimal benefits from tuna exploitation.

The Future Regional Management Regime

Though tuna resources remain generally healthy, Pacific Island countries have correctly recognized the need to strengthen their management. Since 1997, Pacific Island countries and distant water fishing nations have been negotiating a new regional convention to improve the management and conservation of tuna stocks, in accordance with the United Nations Fish Stocks Agreement.

The Multilateral High-Level Conference (MHLC) process, which has just been completed, is expected to result in a new regional convention and a commission for the management of tuna stocks in the Western and Central Pacific. In contrast with current arrangements, distant water fishing nations would also be members of the commission. Pacific Island countries, however, would retain the right to manage tuna resources in their EEZs.

Past discussions on the convention, however, have postponed resolution of two critical issues: the financial contributions by member states, and the allocation of total allowable catch, which was left to the future commission to decide. It is urgent that Pacific Island countries agree on a common position on these issues that maximizes their future benefits under the new regional management regime.

Working Together or Apart: A Strategy for Tuna Management

The strategy outlined here examines how coastal states could increase the benefits from the use of their EEZs in the future. In essence, Pacific Island countries should aim to:

- ❑ Minimize their financial burden.
- ❑ Maximize benefits from the future allocation of total allowable catch.
- ❑ Negotiate effectively with distant water fishing nations for access to Pacific Island countries' EEZs.

Minimizing the Financial Burden

Historically, the costs of tuna management in the region have been borne by four key players:

- Distant water fishing nation vessel owners, through access fees and by bearing part of the costs of surveillance and on-board observers.
- Distant water fishing governments, through a share of the access fees.
- Donor agencies, through direct aid to Pacific Island countries or to regional organizations such as the Forum Fisheries Agency and the Secretariat of the Pacific Community.
- Pacific Island countries, through direct payments for some of the administration and surveillance costs, and through indirect payments (by a reduction of access fees).

The new management regime is expected to either create new arrangements for vessel monitoring, control, and surveillance, or to expand the existing regional systems. Even though Pacific Island countries would retain the right to manage tuna resources in their EEZs, as tuna migrate between the EEZs and the high seas their management would have to be standardized across the convention area, entailing additional obligations for the coastal states. New management requirements might include an effective legal system; vessel observers; regular reporting; improved research; and the strengthening of institutional capacity.

Overall, the new regional management regime is likely to require substantial additional funding from Pacific Island countries, despite the proposed creation of a new fund based on voluntary contributions from convention members and aid agencies. The incremental costs to Pacific Island countries could be on the order of US$2 million in additional investment costs, and of US$3 million in annual operating costs (including those likely to be funded through aid). Distant water fishing nations would likely shoulder additional investment costs of US$6 million and annual operational costs of US$7 million (table 3.2).

The future costs of the convention to Pacific Island countries will depend largely on the amount of foreign aid available, and on the willingness of aid donors to maintain their support to the existing management systems. If aid donors shifted their funding from the current vessel monitoring system (controlled by the coastal states) to a new system supported by the convention, Pacific Island countries could lose the ability to independently monitor vessel operations in their EEZs.

To avoid weakening independent monitoring and help curb their future costs, Pacific Island countries should collaborate closely to:

- *Retain Existing Monitoring Systems*. Pacific Island countries should seek to keep and strengthen existing systems, such as the FFA–operated Vessel Monitoring System, the Air and Maritime Surveillance and the Regional Register. Similarly, Pacific Island countries should seek to preserve the independence of future research programs.
- *Move Toward a User-pay System*. Ideally, foreign fleets should pay for most of the costs of tuna management—as currently practiced in many fisheries around the world.
- *Avoid Voluntary Contributions to the Future Commission Fund.* Voluntary donations tend to be volatile and decline over time. Given the importance of donor support,

Table 3.2. Estimated Present and Projected Future Costs of Regional Fisheries Management and Administration (thousands of US$)

Costs	*Current costs of ongoing activities funded by*			*Estimated costs of future activities with new convention funded by*		
	Distant water fishing nations	*Donors (aid)*	*Pacific Island countries*	*Distant water fishing nations*	*Donors (aid)*	*Pacific Island countries*
Investment costs						
Installation of vessel monitoring system	5,000	—	—	6,000[a]	—	—
Surface surveillance investment costs	—	120,000	—	—	—	—
Preparation for MHLC	750	1,500	200	—	—	—
Finalizing MHLC and commission	750	1,500	200	—	—	—
Updating equipment	—	500	500	—	1,000	1,000
Total investment costs	**6,500**	**123,500**	**900**	**6,000**[b]	**1,000**[b]	**1,000**[b]
Operating costs						
Regional monitoring, control and surveillance	1,600	8,250	4,370	5,220	8,250	4,370
Regional and national tuna research	—	1,800	500	1,700	1,800	500
Data collection	400	40	600	1,000	40	1,000
Legal review and update	—	50	—	—	300	400
Commission overhead	—	—	—	900	—	850
Fisheries administration	—	1,000	1,500	500	600	1,600
Total Operating Costs	**2,000**	**10,190**	**6,470**	**9,350**	**10,990**	**8,720**

— Not applicable.

Note: Future costs include requirements of new convention in the FFA and high seas areas. For detailed assumptions see Volume III, Annex B. Costs of negotiating future agreements with distant water fishing nations are not included in the table.

a. US$8 million if a new vessel monitoring system is adopted.

b. The US$124,400 spent on past investments is considered a sunk cost. Hence, investment costs under new regime are incremental.

Source: van Santen and Müller (2000).

Pacific Island countries should carefully reexamine the voluntary nature of the fund and its future size. A specific contribution to the fund as a regular part of the commission's budget should be considered.

- *Involve the Private Sector and Encourage Distant Water Fishing Nations to Effectively Monitor Their Own Fleets.* To save costs, Pacific Island countries should examine which management activities could be carried out more effectively by the private sector (such as the observer program). Encouraging distant water fishing nations to monitor their own fleets would also reduce the costs of compliance with requirements such as port transshipment and EEZ entry and exit reporting.

Optimizing Total Allowable Catch Allocation

The future commission is expected to determine the total allowable catch (TACs) for tuna fisheries based on the principles of biological sustainability. It is also expected to develop criteria for TAC allocation among coastal states (MHLC 1999). Since the membership of distant water fishing nations in the new commission will confer them collective power over the TAC negotiations, Pacific Island countries need to carefully review the advantages and disadvantages of the possible alternatives.

Among the many alternatives for TAC allocation, the most promising to Pacific Island countries would be if the TAC was allocated to distant water fishing nations (as a group or

individually) and to Pacific Island countries as a group. Each of the two groups would receive a negotiated share of the total TAC, possibly reflecting tuna concentrations in the EEZs and high seas. Pacific Island countries could then decide internally how to allocate their share of the TAC. This option would strengthen the coastal states' leverage in negotiating access fees, because they could opt to negotiate with distant water fishing nations individually, as a group, or by auctioning the quota to individual vessels. Ideally, agreement on this option should take place prior to the start of the new convention.

Negotiating Collectively with Distant Water Fishing Fleets

Pacific Island countries are individually in a weak position to benefit from tuna fisheries. Tuna migrate in and out of EEZs, and are caught primarily by foreign fleets. At the same time, collection of access fees offers the greatest potential for future revenues. The diversity of development objectives and resource endowments among coastal states should not overshadow the fact that Pacific Island countries stand a better chance to benefit from their tuna resources by acting as a group than by negotiating individually (box 3.2):

- *Size counts.* Tuna resources negotiated by individual countries are much more modest than they would be if Pacific Island countries negotiated as a group. By negotiating as a group, Pacific Island countries could also reduce their individual negotiating weaknesses and prevent distant water fishing nations from negotiating only with countries offering the most favorable conditions. As a group, they would also be able to afford top negotiators to argue their case.

- *Net benefits are more important than gross benefits.* Even if the gross benefits of bilateral agreements appear higher, the costs to coastal states of monitoring bilateral agreements are likely to be higher than for a multilateral agreement where costs can be shared.

Box 3.2. The Benefits of Cooperation, the Costs of Going Alone

The importance of cooperation among Pacific Island countries can be illustrated by a simple hypothetical example. Suppose there are 10 coastal states, 5 of which have extensive EEZs. Tuna aggregate seasonally in these countries but only occasionally in the other five countries. Annual catches fluctuate widely in each country. Two industrial countries want to fish in the EEZ of these coastal states. What would be the optimal negotiating strategy for both parties?

Negotiating Strategy for Industrial Countries

The lowest-cost, lowest-risk strategy for the industrial countries is to negotiate with each individual country and offer low access fees or in-kind aid. If a country rejects the initial offer, efforts may be made to persuade individual decisionmakers in that country. If these efforts fail, the industrial country would approach the remaining four countries with large EEZs. If none accepts the initial offer, the industrial country could offer higher rewards, targeting countries with the largest EEZs and most convenient locations.

It is in the industrial country's interest that no coastal state cooperate with others and that the terms of the negotiation remain secret. To prevent collusion among coastal states, the industrial country could indicate a potential reduction in aid or trade policy restrictions. Since no country knows the position of the others and all realize the industrial country can go elsewhere, they are likely to accept the low offer. Tempting the other industrial country to make a counteroffer may not succeed, as the industrial countries may well exchange key information about each other's positions once they realize they are being "played against each other."

Negotiating Strategy for Coastal States

The best strategy for the coastal states would be to minimize their key weakness: the possibility that the industrial countries will shop around and the fact that they offer access to a fluctuating, migrating resource. This can be achieved by cooperating and negotiating as a group. Such cooperation has other advantages as well: it allows for advance preparation of a joint negotiating strategy, and it allows for the sharing of information among coastal states. Projected net benefits to each coastal state from joint negotiation could be set higher than what could be realistically obtained through bilateral negotiations. Negotiating as a group would change the coastal states' position from that of a small seller of access to a modest, fluctuating resource to a single supplier of a large and stable resource—that is, they would move from being "price takers" to "price setters."

Coastal states may be put under pressure to reduce their cooperation, but they would have several options with which to counter that pressure. They could offer access to their entire tuna resource to third parties, use geopolitical or international considerations to their benefit, or seek public support for their cause.

Source: van Santen and Müller (2000).

Pacific Island countries with more abundant tuna resources may resent the fixed share that the US Multilateral Treaty provides to less endowed countries, and fear a possible reduction in bilateral aid under multilateral agreements. These arguments are valid, but perhaps not overriding. If an individual Pacific Island country lost out as a result of a multilateral agreement, other coastal states could agree to compensate it through a larger share of the access fees. The impact of aid linked to access agreements is questionable as it reduces the transparency of the agreement, and may allow distant water fishing nations to subsidize their fleets by paying part of the access costs through their aid budgets. Overall, the record suggests that aid and in-kind payments may have resulted in substantially less benefits to Pacific Island countries than their total budgets indicate.

Collective negotiations are particularly important for surface tuna (used mainly for canning), as distant water fishing nation fleets are unlikely to operate profitably without access to the Pacific Island countries' EEZs. Pacific Island countries could explore the option of reducing the total purse seine fishing effort in the Central and Western Pacific. A recent bioeconomic study (FFA 1999) indicates that this may indeed increase the profitability of the fleet, and thus strengthen the Pacific Island countries' potential to derive higher access fees in the future.

D. Managing the Seabeds[7]

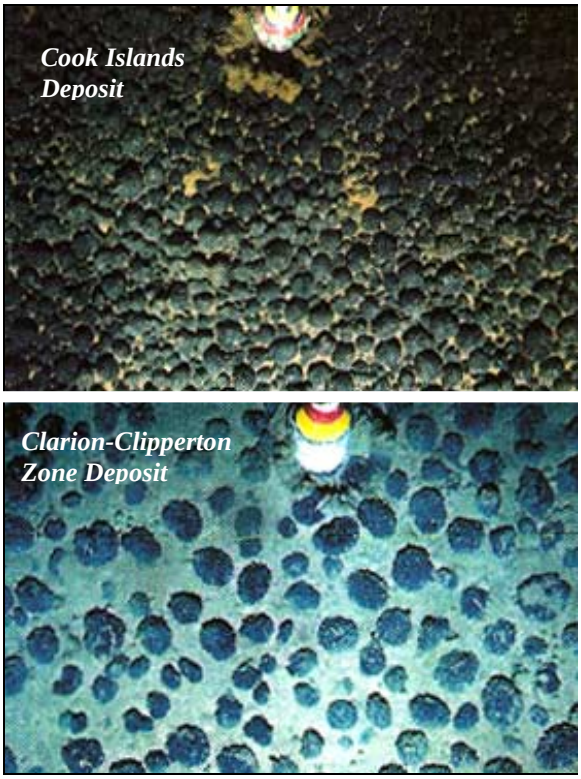
Seabed mining could become a reality in the Pacific within the next 10–30 years. Exploratory cruises have discovered substantial deposits of minerals in the Pacific Islands EEZs, and investor interest is rising. Adoption of suitable legislation and environmental safeguards to regulate offshore mining is therefore a high priority for Pacific Island countries.

First discovered in the Pacific during the 1950's, seabed mineral deposits can be of three types:

- *Manganese nodules* are potential sources of copper, nickel, and cobalt (figure 3.6).
- *Cobalt-rich manganese crusts* can contain platinum, nickel, copper, and three to five times as much cobalt as manganese nodules.
- *Polymetallic sulphide* deposits are potential sources of copper, zinc, lead, silver, and gold.

The potential for seabed mining in the Pacific Island region is significant. The Cook Islands' EEZ, for example, is believed to contain some 7.5 million metric tons of manganese nodules—a potential source of 32 million metric tons of cobalt, or 520 years of supply at current world demand (Ponia 1999; Clark 1999a). Cobalt-rich manganese crust deposits have been found in the Federated States of Micronesia and Marshall Islands. And though their volume is unknown,

Figure 3.6. Manganese Nodules on a Seabed



Manganese nodules can be so dense that they form carpets on the slopes of abyssal hills. The mineral content of the Cook Island deposits (upper photograph) is believed to be greater than that of the Clarion-Clipperton Zone (lower photograph), generally considered to have the richest nodule fields known.
Photo courtesy of SOPAC.

[7] Except where otherwise noted, this section is based on background contributions by Freestone and Müller (2000), Simpson and others (1999), and Preston (2000).

polymetallic sulphide deposits have been discovered in the Lau Basin (in Fiji and Tonga's EEZ), the North Fiji Basin, and in the Solomon Islands, in addition to the Manus and Woodlark Basins in Papua New Guinea.

Indications that the Pacific polymetallic sulphide deposits have a large gold content—with the extracted value potentially as high as US$ 2,000 per square meter has led to a recent surge in foreign investor interest. In 1997, Papua New Guinea became the first country in the world to grant commercial licenses for exploitation of pollymetallic sulphide deposits. Fiji, New Zealand, and Tonga have since been approached by Australian, Korean, and U.S. interests for similar licenses (Wanjik 1999; Clark 1999; Binns and Decker 1999).

The Challenges Ahead

Seabed mining presents both an immense opportunity and an immense challenge for Pacific Island countries. Under the United Nations Convention for the Law of the Sea, coastal states have until November 2004 to extend national claims beyond their 200-mile EEZ to the limits of their continental margin, thereby laying potential claim to additional seabed mineral deposits. But the process of extending these claims involves complex technical and legal procedures that would best be carried out at the regional level.

Seabed mining would be unlike any other industry seen today. It would involve high risks (operating costs of exploration vessels run at half a million dollars per expedition); it would operate over vast areas (the Papua New Guinea license covers 5,000 square kilometers [Malnic 1999]); and it would require large and highly sophisticated machinery. Given its potential environmental impacts, seabed mining is also likely to receive intensive public scrutiny.

The economic viability of the industry remains untested, even though seabed mining has been a prospect for half a century; to a large extent it will depend on technological breakthroughs and improvements in mineral recovery rates. The technology for extraction of manganese nodules has been developed, but the great depths—4,000–6,000 meters—and the current low world prices hinder their commercial exploitation.

Seabed mining operations would operate in unstable and small markets, facing stiff competition from mining operations on land. For example, the current global demand for cobalt is limited to 27,000 metric tons a year. A single seabed mining operation producing 10,000 tons of cobalt annually could easily flood the market and depress world prices (Exon 1989; Ponia 1999). Polymetallic sulphide mining is likely to be more profitable in the medium-term, but further analysis on global markets is needed, and the risks and uncertainties faced by the industry remain high.

Seabed mining could also have substantial adverse environmental impacts. Simulations by the Metal Mining Agency of Japan suggest that organisms living on the sea bottom may take one to two years to recover from the disturbance caused by mining collectors towed across seabed areas (Kajitani, 1999). The release of colder water in the upper water column may increase primary productivity, but the impact on fisheries and migratory species (such as turtles) is unknown. Mining operations may also lead to high levels of wastewater discharge—estimated at 9 metric tons of waste per day for a polymetallic sulphide mining operation (EDF undated)—and to sludge disposal from onshore processing facilities. Impacts on active deep water chimneys, where numerous organisms are found, have yet to be determined.

Managing the Future Use of the Ocean: A Strategy for Seabed Mining

Given the emerging interest and the potential scale of seabed mining operations, it is essential that Pacific Island countries implement two urgent actions:

- ❑ Extend their maritime claims to the edge of the continental margins; and
- ❑ Develop sound national offshore mineral policies.

Extending Seabed Claims

Pacific Island countries could claim rights over nonliving resources in six major areas of the continental margin (table 3.3). Fiji, the Solomon Islands, Tonga and Vanuatu could potentially claim new polymetallic sulphide deposits. The Cook Islands, Federated states of Micronesia, Kiribati, Marshall Islands, Nauru, Niue and Tuvalu could extend their maritime claims to deposits of manganese nodules and crusts (Simpson and others 1999; Boyes and Larue 1996).

Table 3.3. Continental Margin Areas that Could Be Claimed By Pacific Island Countries

Location	*Area (square kilometers)*	*Potential claimants*
Euripik Ridge	110,000	Federated States of Micronesia, and Papua New Guinea
Mussau Ridge	60,000	Papua New Guinea and Federated States of Micronesia
Ontong Java Plateau	60,000	Solomon Islands, Papua New Guinea
Rotuma Ridge	40,000	Fiji
Tonga-Kermadec Ridge	—	Tonga, Fiji, New Zealand
Norfolk Ridge	12,000	New Caledonia, Australia

— Not Available
Source: SOPAC (1998)

In order to submit their claims—to the International Commission on the Limits of the Continental Shelf—Pacific Island countries would need to complete three major steps:

- *Define coastal baselines.* Countries which have declared archipelagic status (such as Fiji, the Solomon Islands, and Vanuatu) could claim archipelagic baselines and, thereby extend their offshore areas by thousands of square miles (SOPAC 1998).

- *Negotiate maritime boundaries.* Pacific Island countries would need to negotiate the boundaries of their outer shelf with adjacent coastal states.

- *Survey the outer edge of the continental margin*. Though preliminary surveys have been completed, more work is needed to meet the data requirements of the Commission.

The 2004 deadline for submission of seabed claims puts pressure on the key Pacific Island countries to complete these tasks. It would be prohibitively costly for Pacific Island countries to undertake the surveys on their own. Close regional collaboration through the South Pacific Geoscience Commission (SOPAC) could result in economies of scale in offshore surveying and facilitate the exchange of information needed to help coastal states prepare their claims.

Developing National Offshore Mineral Policies

Following the granting of exploration licenses by PNG in 1997, Fiji and the Cook Islands started drafting national offshore mining policies. SOPAC has assisted this process by advising the countries and helping develop general guidelines on marine mineral policies, such as the Madang Guidelines, a blueprint for offshore mineral policy in the Pacific (SOPAC 1999).

Pacific Island countries have correctly recognized that seabed mining involves unique challenges that are distinct from land mining. These challenges require new policies which maximize the benefits to Pacific Island countries, safeguard the environment, provide for public participation in licensing and policy decisions, and provide a climate that is conducive for foreign investment.

Maximizing Benefits to Pacific Island Countries. Given the scale and risks of seabed mining operations, Pacific Island countries should avoid any direct public investment in mining or processing. They should also avoid agreements that reduce license fees in exchange for aid funds, promises of local employment, or investments in processing. These provisions create inconsistencies that could undermine the credibility and transparency of the licensing

system., and may result in lower benefits than originally anticipated**.**

Whenever possible, licenses for a given area should be split in order to increase competition. Pacific Island countries should also adopt regulations protecting their genetic property rights in the event of future biomedical or industrial discoveries linked to organisms associated with actively venting underwater chimneys (Clark 1999b; SOPAC 1999b; MRD 1999).

Imposing Strict Environmental Safeguards. International concern about the potential environmental impact of seabed mining is growing. The magnitude of the operations will almost certainly guarantee high public visibility. Only by adopting strict environmental standards and communicating openly with the public will the industry and Pacific Island decision-makers avoid strong negative lobbying by environmental groups (Morgan 1999).

Pacific Island countries should put in place environmental safeguards based on several key principles. First, exploitation licenses should not be given until environmental impacts are determined in actual field conditions. Second, Pacific Island countries should consider a regional code of environmental practice, in consultation with environmental and industry experts (MRD 1999). Third, a system of independent monitoring should be adopted. Draft mining policies currently put the burden of proof on external stakeholders to prove that environmental impacts have occurred. This is a key weakness that undermines environmental regulations around the world. An independent monitoring system could rely upon on-site observers or periodic ground and air surveillance. To help defray costs, this system should operate at the regional level and be supported from a share of the mining royalties.

Pacific Island countries should also require mining operators to adopt strict contingency plans for offshore incidents, and to post environmental bonds or rehabilitation security deposits that could be refunded upon satisfactory removal of the mining infrastructure. Disincentives for repeat violators—such as withdrawal of licenses to operate in any of the Pacific Island countries' waters—should also be adopted. For these measures to be effective, Pacific Island countries would need to adopt legislation that is consistent at the regional level.

Finally, coastal states should ban seabed mining in areas of high ecological value. Off-limit zones could include areas of other important uses–such as established shipping lanes and known areas of high tuna abundance–and areas set aside to protect threatened or endangered species (Wanjik 1999).

Providing for Public Participation. Given the potential magnitude of seabed mining operations, it is important that Pacific Island countries hold public consultations during the development of their national offshore mineral policies, and conduct public hearings on all license applications. Potential stakeholders should be allowed a reasonable period of time to voice and discuss their concerns. Pacific Island governments should also consider establishing a dispute resolution forum such as the Mining Tribunal in Fiji (MRD 1999).

Creating a Conducive Environment for Foreign Investment. National seabed mineral policies need to recognize the high risks faced by potential investors (Clark 1999b). However, these constraints should not be addressed by relaxing environmental safeguards but rather by offering a stable and conducive investment environment to attract investors' interest. The fiscal regime should be made as simple and transparent as possible, avoiding exemptions or conditional concessions. Reporting and data requirements should also be streamlined and simplified.

E. Summary of Key Findings and Recommendations

Because of its size, the Pacific Ocean has long been considered by many to be a limitless resource. Such is not the case, however. The collapse of many world fisheries and the degradation of coastal areas in the Pacific are reminders that without careful management, the economic potential of this vast resource may no longer be sustained in the future.

Managing Coastal Areas

Coastal areas in the Pacific are increasingly threatened and in need of urgent attention. Yet the remoteness of many sites and the multiplicity of threats make it difficult for government or community management to succeed on their own. A co-management partnership between coastal communities, governments and NGOs offers the best prospect of effectively managing coastal areas and protecting the resources upon which so many communities depend.

To succeed, co-management should meet three conditions: first, the role of communities and their external partners (governments, NGOs) needs to be clearly defined so as to take advantage of their comparative strengths. Second, coastal communities need effective communication channels with their external partners to ensure a quick response to requests for assistance. Third, intersectoral coordination among government agencies responsible for the coast must be strengthened to avoid conflicting activities (such as issuing sand mining licenses for vulnerable coastal areas).

Several initiatives are emerging to address these challenges, from the Samoa village fisheries program to the island councils in Micronesia. These co-management programs can be maintained at relatively low costs, but will need continued government support to be sustainable. Pacific Island governments and high level decisionmakers can play critical roles in supporting these efforts by:

- Recognizing coastal management as a social and economic priority.
- Earmarking a portion of fishing and mining license revenues in support of co-management.
- Strengthening local committees and/or island councils where both communities and government agencies involved in coastal activities can be represented.
- Requiring inter-agency coordination at the national level for actions affecting the coast.
- Providing legal support to community management rules through by-law systems.
- Containing threats that are beyond the control of coastal communities (such as pollution).
- Reducing overharvesting of marine resources through license and export controls.
- Linking extension workers to networks of regional expertise for technical support.
- Supporting awareness and environmental education programs, particularly aimed at local leaders.

Optimizing Benefits from Tuna Fisheries

In the offshore areas, the issues affecting the management of the vast tuna resources are both economic and geo-political. As the region approaches the ratification of a new regional convention for tuna management, divisions among the coastal states have become more pronounced. This could have grave consequences for the Pacific Island countries' ability to maintain independent monitoring in their EEZs, curb their share of management costs, optimize their allocation of the total allowable catch, and negotiate optimal access fees with distant water fishing nations. The importance of developing a common position on these issues cannot be over-emphasized. In particular, Pacific Island countries should:

- Retain and expand upon the existing monitoring systems, rather than develop new systems under the future commission.
- Avoid voluntary contributions to the commission's management fund. Contributions should be specified as a regular part of the commission's budget.
- Insist on a pooled allocation of total allowable catch to the coastal states – preferably prior to the ratification of the convention.

- Negotiate access fees multilaterally with distant water fishing fleets.

- Consider limiting the purse seine fishing effort as a way to raise the profitability of the fleet, and expand the potential for extracting higher license revenues in the future.

Seabed Mining: Preparing for the Future

With investors' interest growing, seabed mining could become a reality in the Pacific in the next few decades. Under the Law of the Sea, Pacific Island countries that qualify for the claims have until November 2004 to extend national claims to the limits of the continental margin – potentially claiming rights over new seabed mineral deposits. Close regional collaboration through SOPAC could help these coastal states meet the requirements to support their claims.

Pacific Island governments also need to urgently develop offshore mineral policies prior to the issuance of exploration licenses. The Madang Guidelines and the national marine mineral policies of Papua New Guinea and Fiji, assisted by SOPAC, provide a good basis for the formulation of these policies. Three areas, however, require further strengthening.

First, national offshore mineral policies should articulate the adoption of strict environmental safeguards. These might include:

- Requiring that environmental impacts be assessed in actual field conditions prior to issuing exploitation licenses.

- Establishing a regional system for independent monitoring of environmental impacts.

- Requiring that investors post environmental bonds and rehabilitation deposits to cover potential damages.

- Banning seabed mining in areas of high ecological value.

Second, national policies should provide a forum for public participation in policy and licensing decision. This could include:

- Public hearings for all license applications.

- An impartial dispute resolution mechanism (such as a mining tribunal).

- Identification of conflicting or traditional claims over the mining areas.

Finally, offshore mineral policies should provide a conducive climate for foreign investment, in recognition of the risks and uncertainties faced by the industry. This might include a simplified and transparent fiscal regime, streamlined reporting requirements, and incentives for long-term investment.

Though ocean management has long been viewed as a biological discipline in the Pacific, there is now a growing realization that institutional and socio-economic realities play critical roles in ocean use. Managing the ocean is, first and foremost, about managing people. By listening to the concerns and suggestions of their communities, the countries of the Pacific stand a better chance to use wisely the opportunities offered by the ocean and ensure a continuation of these benefits for years to come.

Chapter 4
Adapting to Climate Change

Climate change is likely to have substantial and widespread impacts on Pacific Island countries, affecting sectors as varied as health, coastal infrastructure, water resources, agriculture, forestry and fisheries. This chapter examines the possible impacts of changes in climate on a high and a low island of the Pacific, and discusses key adaptation and financing strategies.

The chapter begins by outlining the nature of the challenges presented by climate change (Section A). Section B describes climate change scenarios for the Pacific Island region, while Section C examines the potential impacts of these scenarios on coastal areas, water resources, agriculture, health, and fisheries. Section D summarizes the economic costs resulting from these impacts. Section E outlines a general adaptation and financing strategy to enable Pacific Islands to respond to climate change. Section F summarizes key findings and recommendations. Further analysis of the impacts of climate change scenarios and an annex describing the methodology used are included in Volume IV of this report.

A. Key Challenges

Across the Pacific, atoll dwellers speak of having to move their houses away from the ocean because of coastal erosion; of having to change cropping patterns because of saltwater intrusion; of changes in wind, rainfall, and ocean currents. While these events may simply reflect climate variability, they illustrate the types of impacts likely to be felt under climate change.

Rising Vulnerability to Weather Events

Many policymakers dismiss climate change as a problem of the future. But impacts similar to those likely to result from climate change are already being felt, as the Pacific Islands become increasingly vulnerable to extreme weather events and climate variability. Growing urbanization and squatter settlements, degradation of coastal ecosystems, and rapidly developing infrastructure on coastal areas are intensifying the islands' exposure to extreme weather events. At the same time, traditional practices promoting adaptation such as multicrop agriculture are gradually weakening. These factors are contributing to increasingly severe impacts from weather events. In the 1990s alone, the cost of extreme events in the Pacific Island region exceeded US$1 billion (table 4.1).

Compounding Impacts of Climate Change

Arriving on top of this increased vulnerability, climate change will likely exacerbate the current impacts, whether or not climate variability increases in the future—and there is some evidence that it may. In low islands, the most substantial damage would come from losses to coastal infrastructure as a result of inundation, storm surge, or shoreline erosion. But climate change could also cause more intense cyclones and droughts, the failure of subsistence crops and coastal fisheries, losses in coral reefs, and the spread of malaria and dengue fever. These impacts could be felt soon: if climate change models are correct, the average sea level could rise 11–21 centimeters and average temperatures could rise 0.5^0–0.6^0C by 2025.

Table 4.1. Estimated Costs of Extreme Weather Events in the Pacific Island Region during the 1990s (millions of US$)

Event	*Year*	*Country*	*Estimated losses*
Cyclone Ofa	1990	Samoa	140
Cyclone Val	1991	Samoa	300
Typhoon Omar	1992	Guam	300
Cyclone Nina	1993	Solomon Islands	–
Cyclone Prema	1993	Vanuatu	–
Cyclone Kina	1993	Fiji	140
Cyclone Martin	1997	Cook Island	7.5
Cyclone Hina	1997	Tonga	14.5
Drought	1997	Regional	> 175[a]
Cyclone Cora	1998	Tonga	56
Cyclone Alan	1998	French Polynesia	–
Cyclone Dani	1999	Fiji	3.5

– Not available.
a. Includes losses of US$160 million in Fiji (Stratus 2000).
Note: Minor events and disasters in Papua New Guinea not included. Costs are not adjusted for inflation.
Source: Campbell 1999.

Table 4.2. Climate Change and Variability Scenarios in the Pacific Island Region

Impact	*2025*	*2050*	*2100*	*Level of Certainty*
Sea level rise (centimeters)	11–21	23–43	50–103	Moderate
Air temperature increase (degrees Centigrade)	0.5–0.6	0.9–1.3	1.6–3.4	High
Change in rainfall (percent) Fiji	-3.7–+3.7	-8.2–+8.2	-20.3–+20.3	Low
Kiribati	-4.8–+3.2	-10.7–+7.1	-26.9–+17.7	Low
Cyclones				
Frequency	Models produce conflicting results			Very low
Intensity (percentage increase in wind speed)	0–20			Moderate
El Niño Southern Oscillation (ENSO)	A more El Niño –like mean state			Moderate

Note: Ranges given reflect a best-guess scenario (lower value) and a worst-case scenario (higher value). For details and sources, see volume IV, annex A.

B. Climate Change Scenarios

In 1999─2000, the World Bank helped sponsor a study of potential impacts of climate change scenarios and adaptation options in the Pacific Island region.[8] Based on the best scientific information available for the region, the following scenarios were used (table 4.2):

- ***Rise in sea level.*** Sea level may rise 0.5 meters (in a "best-guess" scenario) to 1 meter (in a "worst-case" scenario) by 2100.
- ***Increase in surface air temperature***. Air temperature could increase 1.6^0–3.4^0C by 2100.
- ***Changes in rainfall.*** Rainfall could either rise or fall—most models predict an increase—by about 20 percent in 2100, leading to more intense floods or droughts.
- ***Increased frequency of El Niño-like conditions***. The balance of evidence indicates that El Niño conditions may occur more frequently, leading to higher average rainfall in the central Pacific and northern Polynesia.
- ***Increased intensity of cyclones***. Cyclones may become more intense in the future, with wind speeds increasing by as much as 20 percent; it is unknown, however, whether cyclones will become more frequent.

How certain is climate change? The Intergovernmental Panel on Climate Change (IPCC) stated in 1995 that "the balance of evidence suggests a discernible human influence on global climate change" (IPCC, 1995). Uncertainties remain, however, particularly at resolutions with sufficient detail to encompass small island states.

Some changes are more certain than others. There is emerging consensus that global average temperatures and sea level will increase. Rainfall changes remain highly uncertain, however, as does the relationship between long-term climate change and extreme events. Uncertainty also increases with time: projections for 2100 are less certain than projections for 2050. Global changes are more certain than regional or island-specific changes. And impacts on coastal areas and water resources are generally more certain than impacts on agriculture and health. Although there are uncertainties on the magnitude and timing of the changes, most studies consider the Pacific Islands to be at high risk from climate change and sea level rise (Kench and Cowell 1999).

Based on the results of the study, the physical and economic impacts of climate change in the Pacific Island region are illustrated here by the example of a high island ─ Viti Levu in Fiji ─ and a group of low islands ─ the Tarawa atoll in Kiribati. To give perspective to the analysis, the economic damages were estimated for 2050 as if the impacts had occurred under today's socio-economic conditions. Ranges provided represent a "best guess" scenario (the lower bound) and a "worst case" scenario (the upper bound). All economic costs reflect 1998 US dollars, and assume no adaptation.

[8] The study was the product of a collaboration with the International Global Change Institute, the Pacific Islands Climate Change Assistance Programme country teams in Fiji and Kiribati, the South Pacific Regional Environmental Programme, Stratus Consulting Inc., the Center for International Climate and Environmental Research, and experts from numerous other national and regional agencies, as listed in the *Acknowledgments.* Background studies are listed in *References.* Volume IV describes the detailed results and methodology.

C. The Likely Impacts of Climate Change

Impact on Coastal Areas

Climate change is likely to affect coastal areas in three major ways: through a rise in sea level, leading to erosion and inundation; through more intense cyclones and storm surges; and through higher sea surface temperatures, leading to a decline in coral reefs (figure 4.1).

High islands may experience similar impacts as Viti Levu, where coastal erosion may claim 2 to 4 percent of the land below 10 meters altitude by 2050, leading to average annual losses of US$2.9-$5.8 million. By 2100, the proportion of land eroded could reach 5 to 10 percent. Due to the existing level of coastal protection and the topography, the impact of inundation is expected to be relatively minor. However, in years of strong storm surge, Viti Levu could experience losses in capital assets of US$75-$90 million by mid-century. If the worst case scenarios of sea level rise materialize by 2100, downtown Suva could experience serious flooding even during moderate cyclones.

The impact of sea level rise would be most severe in the low islands of the Pacific. In Tarawa, though the impact of coastal erosion is expected to be modest (3─4 percent of the land by 2100), inundation could lead to annual average damages of US$6.6 to US$12.4 million by 2050. Periodic storm surges could result in the inundation of up to 55 to 80 percent of land areas in North Tarawa, and 25 to 54 percent of areas in South Tarawa by 2050 (figure 4.2).

The net impact of sea level rise on mangroves is unclear, and could even be beneficial in some sites if the sea level rises gradually. Coral reefs, on the other hand, could be significantly affected by climate change. Many corals may not be able to adapt to warmer sea surface temperatures and to increased concentration of carbon dioxide in the atmosphere, both of which inhibit coral growth. Bleaching events and subsequent reef mortality are expected to become more frequent, leading potentially to a decline in reef fisheries and a long-term reduction in coastal protection.

Figure 4.1. Likely Impact of Climate Change on Coastal Areas of Pacific Island Countries

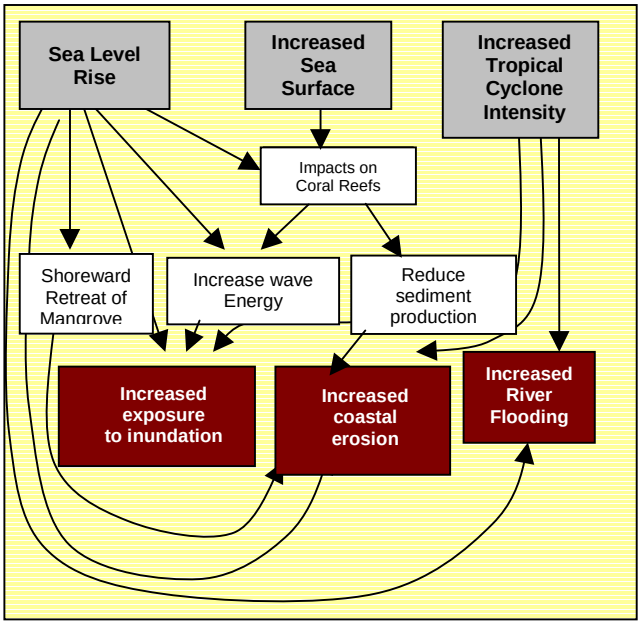
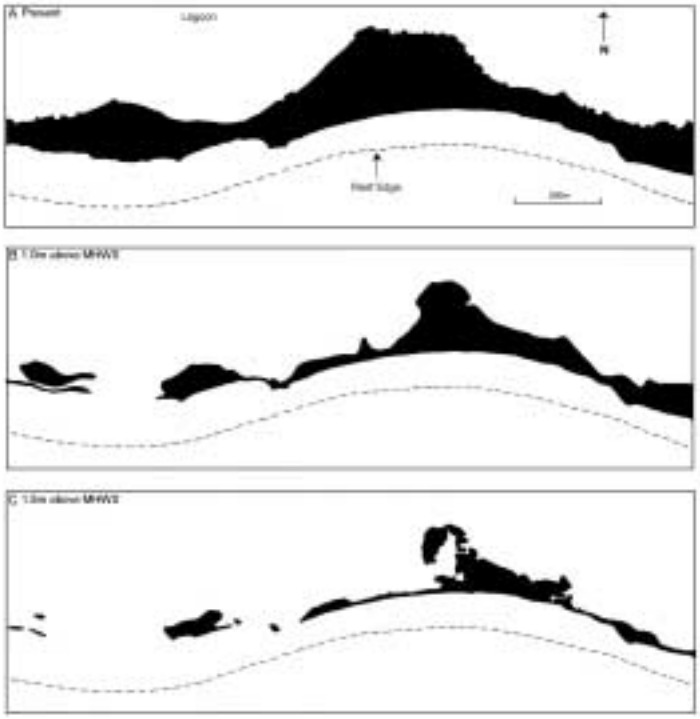


Figure 4.2: Scenarios of Inundation of Bikenibeu Island, South Tarawa (Kiribati)



A: Present status; B: Residual island under a worst case scenario, 2100;
C: Residual island under worst case scenario and storm surge, 2100
Source: Background studies to this report.

Impact on Water Resources

Climate change is likely to affect the water resources of Pacific Island countries through variations in rainfall, evapo-transpiration – caused by rising temperatures – and a rise in sea level. It is also possible that islands such as Viti Levu would experience greater climate variability, with alternating floods and droughts brought on by more intense cyclones and fluctuations in El Niño/La Niña events.

For Tarawa (and perhaps for many other low islands in the Pacific) such trends would impact the vital groundwater resources of the atoll. If climate change scenarios prove correct and rainfall changes by 7─10 percent, the sea level rises by 0.4 meters, and the islands' width is reduced through inundation, the thickness of Tarawa's main groundwater supply could decline by 19─38 percent by 2050. The resulting economic losses could average US$0.7─$2.7 million a year, and require the development of alternative groundwater sources, desalination, or rainfall collection.

In Viti Levu, rainfall variations could cause a 10 percent change in river flow by 2050 and a 20 percent change by 2100. This could lead to substantial river flood damage if scenarios of increased rainfall materialize. Provided that the distribution system was kept fully efficient, a scenario of reduced rainfall would not become a substantial threat for the water supply of western Viti Levu until the second part of the century, but could then result in demand outstripping supply by as much as 38 percent by 2100.

The combination of a warmer – and possibly drier – climate with potentially more prevalent El Niño conditions could lead to more intense droughts in Viti Levu. Droughts of the severity of the 1997/98 event─which caused losses of more than US$70 million, not counting impacts on agriculture─could become the norm in the future.

Figure 4.3. Likely Impact of Climate Change on the Water Resources of a Low Island (Tarawa, Kiribati)

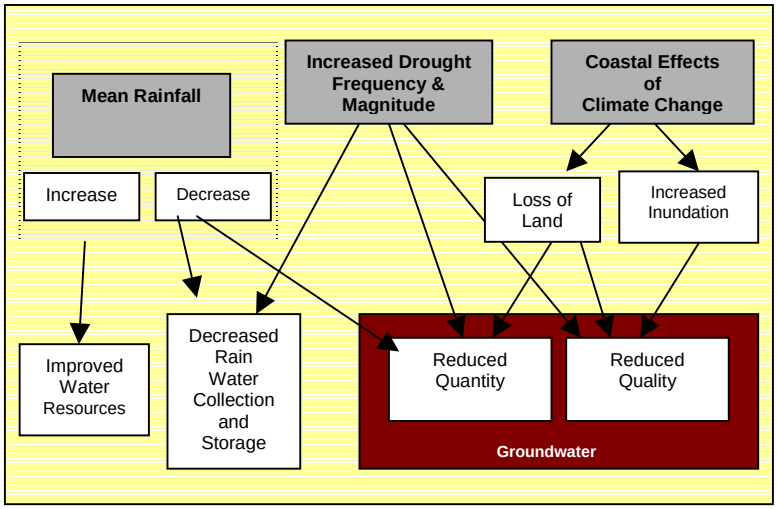


Table 4.3. Estimated Average Annual Economic Impact of Climate Change on Water Resources of Tarawa and Viti Levu, 2050 (millions of 1998 US$)

Category	*Annual damage*
Tarawa Atoll:	
Combined effect of sea level rise, changes in rainfall and reduced island width[a]	0.7─2.7
Total	**0.7─2.7**
Viti Levu:	
Changes in average rainfall	+
Increased severity and/or frequency of El Niño–related drought	+
Increased cyclone intensity	0–11.1
Total	**>0-11.1**

[a] – Assumes sea level rise of 0.4 meters, 7% increase to 10% decrease in rainfall, and reduced island width.
+ Likely to have significant economic costs but impact could not be quantified.
Note: The range given reflects a best guess and a worst case scenario.
Source: Background studies to this report.

Regional studies indicate that cyclone intensity may increase by 0─20 percent as a result of climate change (Jones and others, CSIRO 1999). A 20 percent increase in maximum wind speed could result in 44─100 percent higher damages than experienced today,[9] costing Viti Levu up to US$11 million a year by 2050 (table 4.3).

[9] Based on the costs of actual events recorded by the Fiji Meteorological Services, Clark (1997) and J. Terry (personal communication, May 2000).

Impact on Agriculture

Climate change is most likely to affect agricultural production through changes in rainfall. Agricultural crops could also be affected by rising temperatures, climate variability ─ such as more intense cyclones and El Niño/La Niña conditions ─ and sea level rise (figure 4.4).

If wetter conditions prevail in the future, water-sensitive crops such as coconut, breadfruit and cassava would likely benefit. A rainfall decline, by contrast, would hurt most crops. In a low island such as Tarawa, coconut production and *te babai* (giant taro) would be particularly affected given their sensitivity to reductions in rainfall and groundwater.

In Viti Levu, increases in rainfall during good years may offset the impacts of warmer temperatures. But a warmer ─ and possibly drier – climate could lead to more intense droughts during El Niño years. This could result in a 9 percent average drop in sugarcane production levels from current conditions, and in losses averaging US$13.7 million a year by 2050. In drought years, production of sugarcane could drop by half, with a shortfall of agricultural production approaching US$90 million. These periodic droughts could well prove to be the most disruptive to the Fijian economy once preferential trade agreements are phased out.

The impacts of climate change on traditional crops, such as yam and taro, could also affect the subsistence economy of the Pacific Islands. In Viti Levu, a declining rainfall scenario and future El Niño/La Niña conditions could lead to a 11─15 percent shortfall in taro, yam, and cassava yields (figure 4.5). Even in scenarios of increasing rainfall, future climate variability could cost Viti Levu an average of US$68,0000 a year in lost food crops (though crops such as yam would likely benefit).

In the low islands of Tarawa, sea level rise would affect agriculture crops through saltwater intrusion – affecting *te babai* (giant taro) production in particular ─ and through loss of coastal land to inundation, which may reduce production of copra, breadfruit and pandanus.

Figure 4.4. Likely Impacts of Climate Change on Agriculture in Viti Levu, Fiji

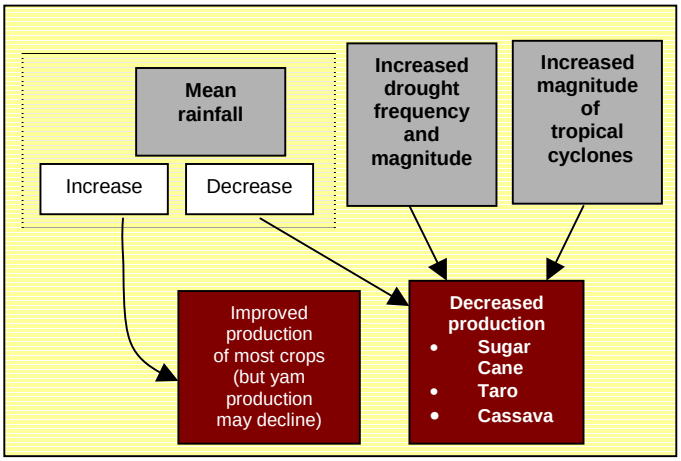
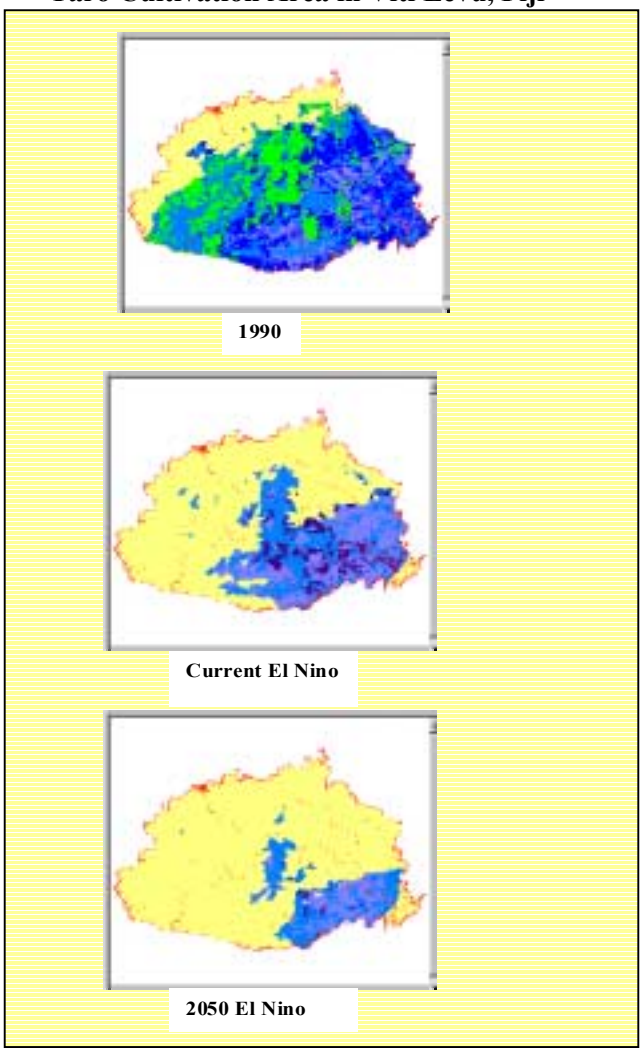


Figure 4.5. Effect of El Nino—induced Droughts on Taro Cultivation Area in Viti Levu, Fiji



Note: Shaded areas show land suitable for cultivation.
Source: Background studies to this report.

Impact on Health

Climate change could have significant impacts on public health due to the higher temperatures (0.9—1.3° C by 2050), changes in water supply and extreme events, and a decline in agriculture production. Likely impacts would include:

- *Direct impacts on public safety,* such as injuries, illness, and loss of lives due to cyclones or droughts.
- *Indirect effects,* such as increased incidence of vector-borne diseases (dengue fever and malaria), waterborne diseases (diarrhea), and toxic algae (ciguatera).
- *Nutrition-related diseases,* particularly malnutrition and food shortages during extreme events.

These impacts are likely to be particularly severe for the poor. Poor households – particularly in towns – will be more vulnerable to the impacts of climate change because of their greater propensity for infectious diseases, limited access to medical services, substandard housing, and exposure to poor environmental conditions. Many of the urban poor may also lack access to the safety nets that assisted them traditionally in times of disaster.

Climate change could cause significant increases in the frequency, severity, and distribution of dengue fever. The higher temperatures would increase the biting rate of mosquitoes and decrease the incubation period of the dengue virus. In Viti Levu, the number of cases could increase by 20─30 percent in 2050, and as much as 100 percent by 2100 (under a worst case scenario). In countries where the malaria vector is found, the distribution and prevalence of the disease is also likely to expand (WHO 1996).

Diarrhea disease is likely to become more common in a warmer world, particularly under a scenario of decreasing rainfall. Sea level rise could also increase the incidence of diarrhea by disrupting sanitation and water supplies.

Climate change could increase the incidence of ciguatera poisoning in some areas. Kiribati already has one of the highest rates of ciguatera poisoning in the Pacific (Lewis and Ruff, 1993). The rise in temperatures is expected to increase the incidence of ciguatera poisoning from 35─70 per thousand people to about 160─430 per thousand in 2050 (table 4.4).

More intense cyclones and droughts are likely to increase nutrition-related deficiencies, as experienced in Fiji during the 1997/98 drought, when US$18 million in food and water rations had to be distributed (UNDAC 1998). Loss of agriculture and fisheries could result in malnutrition and deterioration in standards of living. And the loss of land and infrastructure could lead to increased crowding conditions, exacerbating problems of urban management. These diffuse effects could well prove to be among the most important impacts of climate change on public health in the future.

Table 4.4. Estimated Increases in Dengue Fever Epidemic Potential and Incidence of Ciguatera Poisoning in Kiribati as a Result of Climate Change, 2025–2100

Impact	*Baseline 1990*	*2025*	*2050*	*2100*
Dengue fever				
Projected epidemic potential[a]	0.18	0.20	0.22─0.24	0.25─0.36
Percentage change from 1990	—	11	22–33	39–100
Ciguatera poisoning incidence (per thousand population)	35─70	105─240	160─430	245─1,010

[a] - The epidemic potential index measures the efficiency of disease transmission. A value of 0.2 or above indicates a high epidemic potential.

Note: Ranges indicate best-guess and worst-case scenarios. For assumptions, see volume IV, annex A of this report.

Source: Background studies to this report.

Impact on Regional Tuna Fisheries

Climate change is likely to affect tuna fisheries of the Central and Western Pacific in two major ways: by raising average ocean temperatures to levels currently experienced during medium-intensity El Niños and by increasing year-to-year climate variability (Timmermann and others, 1999). The impacts are likely to be pervasive, affecting the distribution, abundance, and catchability of tuna fisheries:

- *Decline in primary productivity.* Primary productivity in the central and eastern Pacific could decline due to the increased stratification between warmer surface waters and colder, deeper water (and resulting reduction in upwelling). Primary productivity in the western Pacific could conversely increase.

- *Decline in tuna abundance.* The decrease in upwelling would lead to a decline in the bigeye and adult yellowfin population (the species targeted by the longline fleet). By contrast, the abundance of purse-seine-caught skipjack and juvenile yellowfin tuna is not expected to be affected.

- *Increased pressure on longline fishing.* Given the continued high demand for sashimi in Japan, it is likely that longline fishing pressure on yellowfin tuna will increase to compensate for the decline in adult bigeye tuna, leading to unsustainable exploitation.

- *Spatial redistribution of tuna resources.* The warming of surface waters and the decline in primary productivity in the central and eastern Pacific could result in spatial redistribution of tuna resources to higher latitudes (such as Japan) and towards the western equatorial Pacific.

- *Increase in climate variability.* With the likely rise in climate variability (Jones, 1999), there may be an increase in the annual fluctuations of the spatial distribution and abundance of tuna. It is possible that more frequent cold events (such as strong La Niña episodes) may compensate for the decrease in productivity under an El Niño mean state. However, a strong future El Niño – which has no parallel in the present climate – could lead to a dramatic decline in productivity in the eastern Pacific (see box 4.1).

Box 4.1. Likely Future Climate

Likely future climate	*Correspondence with present climate*
Mean state	Moderate El Niño
Moderate El Niño event	Strong El Niño event
Strong El Niño event	Unknown, extremely warm event
Moderate La Niña	Current mean state
Strong La Niña	Moderate La Niña

- *Higher impact on domestic fleets.* While distant water fishing fleets can adapt to stock fluctuations, domestic fleets would be vulnerable to fluctuations of tuna fisheries in their exclusive economic zones. Countries in the central Pacific, such as Kiribati, would likely be more adversely affected than those in the western Pacific.

D. Economic Costs of Climate Change

The aggregate economic costs of climate change impacts could be substantial. Estimates from this study indicate that if climate change scenarios materialize, the island of Viti Levu in Fiji could suffer economic damages averaging at least US$23─$52 million a year by 2050 (in 1998 dollar value), equivalent to 2─4 percent of Fiji's gross domestic product. Because these losses are annual averages, they dampen the actual costs of extreme weather events, which could be considerably higher in a given year. A cyclone might cause damages of about US$40 million, while a severe drought could cost Viti Levu some US$70 million in lost crops.

The Tarawa atoll in Kiribati could face average annual economic damages of US$8 million to over US$16 million by 2050 (as compared with a GDP of about US$47 million). In years of strong storm surge, up to 54 percent of South Tarawa could be inundated, with capital losses of up to US$430 million (table 4.5).

Table 4.5. Estimated Annual Economic Impact of Climate Change, 2050 (millions of 1998 US$)

Impact	*Average Annual damage*[a]		*Likely Cost of an Extreme Event*[b]		*Extreme Event*
	Viti Levu	*Tarawa*	*Viti Levu*	*Tarawa*	
Impact on coastal areas					
Loss of coastal land and infrastructure to erosion	3─6	0.1─0.3	–	–	–
Loss of coastal land and infrastructure to inundation and storm surge	0.3─0.5	7─12	75-90	210─430	Storm Surge
Loss of coral reefs and related services	5─14	0.2─0.5	–	–	–
Loss of nonmonetized services from coral reefs, Mangroves and seagrasses	+	+	–	–	–
Impact on water resources					
Increase in cyclone severity	0–11	–	40	–	Cyclone
Increase in ENSO–related droughts	+	+	70-90	–	Drought
Replacement of potable water supply due to change in precipitation, sea level rise, and inundation	+	1–3	–	–	–
Changes in annual rainfall (other than impacts on agriculture)	+	+	–	–	–
Impact on agriculture					
Loss of sugarcane, yams, taro, and cassava due to temperature or rainfall changes and ENSO effects	14	+	70	–	Drought
Loss of other crops	+	+	–	–	–
Impact on public health					
Increased incidence of dengue fever	1-6	+	40	–	Large epidemic
Increase in fatal dengue fever cases	+	+	–	–	–
Increased incidence of diarrhea	0 –1	+	–	–	–
Infant mortality due to diarrhea	+	+	–	–	–
Impact of cyclones and droughts on public safety	+	+	–	–	–
Total estimated damages	**>23─52+**	**8–16+**			

+ Likely to have economic costs but impact not quantified. -- Not available

[a] Reflects incremental average annual costs due to climate change. [b] Reflects the actual cost of an extreme event.

Note: For assumptions, see Volume IV of this report, Annex A. Ranges indicate a best guess (lower bound) and a worst case scenario (higher bound).

Source: Background studies to this report.

E. Toward Adaptation: Moderating the Impacts of Climate Change

The estimated economic costs of climate change assume no adaptation. In practice, Pacific Island governments and communities could help offset these costs by undertaking adaptation measures.[10] The question is determining which adaptation measures are best in the face of uncertain future impacts.

There is little Pacific Islands can do to prevent climate change. At the same time, Pacific Island governments cannot afford to ignore the problem. Adapting to climate change may soon become an economic and political imperative.

The Need for Immediate Action

The development choices made by Pacific Island governments today will have a profound impact on the future vulnerability of the islands and on the magnitude of climate change impacts.

One of the most compelling arguments for acting now is the growing impact of extreme weather events in the Pacific. Even those who

[10] *Adaptation* refers here to any measures that protects the Pacific Island countries against the impacts of climate change. *Mitigation*, by contrast, refers to the reduction of greenhouse gas emissions.

argue that climate change may never happen cannot dispute the urgency of reducing the islands' vulnerability against severe climate events. The recent drought and the sequence of cyclones which affected many Pacific Islands during the 1990s attest to an increasing exposure that will, sooner or later, put mounting public pressure on governments and politicians to act. No less compelling is the fact that under an increasing globalized economy, those countries which invest early on adaptation—and, in the process improve the quality of life and reduce investment risks—are likely to hold a competitive advantage for foreign investment (see Chapter 1). As measures to reduce vulnerability are also among the most effective in adapting to climate change, acting now to reduce current vulnerability will also prepare the Pacific Islands for the long-term effects of climate change.

Another reason for acting now is that failure to do so may result in a loss of opportunities that may not exist in the future. Coral reefs, for example, may not be able to recover from bleaching events if they are weakened by pollution and mining.

Finally, adaptation strategies may require several decades to be discussed and implemented. Communities living in low-lying areas, for example, may need to relocate further inland to other communities' customary land. This will require extensive public debates on how to place the common good of all above the good of the clan or immediate family, a process that cannot—and should not—be rushed.

Since it is difficult to predict far in advance how climate change will affect a particular site, Pacific Island countries should avoid adaptation measures that could fail or have unanticipated social or economic consequences if climate change impacts turn out to be different than anticipated (IPCC 1998). More appropriate will be 'no regrets' adaptation measures that would be justified even in the absence of climate change. These include, for example, sound management of coastal areas and water supplies, control of pollution, and investment in preventive health.

As it will be shown, a 'no-regrets' adaptation strategy need not involve large investments of public resources — but it will require strong political will, as adaptation measures may face strong competition from other development activities for scarce funds. Yet it is important to understand that the short-term economic gains of a 'do nothing' strategy could be easily dissipated by the impact of future climate events.

A development path that takes adaptation into account might sacrifice some potential short-term gains in favor of more diversification and a reduction in vulnerability. But it would vastly decrease the downside costs should climate change scenarios materialize. The challenge will be to find an acceptable level of risk — an intermediate solution between investing in high cost solutions and doing nothing — and start adapting long before the expected impacts occur.

Guidelines for Selecting Adaptation Measures

Pacific Island countries have a vast array of adaptation measures at their disposal. The following criteria could help guide their selection:

1. *No regrets.* Give priority to 'no regrets' measures, such as water resources management, which would be beneficial even in the absence of climate change. Structural measures such as sea walls and groynes—which provide few benefits other than protection—require a high degree of certainty about the impact at a particular site. If climate change impacts turn out to be different than expected, investments in these measures could have been wasted.

2. *Level of implementation.* Adopt general rather than site-specific measures, at least until there is more certainty about localized impacts.

3. *Bottom up or top-down.* Use community-based (bottom-up) rather than top-down interventions. Many traditional adaptation measures have been tested and adjusted over the years in response to extreme events. These

measures are likely to be more effective than top-down solutions. At the same time, communities will need external help to handle threats — such as pollution — that are beyond their control. A collaborative partnership between the government and communities may well prove to be the most effective (see chapter 3).

4. *Environmental impacts.* Select adaptation measures based on their impact on the overall vulnerability of the islands, not only on their impact at a particular site (de Wet 1999). A sea wall, for example, may solve the problems of a particular site but increase erosion downstream (figure 4.6).

5. *Cultural acceptability.* Ensure that measures are compatible with the socio-cultural traditions of local communities and do not cause social disruption.

6. *Timing.* Time measures appropriately. Some adaptation measures—such as expansion of rainwater collectors in Tarawa—may need to be implemented immediately. Others could wait while appropriate responses are developed. As a general rule, the most urgent measures are those needed to protect against current climate events and those on which it may no longer be possible to act in the future.

7. *Cost-benefit.* Chose measures where the potential benefits of adaptation clearly exceed its costs.

Table 4.6 shows a range of adaptation measures classified according to these criteria.

Two key principles should be kept in mind when selecting adaptation options. First, adaptation is not necessarily limited to interventions that reduce climate change impacts. Measures that increase the resilience of natural systems—by controlling pollution's effects on coral reefs, for example—should also be considered, as should policies that facilitate action on adaptation, such as a legislation empowering communities to manage their own reef fisheries.

Figure 4.6. A Seawall in Qoma, Fiji

Sea walls are built throughout the Pacific to protect settlements against coastal erosion and storms. However, sea walls do not solve the underlying cause of erosion and may cause further problems downstream. In Qoma, Fiji (photo above) the community reported experiencing frequent inundation, which might have been exacerbated by their sea wall. Strategic replanting of mangroves might well have been a more efficient solution to guard against periodic inundation.

Second, it is vital to consider the sociocultural conditions of the Pacific Islands. To an external observer, it may seem appropriate to reinforce traditional Samoan houses to protect against cyclones. From the local communities' point of view, however, a 'do nothing' strategy may well be justified, because labor and materials could be readily available from within the extended family and the houses might easily be rebuilt following cyclones. The adaptation process thus needs to be highly participatory and allow for adjustments as new knowledge about climate change impacts is obtained.

Implementing Adaptation

The previous sections argued for Pacific Island governments to promote 'no regrets' adaptation. But how should this strategy be implemented in practice?

Governments cannot do it alone. Adaptation measures are and will continue to be implemented primarily by communities, the private sector, and individuals. But the role of Pacific Island governments will be essential in mainstreaming adaptation into policy and

Table 4.6. Selected Examples of Adaptation Measures

Goal	*Adaptation measure*	*No regrets?*	*Level of implementation*	*Bottom up or top down*	*Negative Environmental impacts?*	*Culturally acceptable?*	*Timing*	*Cost-benefit*
Moderate impacts on coastal areas								
Protection of critical ecosystems	Increase Public awareness		Generic	Both	No	Yes	Immediate	Positive
	Prohibit extraction of reef and sand	Yes	Sector specific	Both	No	May increase building costs	Immediate	Positive
	Prevent mangrove removal	Yes	Sector specific	Both	No	Unknown	Immediate	Positive
	Control pollution	Yes	Generic	Top down	No	Unknown	Immediate	Unknown
	Control overfishing	Yes	Sector specific	Both	No	Loss of food	Immediate	Positive
Protection of towns and property	Engineered structures (such as seawalls)	No	Site specific	Top down	Probably	Unknown	Unknown	Unknown
	Set back development from shoreline	No	Site specific	Both	Unknown	Land tenure?	Can wait	Unknown
	Raise structures	No	Site specific	Both	Unknown	Unknown	Can wait	Unknown
Land use policies	Coastal hazard mapping	Yes	Site specific	Top down	No	Yes	Immediate	Unknown
Control of erosion	Mangrove replantation	Yes	Sector specific?	Both	No	Yes	Immediate	Positive
	Engineering works in passages	No	Site specific	Top down	Probably	Unknown	Can wait	Unknown
	Groynes	No	Site specific	Top down	Probably	Unknown	Immediate	Positive(?)
Moderate impacts on water resources								
Water resource management	Leakage control	Yes	Sector specific	Both	No	Yes	Immediate	Positive
	Pricing policies (fees, levies, surcharges)	Yes (?)	Sector specific	Top down	No	Problematic	Immediate	Positive
	Conservation plumbing	Yes	Sector specific	Both	No	Unknown	Immediate	Positive
	Stricter penalties to prevent waste	Yes (?)	Generic	Top down	No	Resistance?	Immediate	Positive
Catchment management	Reforestation, soil conservation	Yes	Generic and site specific	Both	No	Yes	Immediate	Positive
	Establishment of a Water Authority	Yes	Sector specific	Top down	No	Unknown	Immediate	Positive
Alternative water supply	Expansion of rainwater collection	Yes	Sector and site specific	Both	Unknown	Maybe	Immediate	Unknown
	Alternative groundwater use	Yes	Sector and site specific	Top down	Unknown	Land tenure?	Can wait	Unknown
	Desalination	No (?)	Sector and site specific	Top down	Unknown	High costs	Can wait	Unknown
	Importation	No (?)	Sector specific	Top down	No	High costs	Can wait	Negative
Flood control	Diversion channels, weirs, etc.	No	Site specific	Top down	Probably	Unknown	Immediate	Unknown
	Land use controls, flood proof housing	No (?)	Site specific	Both	No	Land tenure?	Immediate	Unknown
Moderate impacts on agriculture								
Community sustainability programs	Traditional weather-resistant practices	Yes	Sector specific	Bottom up	No	Yes	Immediate	Positive
Sustainable production systems	Agroforestry, water conservation	Yes	Sector specific	Both	No	Unknown	Immediate	Positive
Research	Flexible farming systems	Yes	Sector specific	Top down	No	Unknown	Immediate	Positive(?)
Land use policies	Mapping of suitable cropping areas	Yes	Generic	Top down	No	Unknown	Immediate	Positive
	Avoid cultivation on marginal lands	Yes	Site specific	Top down	No	Disruptive	?	Positive
Moderate impacts on public health								
Integrated adaptation strategies and control of diarrheal disease	Poverty reduction programs	Yes	Generic and site specific	Top down	Unknown	Yes	Immediate	Positive?
	Improved sanitation and water supply	Yes	Sector and site specific	Both	No	Yes	Immediate	Positive
	Waste management	Yes	Sector and site specific	Both	No	Unknown	Immediate	Positive
	Protection of groundwater	Yes	Sector and site specific	Both	No	Unknown	Immediate	Positive
	Squatter settlement management	Yes	Site specific	Both	Unknown	Yes ?	Immediate	Positive
Control of dengue fever	Community-based vector control	Yes	Sector and site specific	Bottom up	No	Unknown	Immediate	Positive
	Improved preparedness (monitoring)	Yes	Sector specific	Top down	No	Yes	Immediate	Positive
	Prevention of exposure	Yes	Sector specific	Bottom up	Unknown	Difficult?	Unknown	Unknown
Control of ciguatera poisoning	Reduce destructive practices to coral reefs	Yes	Sector specific	Both	No	Food, income?	Immediate	Positive
	Monitoring and public awareness	Yes	Sector specific	Both	No	Yes	Immediate	Positive
Moderate impacts on tuna fisheries								
Stronger regional collaboration	Multilateral agreements	Yes	Sector specific	Top down	Unknown	Distrust?	Immediate	Positive
Research	Better ENSO forecasting	Yes	Generic	Top down	No	Yes	Immediate	Positive
	Improved tuna management	Yes	Sector specific	Top down	No	Yes	Immediate	Positive
Fleet management	Diversification of domestic fleets	No	Sector and site specific	Top down	Unknown	Problematic	Can wait	Positive

development planning, in creating partnerships with communities and the private sector, and in dealing with problems only the government can handle (such as disaster management).

Mainstreaming Adaptation

Adaptation goals need to be identified as a clear priority in national policies and development plans. The objective would be to transform climate change from "something that may happen in the future" to a priority feature of current development planning.

In the short to medium term, all major new development projects—such as coastal mining and dredging—should undergo adaptation screening. This process should assess both the likely impact of climate change on the project, as well as the project's impact on the islands' vulnerability and its contribution to adaptation (de Wet 1999). Adaptation screening would not require extensive new legislation but rather a revision of environmental impact assessments to take adaptation into account. The Coastal Hazard Mapping program in Samoa is a step in this direction.

Building Partnerships

In building partnerships with communities, individuals, and the private sector, the government will need to play a pivotal role in the following areas:

- *Creating an enabling policy and legal framework.* This may include prioritizing adaptation in national planning, harmonizing conflicting sectoral policies, and providing the necessary legal and technical support for community based adaptation measures such as co-management of coastal areas.

- *Strengthening institutions.* Links between local communities and the government should be strengthened so that communities increasingly gain a voice in planning and budgetary decisions. Local communities should also be encouraged to work across village boundaries to reach consensus on the adaptive strategies that need to be applied to larger areas—particularly if relocation is likely to be needed.

- *Supporting collaborative programs.* Community-based programs, such as vector control, water conservation, coastal management, or mangrove replantation, will need the support of government and nongovernmental organizations. At first, external support should focus on galvanizing community action. Later, it should shift to technical advice and assistance in areas communities cannot handle on their own.

- *Mobilizing public action.* Public awareness and discussion forums involving community representatives could help convey information about the impacts of climate change and gain consensus on the adaptation options.

- *Handling disaster mitigation and providing public services.* Some adaptation measures will need to rely on government interventions. These include early warning systems and disaster mitigation programs, improvements in primary health care, and coastal protection in town areas.

Funding Adaptation

Much of the costs and success of adaptation will depend on the extent to which communities, individuals, and private sector own and implement the strategies. This requires government support for community-based efforts, and may require working through traditional decision making processes to ensure "buy-in" at the local level. By asking new development projects to follow adaptation standards, Pacific Island governments could also shift part of the costs of adaptation to private investors.

'No regrets' adaptation measures do not involve significant costs if started sufficiently early. Samoa's environmental health program, for example, operates with a budget of US$113,000 a year. The Coastal Zone Management Project in Majuro, financed by UNDP, cost US$367,000 for four years of operation. By contrast, sea

walls surrounding the Tarawa atoll would require capital investments of about US$1.5─$1.8 million (table 4.7).

In this context, it is recommended that Pacific Island countries adopt urgently a 'no regrets' policy aimed at decreasing their present vulnerability to extreme weather events (which may exist independently of climate change). As a first step, Pacific Island governments should assess how public expenditures could be adjusted to support this strategy, and how other partners in the process─in particular communities and the private sector─may help defray the costs. As a second step, Pacific Island governments and donors should study how to reallocate or attract new development aid to fund 'no regrets' activities that cannot be adequately funded by public expenditures. Many of these interventions─such as improved sanitation or coastal management─could be justified as part of regular environmental assistance.

Table 4.7. Indicative Adaptation Costs (US$)

Measure	*Cost*
Annual Operational Costs[a]*:*	
Land use planning	33,700
Waste management	181,900
Biodiversity protection and natural parks	167,000
Environmental education and information	102,000
National disaster council	30,700
Reforestation	297,800
Watershed projection and management	113,800
Support to community-based fisheries management	81,400
Community disease control	205,800
Environmental health	112,600
Nutrition	83,400
Investment Costs:	
Human waste management (composting toilets)[b]	800,000
Elevating houses [b]	1,700,000-3,200,000
Seawalls [c]	1,540,000-1,830,000
Coastal Zone Management Project for Majuro Atoll[d]	367,300

[a] Costs reflect Samoa public expenditures for 1999-00. GDP Samoa US$205 million.
[b] Covering North Tarawa (population 6,000, area 1,500 ha). GDP Kiribati US$47.9 million.
[c] Covering Tarawa atoll (population 35,000, area 3,200 ha). The cost per linear meter is about US$155, excluding maintenance costs.
[d] Costs represent allocation for four years for Majuro (population 86,110).
Source: Legislative Assembly of Samoa 1999; UNDP 1996; background studies to this report.

Even though 'no regrets' measures have the double benefit of reducing short-term exposure to climate variability as well as long-term vulnerability to climate change, it is important that the two aspects be kept separate in international negotiations. Adoption of an early 'no regrets' strategy by a country should not diminish its chances of accessing climate change adaptation funds in the future.

Similarly, donors should not be led to believe that because 'no regrets' adaptation benefits the countries independently of climate change, the justification for incremental financing is weak. To do so would be to tip the scale in favor of structural solutions (such as seawalls), which are clearly incremental. Government officials in the Pacific Islands have often expressed the view that it is easier to obtain international aid for structural measures than for 'no regrets' solutions. These disincentives need to be addressed in future international climate change discussions, in order to maintain 'no regrets' strategies at the forefront of adaptation financing, and benefit, rather than penalize the countries most willing to take early action.

Globally, the United Nations Framework Convention on Climate Change (UNFCCC) provides the umbrella agreement for mitigation of greenhouse gas emissions. The Convention also includes provisions to begin work on adaptation to climate change. To date, however, progress on adaptation has been slow. The perception among many observers is that the high costs of adaptation have overruled enthusiasm to assist those countries most in need of support. As a consequence, funds from the Global Environmental Facility (GEF), the main financing mechanism for climate change, have been available only for mitigation of greenhouse gas emissions and for studies and capacity building. International negotiations under the Conference of Parties of the UNFCCC have not

yet agreed to the financing of actual adaptation (Stage III) measures.

Pacific Island countries are understandably concerned about the slow pace of these negotiations. They view the stalling of Phase III as a way for emission-producing countries to avoid recognizing their responsibilities toward countries on the receiving end of climate change.

The findings of this report clearly show that the Pacific Islands are likely to experience significant incremental costs associated with global climate change in the future. The responsibility is now on the international community to move urgently with a financing mechanism to help the coastal states defray these costs. The urgency of this action for small states such as the Pacific Islands cannot be over-emphasized.

At the same time, Pacific Island countries should continue to speak with one voice at international climate change forums. Much has been done already under the support of the Pacific Islands Climate Change Programme (PICCAP). A strengthened focus on optimal adaptation strategies, and economic analysis—particularly on costs and benefits of adaptation measures—could strengthen their case in international negotiations, broaden the climate change constituency, and mainstream climate change into the economic and development planning of the Pacific Islands.

F. Summary of Key Findings and Recommendations

The following conclusions can be derived from the analysis:

- ❑ The Pacific Islands are already experiencing severe impacts from climate events. This is evidenced by cyclone damage of more than US$1 billion during the 1990s and by the impact of recent droughts in Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, and Palau (SPREP 2000).
- ❑ The islands' vulnerability to climate events is growing, independently of climate change. Current trends point to a continuing rise in vulnerability in the future which will be exacerbated by climate change.
- ❑ Climate change is likely to impose major incremental social and economic costs on Pacific Island countries. In disaster years the impact could be particularly high, causing significant economic and social problems.
- ❑ Climate change may affect all Pacific Islanders, particularly the poor and most vulnerable. Climate change may also exacerbate poverty by reducing coastal settlement areas and affecting the crops and fisheries on which many communities depend.
- ❑ Failure to adapt now could not only lead to major damages, but also result in a loss of opportunities to act in the future. Some coral reef areas, for example, may no longer be able to recover in the future if degradation continues at the present rates.
- ❑ By acting now to reduce their present-day vulnerability to extreme weather events, Pacific Island countries could go a long way toward diminishing the effects of climate change in the future.

Based on these conclusions, a number of key recommendations can be derived.

Pacific Island Governments

- *Adopt a 'No Regrets' Adaptation Policy.* Pacific Island governments should put in place an urgent policy of 'no regrets' adaptation, aimed at increasing the natural resilience of the islands and reducing their vulnerability to present-day weather events. 'No regrets' measures could include, for example, the management of critical coastal ecosystems (such as coral reefs), control of urban pollution, water conservation, culture of weather-resistant crops, and disease vector control. Under such a policy, Pacific Island governments would take adaptation goals

into account in future expenditure and development planning. Insofar as these measures helped reduce existing vulnerability (independently of climate change), Pacific Island governments would be justified in using reallocations of public expenditures and development aid to fund these activities.

- *Develop a Broad Consultative Process for Implementation of Adaptation.* Pacific Island governments should start a process of consultation with community representatives, the private sector, and other civil society institutions (such as churches and NGOs), on a national strategy for adaptation. The strategies should build upon the National Communications developed by the PICCAP country teams. The objective would be mainstream adaptation into national policies and development plans, to gain consensus on priority adaptation measures, and to build partnerships for their implementation.

- *Require Adaptation Screening for Major Development Projects.* To help defray future costs, Pacific Island governments should require all major infrastructure projects to undergo adaptation screening as part of an expanded environmental impact assessment.

- *Strengthen Socio-Economic Analysis of Adaptation Options.* Further work on the specific socio-economic impacts of climate change and adaptation—such as done under this report—could help strengthen the Pacific Island countries' position in international discussions on adaptation financing. A better understanding of the physical and economic impacts would also help mainstream climate change into broader development planning.

Donors

- *Support 'No Regrets' Adaptation.* Donors have an important role to play in discussing with Pacific Island countries how to best orient development assistance in support of national adaptation strategies. This could be done either through stand alone interventions or as part of natural resources and environmental management programs.

- *Support Adaptation Screening.* To the extent possible, donors should adopt adaptation screening as part of their policy requirements on environmental impact assessments.

International Community

- *Operationalize Adaptation Financing.* Given the importance of taking early action on adaptation, the international community needs to urgently agree on the mechanism and size of adaptation financing—be it in the form of the Global Environmental Facility, a tax on the Clean Development Mechanism as currently discussed, or others. The findings from this study support the argument that Pacific Island countries will likely experience significant incremental costs from climate change, and will need access to global adaptation funding.

- *Remove Incentives against Immediate Action on 'No Regrets' Adaptation.* Countries that have taken early action on adaptation using their own public expenditures or development aid should not be penalized with a lower allocation of global adaptation funds, once these become available. Similarly, the incrementality of 'no regrets' adaptation needs to be recognized and promoted in its own right. Failure to do so could tilt the balance towards a 'wait and see' attitude, in favor of more expensive, but clearly incremental, structural solutions (such as seawalls).

Although many uncertainties remain, it now seems clear that climate change will affect many facets of Pacific Island people's lives and economies in ways that are just now beginning to be understood. Climate change therefore must be considered one of the most important challenges of the twenty-first century and a priority for immediate action.

Chapter 5
A Strategy for Management and Adaptation

The analysis in the forgoing chapters highlighted the challenges and opportunities brought by urbanization, the use of the oceans, and climate change to the people of the Pacific. Suggestions were made concerning the most efficient strategies to manage and adapt to these changes.

This chapter takes the discussion one step further in recognizing that success in adapting to change will depend critically on the effective mobilization of the human and social resources available to Pacific Island countries. This is a question of institutional organization and cooperation, and it requires that there be maximum coordination among major stakeholders, from the local to the national and regional levels.

Throughout this report we have discussed the management of towns, the ocean and climate change. What has gone unstated is that this implies there are *managers* and that the managers are somehow organized for effective action. It is the nature of this organization which is the most critical element in the success or failure of Pacific Island countries in meeting the challenges discussed in this report.

At base is the question of how Pacific Island institutions are structured and how they behave and interact. There are two elements to institutional structure. The first is institutional organization – the "teams" into which people organize themselves to achieve goals. The second is the norms and standards of behavior – the "rules of the game" by which the teams operate to achieve their goals. The Pacific is currently characterized by a great variety of teams which are poorly coordinated, often operate in isolation from one another, frequently overlap in responsibilities and sometimes leave large gaps where critical issues─such as urbanization─remain unaddressed by any organized group.

Much the same is true when we examine the rules by which the different institutions operate. Local level institutions play by traditional rules, informed by traditional values and guides of behavior. These often come into conflict with higher level groups which operate by a different set of rules predicated on corporate or public service norms and values owing more to western cultures than to their own. The result is that the two systems of rules may conflict or, as wastefully, fail to interact at all.

Improving coordination and communication among this variety of Pacific Island institutions – and between those institutions and outside organizations which impact on them – should be a first priority if the region is to successfully adapt to the challenges it faces. At the local level this calls for recognition of the deep store of social capital and legitimacy represented by traditional institutions and values, while at the same time recognizing that many traditional systems themselves may exclude certain groups or allow the elite to capture most benefits. It also means that relations of governance – how and by what rules the two systems interact, particularly between the local community and the lower levels of formal government - need to be better understood and made more transparent and accountable.

At the national level a common weakness is the tendency for planning, budgeting and policy formulation to be "sectoralized". The institutional divisions between various sectors need to be bridged, and effective and consistent communication channels need to be opened to the local level.

At the regional level new approaches are now being developed for cooperation which make better use of scarce resources and reduce overlap

among regional institutions. These approaches need to be strengthened and deepened.

Governance and Inclusion: Involving the People

As discussed in chapter 1, the patterns of governance and organization throughout the Pacific are changing. Traditional forms of authority and organization are being modified by a variety of largely imported substitutes and by the globalization of trade, investment and economic governance.

The extent to which traditional and formal institutions have developed effective working relationships varies considerably across the region. In some places traditional governance systems have been mostly ignored by the formal, introduced government structures. Planning remains top down with little opportunity provided for input by communities. The result is poor targeting of development initiatives, a lack of ownership—and therefore sustainability—and a continuing deterioration of traditional institutions, legitimacy and values with few effective structures or organizations to take their place.

In other countries, such as Samoa and Kiribati, traditional structures remain strong and vital and are playing an effective and complementary role in governance and development alongside formal governmental structures. Indeed, in these cases traditional institutions and values have been major forces in changing the ways in which formal structures operate and, as importantly, in altering the underlying structure of values which inform their operation. Even in these cases, however, there is room for improving governance and for making traditional structures more inclusive and participatory than they may have been historically.

Despite the great range in the ways in which traditional and imported institutions interact in the Pacific, there are some general principles which emerge as guidelines to improving governance and making most efficient use of the human and social resources these institutions have to offer.

With regards to the challenge of urbanization:

- There is a need to develop a broad-based vision to maximize the economic potential of towns in the Pacific. This should be an open and participatory process that involves all levels of society. National urban summits, which brought together representatives of traditional institutions, civil society, the private sector and government, would provide an effective way of building a shared vision. Such summits should be preceded by local meetings where stakeholders have a chance to express their views. The summit itself should be conducted as much as possible according to traditional rules of discussion, debate and consensus building.

- The decision making process that guides the management of towns needs to be opened to those affected by the decisions, if risks of social and economic disruption are to be minimized. This should include in particular the poor, most of whom are landless and marginalized in these societies but who suffer the adverse impacts of deteriorating conditions most severely.

- While the formal and informal mechanisms that could be used to achieve this will vary, the role of government agencies must change from one of top down decision making to one of helping local communities to make well-informed choices. Municipality and town councils could provide useful forums for local communities to voice their views on management of local affairs. Most importantly, clearly defined and widely agreed accountabilities need to be established for public service providers.

In the case of the oceans, the most critical concern at the community level is the management of coastal areas. The following strategies are recommended:

- Management of coastal areas should be based on a co-management partnership between coastal communities, governments and NGOs which builds on the relative strengths of each partner. In general,

communities should have primary responsibility for the actual management of coastal resources, while government agencies should play primarily an advisory role and provide legal and enforcement support.

- Communities need a single, well defined forum for communication with government agencies and other external partners, where requests for assistance can be quickly conveyed, concerns voiced, and information received. This can take the form of local committees, island councils or other forums appropriate to the local conditions.

In terms of adapting to climate change:

- In towns, adaptation in the planning process and in the management of infrastructure and utility services will not only lead to better "governance" by improving the quality and cost-effectiveness of public services, but is also necessary for mitigating the possible impacts of natural disasters and, therefore, the vulnerability of coastal communities.

- A more inclusive approach to governance and management will be needed in identifying and carrying out adaptation measures since urban areas contain people who are not members of the original residential and kin groups, and who might otherwise be marginalized.

- Use of community based measures will make local communities full participants in adaptation and will maximize their impact by ensuring that they are compatible with local customs and practices.

Building Inter-Sectoral Linkages

At the national level the often rigid and independent sectoral mandates of many Pacific Island governance systems contrast sharply with the holistic ways in which small islands were traditionally governed.[1] There is a need for more effective communication and coordination across sectoral boundaries if more efficient use is to be made of human and financial resources. Common goals should be established early during this collaboration.

At the more general level there is a need for a central government nexus which can coordinate policy making and project formulation and execution, in close consultation with key stakeholders. Such a body—a Ministry or Office of National Planning, for example— should serve as the channel through which policy papers, the expenditure budget and public sector investment programs are funneled. Input to such a body might be provided by an inter-ministerial committee to ensure consistency before submission to decision makers. Such a committee could have representatives of all the key stakeholding groups, including the private sector, civil society, traditional organizations and others depending on the particular policy issue or program under consideration.

This collaborative and participatory approach to problem solving could be applied to each of the major issues discussed in this report. In the management of towns this would entail:

- A broad vision keyed to quality of life and economic growth objectives that cuts across sectors and institutional boundaries and recognizes major urban-rural linkages.

- The centralization of overall responsibility for urban planning and implementation in a single institution with strong links to all other sectoral bodies sharing responsibility for urban activities.

In the management of coastal areas:

- Strengthened inter-sectoral planning and national level coordination among agencies responsible for the coast, perhaps through the establishment of national coordinating committees. Incentives for participation at these committees need to be addressed to guarantee their sustainability.

[1] The authors are grateful to Alfred Simpson for comments on this issue.

In regards to climate change:

- Adaptation measures should be explicitly identified in the policy and development plans of all major institutions, including departments of health, environment, agriculture, public works and fisheries.

More generally, there is a need to recognize that adaptation to the three challenges discussed here should be a central and informing principle of development planning. Those with overall responsibility for national planning need to be trained to evaluate planning within a strategic framework which sees effective adaptation as a central goal.

Wherever possible, examples of ingenious solutions to inter-sectoral planning should be identified and further disseminated at the regional level

New Approaches to Regional Partnerships and Collaboration

At the regional level there is a need to rethink the ways in which institutions operate to make efficient use of the resources available. Recent changes have been made which promise to make regional coordination work more efficiently and effectively than in the past. For example, as a result of a recent structural review of the Forum Secretariat, its technical service delivery functions have been transferred to other regional technical organizations, allowing the Forum to focus on the core business of political and international relations, trade, investments and economic development. The establishment of the Council of Regional Organisations in the Pacific, which brings together all the key regional organizations in an effort to ensure that they pursue their collective aim of sustainable development in the Pacific is a major step towards increasing cooperation and coordination at the regional level.

These trends show that increased regional and sub-regional cooperation is both possible and desirable, but progress will be gradual and must be seen in the context of differences in domestic political agendas and constraints posed by existing bilateral and other relationships.

Regional coordination and cooperation needs to be brought to bear on the key challenges facing the countries of the region. For example, in the management of towns;

- Sharing knowledge and lessons learned needs to be further encouraged across and within the region. This could be supported through the establishment of a regional knowledge bank.

In managing the use of the ocean:

- In the management of coastal areas, there is a need to link extension workers with regional and international experts in order to assist coastal communities in accessing technical advice they may require to mange their coastal resources.

- Strengthened regional collaboration among Pacific Island countries will be essential to maximize the benefits they derive from the new regional tuna management regime. Regional collaboration will also be needed in the development of a regulatory framework for seabed mining.

For adaptation to climate change:

- Pacific Island countries should continue to collaborate closely in international negotiations to access adaptation financing.

The Way Forward

Reconnecting the formal and informal institutions in a way that makes them more open, inclusive and accountable; building inter-sectoral linkages and improving policy coordination; and strengthening regional partnerships are all important processes in their own right. Taken together, however, they support a broader strategy of adaptation to change.

The important factor to recognize is that the most effective strategy need not entail large incremental expenditures. Rather, it may involve using available resources—including human resources—more efficiently, and building

further partnerships with communities and the private sector to distribute the financial burden. Improving the efficiency and consistency with which institutions at all levels interact and cooperate will be critical to the success of this strategy.

However, mainstreaming such an approach will have resource implications. It may involve both the reallocation of existing resources and a changed approach to the allocation of future resources. Governments should set the example by requiring their own investments to undergo adaptation screening and by removing or reducing negative incentives such as tendency to follow structural or sectoral solutions. This may require a conscious change in the focus and structure of public financing.

The resources that can be mobilized by the region's development partners will also need to be factored in. Development partners bring a range of motivations and interests to the region which Pacific Island countries should help funnel in support of a shared adaptation vision.

Perhaps the most important resource that needs to be mobilized, however, is the Pacific people themselves. Their resilience, courage, and the strength of their communities and institutions have stood them in good stead so far. An active policy which works to improve links between traditional and formal institutions will allow Pacific Island countries to tap a deep reservoir of ingenuity, resourcefulness, and social capital which is the single greatest asset they possess. That resourcefulness needs to be mobilized by any country which hopes to benefit from the challenges and opportunities it faces at the beginning of the twenty-first century.

COUNTRY SUMMARIES

FIJI

Population: **810,000 (1999)**

GDP: **US$ 2,452 million (1999)**

GDP Per Capita: **US$ 3,027 (1999)**

Background

The May 19, 2000 coup in Fiji has had a devastating impact on the economy, with GDP expected to fall by about 8 percent. This turn of events was especially unfortunate, as prior to the coup, the growth outlook for 2000 was bright. GDP was expected to rise by about 4 percent, on the back of strongly performing sugar, tourism, construction, and gold mining sectors. The coup led to the downfall of the Chaudhury government that took office in mid-1999 after a landmark election that brought to office a Prime Minister of ethnic Indian origin for the first time.

In 1999, the Fiji economy had recovered from one of the worst droughts in its history with a real GDP growth of nearly 8 percent. The 1998 drought came on top of the shocks from the East Asian crisis, a subsequent devaluation, and a financial crisis within the country emanating from problems in the National Bank of Fiji. Despite these unfavorable events, Fiji had maintained a stable macroeconomic environment.

Economic Impact of the Coup

- Tourist arrivals are projected to fall by about 35 percent compared with the record level achieved in 1999. Tourism accounts for 20-25 percent of gross foreign exchange earnings, employs 20 percent of the labor force, and gross tourism receipts are equivalent to 15 percent of GDP. Hotel occupancy rates are reported to have come down to only 30 percent.

- Sugar exports have been affected by the initial refusal to harvest by Indo-Fijian cane farmers. Sugar accounts for 11-12 percent of gross foreign exchange earnings and the sector contributes 10-12 percent of GDP. The greatest potential damage would come from the EU suspending or changing Fiji's preferential access under the sugar agreement. Over the last three years EU sugar transfers have averaged $US59 million per annum. EU prices are currently about 2 times world market prices and cover about 60 percent of total sugar exports.

- The garment industry (13-15 percent of gross foreign exchange earnings) is at risk from sanctions by Australia and New Zealand, both of which provide preferential access to Fiji garment exports. Australian and New Zealand unions had announced bans on the shipment of garments from Fiji.

- 7469 workers have been made redundant since May 19 and about 7000 are working reduced hours. 50 percent of the job losses have been in wholesale, retail, hotels and restaurants sector, followed by 20 percent of job losses in the garments and footwear industry.

Investor confidence (both in terms of foreign direct investment and domestic investment) in Fiji will be significantly undermined. In recent years stagnant private investment rates (at around 11 percent of GDP) have been a major barrier to growth and the creation of the right environment to attract investment had

been the focus of both the Chaudhry and Rabuka Governments – the coup has greatly undermined this major policy goal.

The broader impacts include:

- Fiji had been chosen by the European Union to host the successor of the Lome convention, but was later cancelled. The 'Suva Convention', as it was to be called, would have significantly raised Fiji's (and the broader Region's) international profile.

- The major bilateral partners in the region (the US, New Zealand and Australia) have taken progressively harder positions and there is a possibility of significant sanctions (diplomatic, trade and aid) being taken against Fiji. Action may also be taken through the Commonwealth.

- A number of countries (Tonga, Solomon Islands and Kiribati) have withdrawn their students studying in Fiji. Investments in tertiary education by the University of Southern Queensland (Australia) and Massey University (NZ) could be jeopardized and Fiji's emerging role as a regional and extra-regional tertiary education services provider undermined.

The steep decline in economic activity has led to a corresponding sharp decline in government revenue leading to shortfall of about F$146 million relative to the original 2000 budget. This decline in revenue would lead to a deficit of F$250 million or 9 percent of GDP (compared with the budgeted level of 1.9 percent) if expenditures remained as budgeted. To bring expenditure down in line with reduced revenues the interim government announced a mini-budget that targets a deficit of 3.5 percent of GDP. The expenditure reductions are to be achieved through: 12.5 percent reduction in wages and salaries, 20 percent reduction in operating grants, 30 percent reduction in operating payments, and 30 percent reduction in capital expenditure. Allocations to key social and economic sectors (health, education, social welfare, law and order and tourism) are to be protected.

On the external front foreign exchange reserves have been protected through tight monetary policy (a credit ceiling) and capital controls. Foreign reserves currently stand at about US$ 390 million or 6.1 months of imports.

Recent Economic Performance (Prior to the Coup)

Real GDP growth averaged only about 2 percent per year during 1991-98. Underlying this performance has been a steadily falling investment rate from about 25 percent of GDP in the early 1980s to less than 12 percent in recent years. Contributing to the depressed investment climate in the past has been the dominance of current expenditure in the government budget resulting in low public investment, especially for supportive social and economic infrastructure. Private investment, on the other hand, has been dampened by structural factors including poor governance, uncertainty in the regulatory environment and the delay in resolving issues concerning expiring sugar land leases.

In 1998, GDP grew by 1.4 percent. The drought related to the El Niño weather phenomenon drastically reduced agricultural production, with sugarcane production declining by 29 percent. The impact of the East Asian crisis was not as severe as anticipated. Garment exports to niche high-value markets were largely unaffected by increased competitiveness of East Asian manufacturers resulting from their depreciated currencies. While tourists from East Asia to Fiji declined, those from Australia, New Zealand, North America and U.K. rose by a greater amount to keep the overall numbers higher. In 1999, the economy rebounded with a 8 percent increase in GDP. Leading the recovery was a strong expansion in agriculture, particularly sugarcane production. Sugarcane production and sugar manufacturing grew by an estimated 47.5 percent and 47.3 percent respectively in 1999. A growing tourism sector as well as a

strong expansion in garments and gold production also contributed to the improved growth performance. Expansion in garment output was strengthened by the extension of the derogation by the Australian Government under the South Pacific Regional Trade and Economic Agreement. Excluding sugarcane and sugar, real GDP grew by 5 percent in 1999.

Despite strong output growth, inflationary pressures eased in 1999, reflecting low trading partner inflation, excess capacity in the domestic economy, modest wage settlements in recent years, and recent government policy initiatives including a reduction in import duty on some basic food items and lowering of utility rates. Consumer price inflation was estimated at 0.2 percent at end-1999, down sharply from 8.1 percent at end-1998, and was expected to remain low in the coming months following zero-rating of value added tax from some basic food items effective January 2000.

Reflecting favorable developments in the sugar and tourism sectors, as well as improved external conditions during the last quarter of 1999, the external position strengthened considerably in 1999. Gross international reserves rose to US$421 million (4.8 months of import cover) at end-1999, up from US$360 million (3.8 months of import cover) in 1997.

On the fiscal front, as total expenditures were projected to increase by 1.2 percent while revenues (excluding receipts from asset sales) decline by 2.7 percent, the overall fiscal deficit for 2000, excluding receipts from asset sales, was projected at 3.9 percent of GDP versus an estimated deficit of 3.1 percent of GDP for 1999. In its 2000 budget, the Chaudhury Government outlined employment generation, poverty alleviation and narrowing of the gender gap as its key goals for the people of Fiji. Attainment of these objectives, the Government stressed, would be dependent on a vibrant economy underpinned by strong investment growth. Accordingly, the Government planned to re-orient expenditures away from less critical areas towards the priority areas of health, education and infrastructure. The Government intended to promote investment through attainment of economic stability, promotion of law and order, security of property, and maintenance of consistent and clear policies, and good governance.

FIJI: SELECTED ECONOMIC INDICATORS, 1994-99

	1994	1995	1996	1997	1998	1999 e/
Indicator Levels (US$ million)						
GDP (at current market prices)	1820.5	1906.8	2026.5	2077.0	2227.1	2452.4
Govt. Revenue & Grants	477.0	491.5	508.3	549.3	780.2	674.4
Govt. Expenditures	549.8	553.1	648.5	739.7	851.5	821.5
Govt. Budget Deficit (-) a/	-72.7	-61.7	-140.2	-190.4	-71.3	-147.1
Exports (fob)	516.0	518.3	660.2	518.9	422.7	534.9
Imports (fob)	747.8	749.1	852.3	763.1	614.8	654.5
Ext. Current Account Balance (after grants)	-65.5	-18.3	63.3	31.6	-6.0	27.8
Gross Reserves	273	349	427	360	385	421
Macro Balances (% GDP)						
Budget Deficit (-) a/	-4.0	-3.2	-6.9	-9.2	-3.2	-6.0
External Current Account Balance (after grants)	-3.5	-0.9	3.0	1.6	-0.4	1.5
Total External Debt	15.0	13.8	11.9	11.6	13.7	14.3
Domestic Debt (Central Govt.)	29.8	28.9	31.8	38.1	32.6	32.5
Memo Items (% p.a.)						

GDP growth (at constant factor cost)	5.1	2.5	3.1	-0.9	1.4	8.0
Consumer Inflation (end-period)	1.2	2.2	2.4	2.9	8.1	0.2
Reserves (months of imports c/)	2.9	3.7	4.0	3.8	4.8	4.8

a/ including asset sales.
e/ estimated
c/ Goods and non-factor services

Source: Reserve Bank of Fiji

Policy makers are keenly aware of the need to diversify the economy, both away from the reliance on the sugar crop within the agricultural sector, and, more generally, away from dependence on agriculture. Within the agricultural sector, the government has encouraged the development of the timber industry. Earnings from exports of timber and its products have increased substantially since 1986 as plantations run by Fiji Pine, the country's main operator in the sector, have come on stream. Outside agriculture, there had been an upsurge of investor interest in Fiji. During the last quarter of 1999, the Fiji Trade and Investment Board (FTIB) approved the establishment of new projects estimated at over F$350 million with an employment potential of 3,000 jobs. These include two additional hotels in Denarau, the Natadola Four Seasons hotel and the second phase of the Denarau villa residential project.

Key Issues

Land leases. The long term prospects for the sugar industry depend on resolution of the Agricultural Landlord and Tenants Act (ALTA). Without an extension of leases, sugar growers face an uncertain future, and are currently unable to get bank loans on leases about to expire.

The Regulatory Environment for Private Sector Development. While there has been progress in improving the regulatory environment for the private sector, the degree of official discretion in the regulatory system has remained high, resulting in a high degree of uncertainty and hence the cost of doing business in Fiji. The main sources of discretion relate to tax and custom duty concessions, approval of foreign investment, granting of work permits, and price controls. The complexity and the lack of clarity in the rules, together with weaknesses in enforcement have combined to increase the perceived risk of investment in Fiji.

Further deregulation to establish a secure, predictable business environment will be essential for fostering the recent upsurge of investor interest. In the 2000 budget, the government also announced reforms in foreign exchange regulations aimed at facilitating private investment. These include increasing limits under which various capital account transactions can be made, delegating authority to commercial banks, the Suva Stock Exchange and authorized dealers and lenders for approving various transactions, and by reducing various documentary requirements.

Policy Changes In keeping with its election manifesto, the Chaudhury government made policy announcements, some of which reverse those of the former government. These included reinstating airport workers sacked due to restructuring, reversals in SOE privatization policy and programs, debt forgiveness for sugar-cane farmers, a new minimum wage proposal of F$120 per week (approximately twice the average wage in the garment industry), reduction in housing loan rates from 11 percent to 6 percent, and zero-rating of VAT on basic food and other essential items. It is not clear what the stand of the new government will be on these fronts . However, it is crucial for Government to assess the benefits of these changes in terms of improved welfare of its people against the costs, for instance, in terms of its fiscal position and the overall investment environment.

Asset Maintenance. The lack of funds for infrastructure maintenance is affecting the business community as well as households. Road maintenance gets half the estimated amount for optimum use, while deficiencies in the water distribution system has limited water supply to households. Adequate funding for infrastructure maintenance will be essential as was articulated in the 2000 budget.

Social Expenditures. In the social sector, the key issues relate to (a) adequate funding of basic education (primary and secondary), teacher training for primary and secondary levels, and improved planning in the education system; and (b) better resource allocation to rural and primary health care services, greater role for private sector participation in health care, and better planning of health care systems. The 2000 budget addressed some of these issues.

FEDERATED STATES OF MICRONESIA

Population: **113,470 (1998)**

GDP: **US$213 million (1998)**

GNP Per Capita: **US$1,800 (1998)**

Background

With the progressive reduction of United States grants under the Compact of Free Association[1], the Government of FSM began to implement a comprehensive adjustment program in 1996 to address large structural imbalances in the public finances and the external accounts. These imbalances have arisen from unsuccessful attempts by Government to expand the productive base of the economy through its direct involvement in economic activities. The reform program focuses in particular on government expenditure reductions and on structural measures aimed to promote private sector activities. Over the period 1986-98 the FSM economy grew at an annual average rate of 2.3 percent. There have been considerable year-to-year fluctuations in growth rates, and growth has been unevenly spread across the four states, with Pohnpei and Yap performing significantly better than Chuuk and Kosrae. A population growth rate of roughly the same magnitude as economic growth has meant that per capita incomes have stagnated over the 1986-98 period.

Recent Economic Performance

The FSM economy has been dominated by the public sector. On the supply side public administration accounts for over 40 per cent of GDP while on the demand side government expenditure is about 70 per cent of GDP, down from over 100 percent in the early 1990s. The decline in external resources necessitated a downward adjustment in government expenditures. As part of the reform program, the public sector has been downsized as a result of which real GDP growth declined by 2.8 percent on an annual average basis during FY95-98. In FY99, growth is estimated to have turned positive by 0.5 percent as private sector activity picked up. Wholesaling and retailing is the most important private sector activity, accounting for 22 per cent of GDP, followed by fisheries and tourism that contribute 2 per cent each. Subsistence activities are estimated to account for about 16 per cent of GDP.

With the economic slow-down in the late 1990s, consumer price inflation eased to 3 percent per annum from moderate levels attained during the early 1990s.

The external current account deficit (excluding grants) narrowed during FY96-98 and no new commercial loans were incurred during the period. External reserves, as measured by the financial holdings of the state and national governments, stood at the equivalent of 6 months of imports of goods and services at end-1998.

Compact assistance which accounted for about 58 percent of government revenue in FY87 had with progressive reductions declined to about 47 per cent in FY98. Over the same period the share of tax revenues increased from 7 per cent to 14 per cent. FY97 marked the beginning of the second step-down of Compact funding in the amount of US$15 million per year. Despite declining Compact transfers, small

[1] The major element of this assistance provided for annual block grants of US$60 million during FY87-FY91, US$51 million during FY92-FY96, and US$40 million over FY97-FY01. A new assistance package form the US is currently being negotiated.

overall surpluses were recorded in the fiscal accounts during FY1997-98 and a larger surplus was expected for FY99. The above fiscal development was largely achieved through successful implementation of the Public Sector Reform Program, especially reduction of the wage bill, in all four States. Repayment of arrears by Chuuk State during the period also contributed to the improved fiscal performance.

FSM: SELECTED ECONOMIC INDICATORS, 1993/94-97/98

	1993/94	1994/95	1995/96	1996/97	1997/98
Indicator Levels (US$ million)					
GDP (at current market prices)	194.9	205.8	215.5	213.0	212.7
Govt. Revenue & Grants	166.2	172.5	178.3	157.3	161.0
Govt. Expenditures	167.3	169.1	163.5	154.2	160.3
Govt. Budget Deficit (-)	-1.1	3.4	14.8	3.1	0.7
Exports (fob)	66.3	49.0	32.0	33.0	32.0
Imports (fob)	160.0	124.5	91.1	85.0	83.0
Current Account Balance (after grants)	12.7	45.8	61.6	63.8	66.7
Macro Balances (% GDP)					
Budget Deficit (-)	-0.5	1.6	6.9	1.4	0.4
External Current Account Balance	6.5	22.3	28.6	30.0	31.4
Memo Items (% p.a.)					
Real GDP growth	-1.8	1.6	-2.3	-3.9	-0.6
Consumer Price Inflation	4.0	4.0	4.0	3.0	3.0

e/ Estimated.

Source: IMF Staff Reports

Key Issues:

- ***Progress on Implementing Reform Measures***. The implementation of government policy has met with some success. The freeze on wages, travel and subsidy payments has continued; selected national and state government ministries/agencies have been merged or eliminated, and state services have been contracted out to the private sector. Revenue raising measures implemented include shifting import duty calculations from f.o.b. to c.i.f. basis, reducing tax exemptions and strengthening tax administration. While much progress under the program has been made, further steps to sustain the adjustment effort are needed, particularly in maintaining large fiscal surpluses needed to offset the decline in US financial assistance over the coming year. Other measures planned for implementation include raising state taxes, creating a single federal tax department, and increasing user charges. The government has recently endorsed a proposal to replace the gross revenue tax with a Value Added Tax which would improve the efficiency of the tax system. The government aims to increase tax revenue collections from a currently level of 10 per cent of GDP to 20 per cent over the long term. Revenue sharing between national and state governments is also being addressed. A proposal to increase the states' share of tax revenue from 50 per cent to 70 per cent is under consideration.

- ***Promoting Private Sector Development***. Private sector development should focus on the key areas of tourism, fisheries and agriculture as the long-run growth potential of the economy is dependent upon these activities. There is the need to reduce costs, improve competitiveness and boost domestic and foreign investor confidence in these sectors. Achieving these objectives call for addressing a wide range of structural measures including streamlining investment approval processes, facilitating use of land as collateral or for leasing and curbing public sector wage growth in order to narrow the differential between public and private sector wages. The adoption of a new Foreign Investment Act effective October, 1998 would help improve the foreign investment regulatory environment. Increased private sector activity should also assist in generating adequate employment for a rapidly expanding labor force. A number of other reform measures are also being considered as part of a proposed Private Sector Development Loan by the ADB.

- ***Public Enterprise Reform***. FSM has met with some success in commercializing the operations of most national and state public enterprises. Plans for the restructuring and privatization of the remaining loss-making state-owned fishing and agriculture ventures are well advanced. Government needs move quickly to finalize privatization efforts.

- ***Achieving Participatory Development***. Good progress has been made by Government towards achieving participatory development. A second Economic Summit on FSM held recently in Pohnpei brought together a number of development partners including traditional leaders, the private sector, non-government organizations, churches, women's and youth groups, government officials and representatives of foreign governments. The summit helped strengthen the ongoing dialogue among government officials, the business community and community leaders to ensure that economic policies, consistent with the goals and aspirations of the people, are supportive of participatory development. This dialogue needs to be carried out on a frequent and systematic basis.

- The termination of secure Compact related funding at the end of 2001 has discouraged both domestic and foreign investment. In its negotiations with the US on a new assistance package, FSM has proposed that the uncertainty created by the "terminal date" effect be tackled through the creation of a trust fund. This trust fund would be mainly funded through official transfers and concessional lending and would enable investors to lengthen their planning horizons.

KIRIBATI

Population: **86,000 (1998)**

GDP: **US$45 million (1998)**[2]

GNP Per Capita: **US$1180 (1998)**

Background

Kiribati continues to maintain its solid record of financial stability and fiscal prudence. Yet it remains one of the least developed Pacific Islands economies with low growth in per capita real incomes. While social indicators have improved, life expectancy remains low (at 59 years) and infant mortality high (at 64 per thousand live births). Economic growth has been constrained by a number of structural impediments, including a large and inefficient public sector that crowds out the private sector; an inefficient tax system; limited access to land; price controls; government subsidies; and cumbersome procedures for direct foreign investment.

For many years, economic strategy had been based on two pillars: a cautious fiscal policy and state-led development. This strategy maintained macroeconomic stability and built up the country's external trust fund (the Revenue Equalization Reserve Fund) but resulted in stagnant per capita incomes. In 1995, a new government adopted an expansionary fiscal policy by raising expenditure sharply in order to revitalize economic activity. While this approach gave a temporary boost to growth, it was financed by large drawdowns from the RERF.

Recent Economic Performance

Real GDP growth accelerated to 6 percent in 1998, up from 3 percent the year before. Real GNP growth, which is highly volatile and influenced largely by fishing license fees, recorded 21 percent in 1998 building upon a high of 29 percent in 1997. Although fishing license revenue (27 per cent of GNP in 1998) is generally the largest item in net factor income from abroad, the smallest item, remittances from about 1300 seamen (7.4 per cent of GNP in 1998), is most important in terms of impact on private consumption as a large number of people are affected. Underlying strong economic performance in 1998 was higher public investment related to construction activity at the major sea port (Betio) and construction of junior secondary schools. A strong recovery in copra output in 1998, more than double the level in 1997, as well as increased output in government administration (which accounts for over 30 percent of GDP) also contributed to the improved growth performance in that year. Consumer inflation remained low at 2 percent in 1997 but rose sharply to nearly 5 percent in 1998 as imports were constrained owing to the handling problems at the Betio port, and the depreciation of the Australian dollar, the national currency. For 1999, however, economic growth is estimated at around 2 percent with low inflation. The recent completion of the US$ 22 million Betio Port improvement project, funded through a grant from Japan, is expected to boost Kiribati's economy through increased exports of copra and other local produce, increased foreign trade, and the creation of new jobs.

The fiscal and external positions strengthened during the late 1990s mainly due to favorable developments in agriculture, particularly the fishing industry. The El Nino weather phenomenon boosted fish catch in Kiribati waters in 1998, increasing considerably fishing license fees in that year to nearly 60 percent of GDP, about twice normal levels. Consequently, the overall fiscal balance (excluding income

[2] In recent years Kiribati's GNP has been about 1.5 to 2 times the GDP, reflecting sizable income from fishing license fees, external assets, and seamen's remittances.

from the Revenue Equalization Reserve Fund) reached a substantial surplus, the equivalent of 24 percent of GDP in 1998, compared to a deficit of over 35 percent of GDP two years before. Current expenditure fell slightly in 1998 as a share of GDP, but remained high at over 70 percent of GDP. No drawdowns from the RERF were needed in 1998.

KIRIBATI: SELECTED ECONOMIC INDICATORS, 1994-99

	1994	1995	1996	1997	1998	1999 e/
Indicator Levels (US$ million)						
GDP (at current market prices)	39.6	46.0	50.3	48.7	45.2	48.5
Govt. Revenue & Grants	36.0	43.1	37.8	59.8	61.9	45.0
Govt. Expenditures	36.7	47.8	55.7	56.7	51.1	60.7
Govt. Budget Deficit (-)	-0.7	-4.7	-17.9	3.1	10.8	-15.7
Exports (fob)	5.2	7.4	5.3	6.3	5.9	5.9
Imports (fob)	26.4	35.2	38.0	39.1	36.8	41.8
Ext. Current Account Balance (after grants)	4.2	0.7	-13.7	3.6	11.6	-9.9
Official External Assets	260	287	302	318	372	380
o/w RERF	247	274	296	306	350	364
Macro Balances (% GDP)						
Budget Deficit (-)	-1.7	-10.1	-35.6	6.3	24.0	-32.4
External Current Account Balance (after grants)	10.5	1.6	-27.2	7.3	25.8	-20.4
External Debt	17.3	15.0	19.5	19.0	17.2	26.6
Memo Items (% p.a.)						
GDP growth	7.2	6.5	2.6	3.3	6.1	2.5
GNP Growth	6.1	7.9	-11.5	30.0	15.6	-16.1
Consumer Inflation (annual average)	5.3	4.1	-1.5	2.2	4.7	2.0
Official External Assets (yr. Imports 1/)	4.5	4.8	4.3	5.0	5.6	5.1

e/ estimated.
1/ Imports of goods and services.

Source: IMF Staff Reports (06/99)

On the external front, increasing revenue from fishing license fees as well as increased fish exports caused the current account deficit (excluding grants) to narrow significantly to under 4 percent of GDP in 1998, down from an average of over 30 percent of GDP during the previous two years. The improvement in the current account deficit together
with strong inflows of external grants led to a sizable overall surplus and a rise in external assets. At end-1998, official external assets stood at US$372 million (A$606 million), equivalent to about 5.6 months of imports of goods and services. Valuation gains in the RERF (from the rise in world bond and equity prices as well as the depreciation of the Australian dollar), also contributed to the improved reserve position. Public external debt remained low on highly concessional terms.

Key Issues:

- ***Implementing the Medium-term Strategy***. A Medium-term Strategy that aims to re-orient the economy toward private sector-led growth was adopted in late 1997. The strategy identifies three key issues: (i) limited growth in per capita GDP since independence in 1979; (ii) the need to find employment for the 60 percent increase in the workforce expected over the next 15 years; and (iii) Government's ability to sustain growth in public services. There is the need to accelerate the implementation of this strategy as small size of the private sector is unlikely to generate sufficient employment for the rapidly expanding labor force in the medium-term. Strategies to address these issues should include reducing the size of the central government, reforming public enterprises, and facilitating private sector development, including encouraging foreign investment.

- ***Public Enterprise Reform***. Although public enterprises dominate economic activity, the performance has been poor. They have incurred large losses, provided poor services and have crowded out the private sector by operating on a non-commercial basis. Since the continuing performance of many public enterprises constrains growth and places a burden on the budget, there is the need to move quickly with the commercialization and privatization of these enterprises.

- ***Fiscal Policy***. Over the medium term, to reduce tax burden and support private sector growth, there is the need to curb the rapid growth in current expenditure that has occurred over the past five years. This could be done by reducing support for public enterprises and right-sizing the civil service.

Government's Development Strategy

In response to a history of stagnant per capita incomes, together with concerns that the fiscal expansion in the mid-1990s was unsustainable, the government adopted a medium-term strategy in 1997 to generate sustainable growth. The strategy aims to encourage private sector-led growth by (i) reducing the relative size of the public sector through containing the level and improving the quality of government expenditure, including through medium-term output-based budgeting, voluntary redundancy schemes for civil servants, and a freeze on new recruitment; (ii) reforming public enterprises, through commercialization or privatization; and (iii) providing a sound physical and regulatory infrastructure, including by improving basic education and health services; preserving the environment; liberalizing trade and investment; removing monopoly privileges, promoting a foreign investment friendly environment; and clarifying land titles.

REPUBLIC OF THE MARSHALL ISLANDS

Population: **63,000 (1998)**

GDP: **US$96 million (1998)**

GNP Per Capita: **US$1,540 (1998)**

Background

A key challenge facing the Marshall Islands economy is to adjust to the progressive reduction of United States grants under the Compact of Free Association. Given that, until recently, compact assistance provided on average about 70 per cent of government revenue, the brunt of the adjustment would be borne by the public sector. In response, the Government of Marshall Islands began to implement a comprehensive adjustment program in 1996 to address large structural imbalances in the public finances and the external accounts. The reform program focuses in particular on government expenditure reductions and on structural measures aimed to promote private sector activities.

Recent Developments.

Following three years of contraction GDP grew by an estimated 0.5 per cent in 1999. During 1996-98, GDP declined by a cumulative 25 per cent. The steep recession was caused chiefly by cuts in government expenditure and employment under the public sector reform program. In addition, agriculture and fisheries production fell by about 20 per cent during 1996-97 due to a drought related to the El Nino weather phenomenon. Economic activity picked up in 1999 as aid-funded road works employing 300 people got underway. Private construction activity was also boosted with the building of a tuna processing factory. The agricultural sector began to recover from a drought, and public sector downsizing was forestalled.

Consumer price inflation which had reached a high of nearly 10 per cent in 1996, eased to average of about 4 per cent during 1997-98, and further to about 1 per cent in 1999. With the US dollar as its domestic currency and US being the largest source of imports, the inflation rate tends to track that of the US.

The external current account deficit (excluding grants) narrowed to 28 percent of GDP in 1998 from a high of 50 percent of GDP in 1996 as imports declined in response to the economic downturn. Including grants the current account recorded a surplus of over 20 per cent in 1998. Between 1995-98 merchandise imports fell nearly 24 per cent in value terms while exports declined by 6 per cent. Government financial holdings stood at US$4 million at end-1998, equivalent to less than one month of imports of goods and services.

A large budget surplus of 20 percent of GDP was recorded in 1996, when capital outlays dropped sharply after completion of several large public investment projects in the previous year. The budget remained in surplus in 1997 and 1998 but declined sharply to about 4 per cent of GDP. Tax receipts fell as the economy contracted, but a reduction in import duty exemptions and improved administration raised the receipts form this source. Compact grants declined reflecting the planned step-down for the final five-year period of disbursements. On the expenditure side compensation payments to retrenched civil servants raised outlays, but capital expenditure declined. A deficit of nearly 9 per cent of GDP is estimated for 1999.

MARSHALL ISLANDS: SELECTED ECONOMIC INDICATORS, 1993/94-97/98

	1993/94	1994/95	1995/96	1996/97	1997/98
Indicator Levels (US$ million)					
GDP (at current market prices)	94.6	105.2	97.7	97.0	95.8
Govt. Revenue & Grants	70.9	80.0	80.5	64.8	63.7
Govt. Expenditures	83.4	94.8	60.6	61.0	59.7
Govt. Budget Deficit (-)	-12.5	-14.8	19.9	3.8	4.0
Exports (fob)	18.6	22.9	20.1	25.8	21.6
Imports (cif)	68.1	73.9	73.2	61.6	55.9
Ext. Current Account Balance (after grants)	4.8	1.6	3.5	16.4	21.3
Government Financial Holdings (end per.)	40.4	8.9	8.0	6.8	3.7
Macro Balances (% GDP)					
Budget Deficit (-)	-13.2	-14.1	20.3	3.9	4.2
External Current Account Balance (after grants)	5.1	1.5	3.6	16.9	22.2
Memo Items (% p.a.)					
Real GDP growth	2.8	2.7	-15.2	-5.3	-5.0
Consumer Price Inflation	5.6	8.3	9.6	4.8	4.0
Financial Holdings (months of imports, cif)	7.1	1.4	1.3	1.3	0.8

e/ Estimated.

Source: IMF Staff Reports, 06/98

Key Issues:

- ***Sustaining the Reform Effort***. As Compact assistance terminates in 2001, sustained implementation of fiscal and structural measures to promote private sector export growth would allow the Marshall Islands to meet its objectives of reducing dependence on external assistance, achieving fiscal stability and attaining a sustainable external current account deficit over the medium-term. A strong commitment to reform will greatly support the government's position in negotiations over a new assistance program following the termination of the current Compact.

- ***Implementing Reform Measures***. Good progress has been made under the Policy Reform Program. Measures undertaken include rationalization of several ministries, a 33 percent reduction in civil service staff between late 1995 and March 1999, elimination or reduction in subsidies to some public enterprises and a rationalization of the tariff system. A freeze on wage increases remains in effect since late 1995 and efforts to strengthen tax and customs administration are also continuing. However, public service employment has yet to be reduced to its targeted level, and action is required on a number of revenue raising measures. A further commitment to reforming public enterprises and creating an environment for private sector development is also needed. As a strong track record in

the implementation of the reform program is essential in mobilizing financial support from international financial sources, there is the need for Government to stay the course of reform.

- ***Promoting Private Sector Growth.*** While Government dominance of economic activity has been reduced, the private sector remains very small. Structural measures to promote private sector growth must be implemented vigorously, in particular actions to ease investment, facilitate the use of land, and stimulate competition. Parliament approved legislation on investment approval and business licensing procedures in 1998 but it is yet to be implemented.

REPUBLIC OF PALAU

Population: **18,110 (1998)**

GDP: **US$129 million (1998)**

GDP Per Capita: **US$7,137 (1998)**

Background

Under the Compact of Free Association with the United states which took effect in October 1994, the Republic of Palau has been heavily dependent on grants from the United States to finance growing and unsustainable fiscal deficits. As these grants are scheduled to be phased out over the next decade, fundamental reforms are needed, particularly in the area of fiscal policy, to achieve long-term economic sustainability. Other reforms, structural in nature, are also necessary to promote a dynamic private sector and improve medium-term growth prospects. These would include streamlining of investment approval processes, relaxation of regulations concerning foreign direct investment as well as clarification of land ownership and lease rights which has prevented the effective use of real estate as collateral.

Recent Economic Performance.

Economic conditions deteriorated considerably during 1997-98 as the Asian financial crisis adversely affected the tourism industry, the main private sector activity. Real GDP growth was flat in 1997 and was estimated to have deteriorated further in the subsequent year with little improvement estimated for 1999. However, economic activity is expected to pick up considerably in 2000, as the regional economy rebounds and the construction phase of several large public and private investment projects are initiated. Notable among these are a 53-mile highway project and a new airport terminal, both on the main island of Babeldaob as well as a proposed 5-star 450-room hotel.

The external accounts has in recent years been characterized by large trade deficits on account of a limited merchandise export base and growing dependence on imports. These deficits have, however, been more than offset by sizable surpluses on the services account and grants. The trade deficit shrank from 47 percent of GDP in 1995/96-1996/97 to 40 percent of GDP in the subsequent two years as imports declined in the wake of the economic downturn. With growing tourist receipts, the current account deficit (excluding grants) fell sharply to 6 percent of GDP in 1996/97 from 15 percent of GDP in 1995/96, but deteriorated subsequently with the Asian financial crisis. The current account after grants remained in surplus, albeit declining.

On the fiscal front, the need for corrective action has been made more urgent by a sharp worsening of the fiscal position in 1998/99. The overall fiscal balance (including grants) is estimated to have recorded a deficit equivalent to 12 percent of GDP in 1998/99, compared with surpluses in the previous two years when windfall gains, including earnings from investing Compact funds, temporarily boosted current receipts. Excluding these one-off gains, the fiscal deficit would have been around 4 percent of GDP for these two years. Contributing to the weak fiscal performance was also a weak revenue position resulting from a weakening economy, a step-down in U.S. grants (about 4.5 percent of GDP) and an increase in current expenditure, including a sizable contribution to the heavily underfunded Civil Service Pension Fund.

REPUBLIC OF PALAU: KEY MACRO INDICATORS, 1993/94-98/99

	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99 e/
Indicator Levels (US$ million)						
GDP (at current market prices)	84.6	105.2	124.3	131.1	129.3	129.3
Govt. Revenue & Grants	49.6	166.2	66.0	72.3	73.4	56.4
Govt. Expenditures	50.4	65.3	75.1	76.5	64.6	71.6
Govt. Budget Deficit (-) a/	0.4	100.8	-9.2	0.3	7.7	-15.2
Exports (fob)	12.6	13.9	13.9	11.8	11.1	11.0
Imports (fob)	44.2	60.4	72.4	72.9	63.2	63.3
Current Account Balance (after grants)	8.2	68.3	12.6	21.7	17.2	8.0
Macro Balances (% GDP)						
Budget Deficit (-)	0.4	95.8	-7.4	0.2	6.0	-11.8
External Current Account Balance	9.7	64.9	10.2	16.5	13.3	6.2
Memo Items (% p.a.)						
Nominal GDP growth	11.5	24.3	18.2	5.5	-1.4	0.1

a/ Includes errors and omissions.
e/ Estimated.

Source: IMF Staff Report, 09/99

Key Issues:

Fiscal Adjustment. In light of declining compact grants, there is the need for a gradual fiscal adjustment over the coming years. This could be achieved partly through the introduction of output budgeting and outsourcing of selected government services. Although expenditure reduction remains a priority, it needs to be done with adequate safeguards on health, education and maintenance expenditures. Public expenditures should be made more efficient and effective regardless of whether they are current or capital in nature.

Promoting Private Sector Development. There is the need to implement structural measures to attract foreign direct investment and promote private sector activity. Recommended measures should include streamlining of investment approval processes and facilitating use of land as collateral or for leasing.

Strengthening Implementation Capacity. A progressive strengthening of implementation capacity of the authorities in Palau would be necessary in carrying out a wide range of reforms that the country will embark upon in the coming years in its adjustment efforts.

Expanding the Productive Base. There is the need to expand the productive base of the economy, other than tourism, to include other activities, primarily agriculture which has the potential to add to the country's economic vitality. To the extent possible, commercial ranching on the island of Babeldaob to

produce beef and other livestock products for domestic consumption as well as exports, needs to be explored.

Development Strategy

In anticipation of the cessation of US Compact assistance by 2009, the Government approved, in 1996, a National Master Plan which sets forth the framework and policies for the pursuit of sustained economic and social development over a 25-year period. The main long-term development objectives of the Master Plan are summarized as follows: (i) a substantial shift in economic activity from the public sector to the private sector aimed at increasing productivity and efficiency of resource use; (ii) strengthening of government institutions to improve coordination of decision making processes while, at the same time, reducing the relative size of government; and (iii) identification of financing strategies, including tax reform, to offset the decline in US assistance over time.

SAMOA

Population: **168,027 (1998)**

GDP: **US$220 million (1998)**

GDP Per Capita: **US$1,310 (1998)**

Background

The Samoan government's first Statement of Economic Strategy in 1995 laid the foundation for a partnership between the government and the private sector. The government's role in this partnership was to establish the enabling environment within which the private sector could profitably operate. To date, the government's track record in doing so has been encouraging. Good progress has been achieved on a strongly owned reform program under which tariffs, excise and income taxes have been reduced; the tax base has been widened through a VAT, financial sector has been liberalized, prudential supervision and regulatory framework has been strengthened, the central bank has moved to indirect control instruments, state owned enterprises have been privatized, and efforts have been made to streamline investment guidelines. There are, however, areas where progress has been slow and would need further work in order to harness the full benefit of the reform program, for example, the privatization and corporatization of public enterprises.

In the early 1990s, the economy suffered from adverse economic shocks, emanating from two cyclones and a taro leaf blight. The agricultural sector is yet to recover from the long-term damage caused by the taro leaf blight of 1993. Appropriate macroeconomic policies were put in place to support recovery and growth rebounded to pre-cyclone levels in the mid-1990s.

Recent Economic Performance

In the mid-1990s, a sharp increase in public investment and expenditure related to reconstruction activity in the aftermath of the devastating cyclones led to a rebound in the economy. GDP growth averaged 6.9 percent per year during 1995-96. During 1997-98, growth slowed to an average of 2.2 percent per year due to the completion of cyclone reconstruction activity, a drought, and a downsizing of operations at Yazaki, the Japanese-owned automotive wiring assembly plant. Growth exceeded expectations in 1999 as GDP rose an estimated 5.5 percent compared with a budgetary forecast of 2 percent. Notable growth was witnessed in the hotels and restaurants sector, and the commerce, transport and communications sector, as a result of increased tourism activity at end-1999 related to the year 2000 celebrations. A key contribution came from the fisheries sector which expanded by over 40 percent. During the last three years the fisheries sector has grown strongly with increased exports to a canning factory in American Samoa and to Japan. As a result the share of fisheries in GDP has risen from about 4 percent in 1996 to about 6.2 percent in 1999.

Consumer price inflation decelerated to low levels in recent years registering 0.3 per cent at end-1999, 2.2 percent in 1998, down from nearly 7 percent in 1997. This performance reflected lower prices for domestically produced goods as food production recovered from an earlier drought, low inflation in trading partners, chiefly Australia and New Zealand, and reduced tariff rates.

SAMOA: SELECTED ECONOMIC INDICATORS, 1994-99

	1994	1995	1996	1997	1998	1999 e/
Indicator Levels (US$ million)						
GDP (at current prices)	189.1	193.2	218.1	235.3	220.2	237.7
Govt. Revenue & Grants e/	78.3	95.3	100.1	91.7	85.0	85.8
Govt. Expenditures e/	92.7	100.8	95.7	86.5	82.5	86.3
Govt. Budget Deficit (-) e/	-14.4	-5.5	4.4	5.2	2.5	-0.5
Exports (fob)	6.5	8.8	10.1	14.6	18.8	18.1
Imports (cif)	104.4	92.1	99.5	100.6	96.7	115.3
Ext. Current Account Balance (after grants)	8.4	12.2	13.2	20.5	16.3	7.87
Total External Debt	173.1	177.4	168.3	166.9	161.0	147.3
Gross Reserves	42.3	46.2	53.5	61.6	61.9	60.5
Macro Balances (% GDP)						
Budget Deficit (-) e/	-7.6	-2.8	2.0	2.2	1.2	-0.2
External Current Account Balance	-9.5	-7.1	-5.1	-3.6	-3.4	-8.1
Total External Debt	91.5	91.8	77.1	70.9	73.1	62.0
Memo Items (% p.a.)						
GDP growth	-0.1	6.4	7.3	1.0	3.4	5.5
Consumer Inflation (%)	18.4	1.0	5.4	6.9	2.2	0.3
Reserves (months of imports) a/	6.3	5.9	6.3	7.2	7.2	6.3

a/ Imports of goods and services.
e/ Estimated.

Source: Government of Samoa

The external position continued to improve after the mid-1990s supported by strong expansion in exports, particularly fishing and tourism and increasing inflows of private and official transfers. Fish exports grew nearly eleven-fold between 1996 and 1998, to increase their share of merchandise exports from about 9 percent to 46 percent. Taro provided an average of 45 percent of export earnings during 1991-93, but since the taro leaf blight exports have been negligible. Gross receipts from tourism, the key foreign exchange earner, averaged about 17 percent of GDP over 1996-98. Private transfers also averaged 17 percent of GDP over the same period. By end-1998, despite the Asian crisis which impacted Yazaki exports, gross official reserves had reached US$62 million (about 6 months of import cover), up from US$54 million (about 6 months of import cover) in 1996. Sound monetary and fiscal policies in recent years also contributed to the improved external position.

To stimulate growth, the Government had planned to increase capital expenditure by about 2 percent of GDP which would have led to a shift from a fiscal surplus in 1997/98 to a planned deficit in 1998/99. However, with expenditure being lower than projected, a fiscal surplus of 0.2 percent of GDP was achieved. Although the government has attempted to target additional spending to high priority areas such as education, health, and maintenance of infrastructure, the 1998/99 budget also included lower priority items such as support to public enterprises estimated at 4 percent of GDP.

The overall fiscal balance (including grants) recorded small surpluses in the late 1990s , allowing government deposits at the central bank to rise significantly. As the central bank has no claims on the central government, this situation has enabled the central bank to accommodate strong growth in private sector credit while moderating the pace of broad money growth, and restraining inflation.

A key issue for the Samoan government is to improve the quality of public expenditure by (a) increasing expenditures for basic education and health; (b) spending less on supporting public enterprises by accelerating the privatization program; and (c) downsizing the public service. This would allow a further increase of government deposits and permit increased private sector credit to support growth.

The government's Statement of Economic Strategy 2000-01 reaffirms its commitment to furthering economic reform and emphasizes that reforms must benefit the community as a whole. If the government is able to maintain a stable macroeconomic environment and sustain its reform efforts, over the medium term, barring external shocks, it is possible for the economy to grow at 3-4 percent.

SOLOMON ISLANDS

Population: **416,200**

GDP: **US$342 million**

GDP Per Capita: **US$820**

Background

The ethnic crisis that erupted in mid-1999, led a coup that resulted in the removal of a democratically elected Prime Minister in June 2000. The hostilities involve two armed groups, the Isatabu Freedom Movement (IFM) belonging to the island of Guadalcanal and the Malaitan Eagle Forces (MEF) belonging to the island of Malaita. Tensions between the Guadalcanalese and the Malaitans are not new, but it is only now that it has taken the deadly form of armed conflict.

Economic Impact of the Ethnic Crisis

Closure of the main palm oil plantation has already had a large negative impact. In June 1999, the ethnic crisis forced the closure of the state owned Solomon Islands Palm Limited, as the largely Malaitan labor force fled from Guadalcanal. Earnings from palm oil exports, which provided nearly 14 percent of export earnings in 1998, fell by 33 percent in 1999. No production or export is envisaged in 2000. Given the production cycle, palm oil will be produced only after a minimum of 24 months from the time when operations restart.

Closure of the gold mine will be a major setback to the economy. The Isatabu Freedom Movement rebels raided the Australian owned gold mine in June 2000 bringing its operations to a halt. The gold mine which had its first full year of operation in 1999 employed 520 people including about 85 expatriates. In 1999 gold exports provided nearly 25 percent of total export earnings and accounted for about 6 percent of GDP. Excluding gold mining operations Solomon Island's GDP would have fallen by a cumulative 6 percent rather than remaining flat over the last two years. It will take about 6 months for production to restart.

With the crisis spreading to the western provinces logging and fishing operations are threatened. ***Logging is the key export activity accounting for about 31 percent of exports in 1999, down from a pre-crisis level of 60 percent in 1996. It contributes about 5-7 percent of GDP and about 25 percent of total tax revenues. Logging in the mid 1990s was however done at a rate that is 2-3 times the sustainable rate and has thus been environmentally damaging. The current rate though lower is still excessive.***

Fish exports provide about a quarter of total export earnings and about 6-7 percent of GDP. Canned tuna which is about 10 percent of total fish exports is sold under preferential trading arrangement to the EU. The key exporter Solomon Taiyo Limited has suspended operations.

Tourist arrivals fell about 20 percent in 1999 and are headed for a sharper fall in 2000. While tourism is not as important to the Solomon Islands' economy as in some other Pacific Islands, social unrest has clearly dampened any plans for developing the tourism sector, at least in the medium run.

Reflecting the widespread disruption of economic activity real GDP is estimated to decline by over 20 percent in 2000, following a contraction of 0.5 percent in 1999.

The fiscal impact has been significant Additional government expenditure in dealing with the crisis, principally the additional costs of the police force and relief measures for the refugees, is estimated at nearly US$10 million or 3 percent of GDP in 1999. The fiscal deficit for 1999 was about 2.5 percent of GDP. In 2000, with revenues having collapsed but with rising expenditures on security forces, and peace and reconciliation activities the deficit could well be in doubel digits. The government has announced a mini-budget to bring expenditure down in line with diminshed revenues.

External reserves have been falling since mid-1999. From a high of US$61 million in July 1999, they have reached $39 million in August 2000, providing about 2 months of import cover. Further declines are expected.

Investor confidence has been badly hit. Many major investment plans have been cancelled. This is also reflected in the 14 percent decline in imports the bulk of which were investment goods. This is would perhaps be the most damaging long-term impact of the crisis, as extremely sluggish private investment, both foreign and domestic has been a major constraint on the Solomon Island's economy.

Recent Economic Performance (Prior to the Crisis)

The Solomon Islands experienced an economic crisis in 1997-98. The cumulative effects of many years of poor economic management and weak fiscal discipline (budget deficit averaged about 4.5 percent of GDP during 1995-98) were exacerbated by the East Asian financial crisis. The logging boom of the mid-1990s, boosted export receipts and government revenues, but concealed structural weaknesses in the economy and was environmentally damaging. Prior to the crisis timber exports accounted for about 60 percent of export receipts and provided 25 percent of tax revenues. Consequently, the collapse of the log markets in Japan and Korea following the Asian crisis was a major setback to the economy, with logging activity falling by over 30 percent. Due to financing of large budget deficits, the financial sector had become seriously over-exposed to the government which was unable to service its debt: external and domestic debt arrears mounted (reaching about 12 percent of GDP in 1997) threatening the financial stability of the country. During the crisis while government and financial sector activity was greatly impacted, the impact on GDP was cushioned by a pick up in fish exports, and the construction and ultimate commencement of the operations by the gold mine.

Against this backdrop, a new Government elected in August 1997, embarked on implementing a comprehensive Policy and Structural Reform Program, supported by a World Bank SAC, aimed at (1) restoring and maintaining a sound macroeconomic environment; (2) reform of public finances, including the wider public sector; and (3) review and reform of the public service. The new Government's committed and promising start on its reform agenda was disrupted by the crisis.

Economic activity is estimated to have declined by about -0.5 percent in 1999. Impacting economic growth in 1999 was the downturn in agricultural activity as the ethnic crisis disrupted operations at SIPL, a major state-owned oil palm plantation, causing palm oil and palm kernel output to plummet significantly. Production and exports of copra and cocoa declined, in part due to the ethnic crisis. Fish catch improved, but international fish prices weakened. Recovery in logging activity, albeit at prices below those reached in 1997, was insufficient to offset the unfavorable developments in the other agricultural sub-sectors. Some economic improvement is expected in 2000 as the reform efforts are deepened and government revenues show signs of buoyancy, but success will be conditioned upon progress made on resolving the ethnic crisis.

Inflationary pressures eased in the course of 1999, mainly on account of tight monetary and fiscal policies. Although some price pressures emerged during the third quarter of 1999 as the Honiara main

market experienced food shortages, end-year consumer inflation registered 8 percent, down from 10 percent at end-1998 as import prices declined.

Despite the pursuit of tight financial policies in 1999 and increased current receipts in that year, the overall fiscal deficit worsened. Customs receipts and inland revenues for 1999 exceeded budgetary targets by over 10 percent as the capacity of these revenue-collecting institutions was strengthened through bilateral technical assistance. However, the incurrence of additional security-related expenditures on account of the ethnic crisis, caused the budget deficit to deteriorate to 2.5 percent of GDP from 0.5 percent in 1998.

Turning to the external accounts, total export receipts remained flat in 1999, but a surplus was recorded on the trade account owing to a contraction in imports. By end-1999, the external position had strengthened considerably. Gross official reserves (excluding Stabex funds) reached SI$251 million, the equivalent of 3.9 months of import cover, as disbursement of the first tranche of the World Bank's Structural Adjustment Credit boosted reserves.

On the structural front, good progress had been made, since formulation of the PSRP, in arresting and reversing the deterioration in government revenue. Measures taken since November 1997 include revocation of all discretionary remissions from customs duties, increase in domestic tax rates, imposition of an import surcharge in 1998 and a strengthening of the coverage and operating procedures of the Customs Division.

Public service wages were frozen at the 1997 level through 1999, and the Government reduced its payroll cost (excluding redundancy payments) by at least 15 percent in real terms in 1999. Part of this reduction resulted from the restructuring of the Government to focus on core functions and enable it to improve service delivery in these areas.

SOLOMON ISLANDS: SELECTED ECONOMIC INDICATORS, 1995-98

	1995	1996	1997	1998
Indicator Levels (US$ million)				
Govt. Revenue & Grants	130.9	140.8	126.5	127.7
Govt. Expenditures	148.5	156.7	144.6	133.5
Govt. Budget Deficit (-)	-17.6	-15.8	-18.1	-5.8
Exports (fob)	168.1	162.4	173.9	140.8
Imports (cif)	154.3	151.2	209.4	146.9
Current Account Balance (after grants)	13.4	12.0	-37.9	16.4
Gross Reserves	15.1	32.2	31.7	47.9
External Debt	95.6	104.2	106.4	118.1
Memo Items (% p.a.)				
Consumer Inflation (period average)	10.7	9.6	10.4	10.3
Terms of Trade (% change)	-11.3	5.1	24.8	-15.5
Reserves (months of imports) a/	0.8	1.6	1.3	2.8

a/ Imports of goods and non factor services
Source: IMF Reports (05/99), Central Bank of Solomon Islands and World Bank DRS.

Notwithstanding the ethnic crisis and resulting setbacks, the policy reform program remained largely on track. Progress was made in implementing key actions such as arrears reduction program on domestic and external debt, the public service reforms, and the enactment of new forestry legislation. The proceeds from the privatization of Solomon Telekom in the amount SBD 48.9 million were largely used to clear arrears, repay Government domestic debt and meet the costs of people displaced by the ethnic crisis. On public service reform, the Government's accounting and budget framework had been improved with time frames established for reconciliation between program ministry and treasury payment records. The efficiency of government expenditure had also been improved with increased budgetary allocations to key areas including operations and maintenance.

TONGA

Population: **98,700 (1998)**

GDP: **US$ 173 million (1998)**

GNP Per Capita: **US$1,690 (1998)**

Background

Over the past decade, Tonga's economy was characterized by low economic growth with real GDP increasing at only 1 percent on an annual average basis. A limited number of primary products, namely squash, vanilla and fish, dominate commercial production and exports, making the economy vulnerable to changes in export market and supply conditions. Manufacturing output is limited and has been shrinking. The economy has a large public sector with state enterprises involved in key commercial activities. Efforts to improve the economy's growth potential through increased private sector and foreign investment activities have met with limited success.

Recent Economic Performance.

Economic growth was negative over the 1995/96-1997/98 period, reflecting, mainly, poor performance of agriculture, particularly root crops, squash and vanilla. Squash and vanilla were impacted by some loss in Tonga's niche market position. The completion phase of large aid-financed projects together with stagnant activity in the tourism sector also contributed to the downturn in economic activity over the period. Attempts to boost economic growth through expansionary macroeconomic policies met with little success, fuelling inflation and eroding reserves. While domestic prices rose by 8 percent in 1997/98, decline in import prices kept overall consumer inflation at 3 percent. Economic activity is estimated to have picked up at a little over 2 percent in 1999, as several public investment projects got under way and *kava* manufacturing and the services sector expanded. Agricultural output, however, continued to be depressed from adverse effects of a natural disaster in December, 1998. Consumer price inflation registered a little over 4 percent in 1999, reflecting the effects of drought on domestic food prices as well as devaluation of the local currency.

The external current account deficit widened to 11 percent of GDP in 1997/98, up from an average of about 3 percent of GDP during the previous two years. This development reflected a contraction in exports and strong growth in imports during the construction phase of large public investment projects. With the completion of these projects, the current account deficit is estimated to have narrowed considerably in 1998/99 to about 4 percent of GDP. By end-1997/98, gross official reserves had declined to US$16 million (2.3 months of imports), down from a high of US$24 million (3.8 months of imports) three years earlier as monetary policy remained expansionary. The reserve position is estimated to have strengthened to around 4 months of import cover at end-1998/99 as the current account deficit narrowed in the face of an increasing capital account surplus.

On the fiscal front, an increasing wage bill led to a deteriorating current balance resulting in an overall deficit equivalent to over 4 percent of GDP in 1997/98. In 1998/99, however, some moderation in current spending caused the overall deficit to narrow considerably to an estimated 2 percent of GDP in that year.

TONGA: SELECTED ECONOMIC INDICATORS, 1994/95-98/99

	1994/95	1995/96	1996/97	1997/98	1998/99 e/
Indicator Levels (US$ million)					
GDP (at current prices)	167.3	181.4	182.7	172.8	176.2
Govt. Revenues	73.4	65.3	73.4	66.3	84.3
Govt. Expenditures	79.3	63.8	75.5	73.9	87.3
Govt. Budget Deficit (-)	-5.9	1.5	-2.1	-7.6	-3.0
Exports (fob)	17.1	12.7	13.2	11.9	11.9
Imports (fob)	73.8	66.5	59.9	78.9	61.6
Ext. Current Account Balance (after grants)	-22.1	-10.7	-1.5	-19.3	-6.9
Gross Reserves	23.5	23.7	26.8	15.8	18.0
Total External Debt	70.1	69.6	61.2	64.7	..
Macro Balances (% GDP)					
Budget Deficit (-)	-3.5	0.8	-1.2	-4.4	-1.8
External Current Account Balance	-13.2	-5.9	-0.8	-11.2	-3.9
Total External Debt	41.9	38.4	33.5	37.4	..
Memo Items (% p.a.)					
GDP growth	4.8	-1.4	-4.4	-1.5	2.2
Consumer Inflation (%)	0.3	2.8	1.8	2.8	4.4
Reserves (mo. imports, fob)	3.8	4.3	5.4	2.3	3.5

Source: IMF Staff Report (09/98), ADB and World Bank.

Key Issues:

- ***Employment Generation/Private Sector Development***. A fundamental challenge facing Tonga is to generate employment for a growing labor force through private sector development in view of the likely slowdown in emigration options in the future. An equally important challenge is to boost production for exports. Tonga met this challenge successfully in the past when copra and banana export markets were lost and replaced with squash. However, structural deficiencies in the economy are such that there is an urgent need to rationalize the public sector and allow the private sector to grow. To sustain growth over the medium-term, measures are needed to reduce the size of the public sector and create a business environment more conducive to diversified growth led by the private sector. Measures to address the large public sector should include (i) privatization of public enterprises engaged in commercial activities, and (ii) reduction in the size and role of the civil service. Substantial fiscal savings could also be achieved by converting the noncontributory pension scheme for public servants to a pension system that depends on contributions.

- ***Public Enterprise Reform/Privatization***. Major reforms to enhance the efficiency of Tonga's large and diverse public enterprise sector will also be necessary. While most state-owned enterprises are not a drain on the budget, they do not generate taxes or dividends of any consequence. Government has been preparing a time-bound action plan to commercialize, corporatize and privatize remaining public enterprises. Progress has also been made towards divesting a public sector fishery company

and rationalizing the Ministry of Marine and Ports. Government needs to move quickly to finalize this effort.

- ***Other Structural Reforms***. To stimulate private sector growth and provide a more reliable revenue flow, there is the need to remove distortions in the current tax and tariff structures. Dependence on taxation levied on trade needs to be lowered by reducing import tariffs, eliminating port and services tax, and introducing a tax system that is based on sales. The government also needs to reform the cumbersome system of granting business, trade and development licenses and to introduce a simple company registration system. The establishment of a neutral, transparent and nondiscriminatory policy toward foreign direct investment would also improve the country's access to urgently needed capital, technology and management skills.

VANUATU

Population: **193,200 (1999)**

GDP: **US$214 million (1999)**

GDP Per Capita: **US$1,106 (1999)**

Background

Economic performance deteriorated in the mid-to-late 1990s, characterized by declining economic activity and dwindling reserves as political instability and weak governance eroded investor confidence, resulting in sluggish investment and increased private capital outflows. A new Government[3], which took office in early 1998, sought to arrest deteriorating economic conditions through restoration of credible monetary and exchange rate policies. Since 1997, the Government embarked on a Comprehensive Development Program aimed at improving governance, public sector reform and strengthening growth prospects. The reform program also includes rehabilitation of state-owned financial institutions and introduction of proper supervision of banking institutions. While significant progress has been achieved, much of the program needs to be completed.

Recent Economic Performance

GDP is estimated to have declined by 2.5% in 1999 following a strong 6% growth in 1998. The 1999 decline came about as unfavorable weather events impacted agricultural output which forms about 25% of GDP. Industrial expansion of over 7% was unable to prevent the downturn in GDP. This was in contrast to 1998 when agricultural production, especially copra and kava, grew by nearly 7%, while industrial activity declined by a similar magnitude. Contributing to the negative growth in 1999 was a decline in public investment due to delays in implementation of major infrastructure projects. Visitor arrivals stagnated as an Air Vanuatu aircraft was damaged and grounded for more than 6 weeks and competition from neighboring islands increased.

Over the 1995-99 period inflationary pressures remained moderate. In 1999 growth in consumer prices slowed to 2.8% from 3.3% in 1998.

After three consecutive years of surplus, the current account recorded a deficit of almost 5% of GDP in 1999 as exports of agricultural commodities and tourism receipts declined. Partially offsetting this decline was an increase in foreign investment in the coconut sector and a drawdown of net foreign assets by commercial banks. The external reserve position deteriorated to US$ 42.7 million (equivalent of 6.6 months of import cover) at end-1999, down from US$ 44.3 million at end-1998. The foreign exchange markets have come under pressure in the last two years. Policy miscalculations in early 1998 following riots in Port Vila, as well as exchange rate depreciations in neighboring countries, including Fiji and Solomon Islands, had a negative impact on investor confidence, leading to a loss of reserves. The policy miscalculation related primarily to Government's decision to allow unconditional withdrawal of retirement savings by members of the Vanuatu National Provident Fund following the riots caused by allegations of corruption on the part of prominent government ministers and officials. Political uncertainty has also contributed to exchange market pressures.

[3] Since then there has been another change in Government in late-1999 – early-2000.

The fiscal deficit in 1999 was 1.4% of GDP relative to a budgeted level of nearly 6% of GDP. This happened despite a shortfall in budgeted revenues. The chief cause was delay in implementation of infrastructure projects which led to development expenditure being only 40% of the budgeted level. In contrast in 1998, the fiscal deficit widened considerably to about 11 percent of GDP, from less than 1 percent of GDP in 1997, a reflection of increased expenditures on education, health and infrastructure investment as well as several one-off items relating to public sector restructuring, including severance pay and retraining costs for retrenched workers.

VANUATU: SELECTED ECONOMIC INDICATORS, 1996-99

	1996	1997	1998	1999
Indicator Levels (US$ million)				
GDP (at current prices)	191.6	195.8	212.2	213.7
Govt. Revenues (incl. Grants)	51.3	52.7	54.8	56.4
Govt. Expenditures	55.4	54.2	78.3	59.2
Govt. Budget Deficit (-)	-4.0	-1.6	-23.8	-3.0
Exports (fob)	30.2	35.3	33.9	25.3
Imports (fob)	83.8	80.9	76.4	77.2
Current Account Balance (after grants)	8.7	2.2	26.9	-10.5
Gross Reserves	44.0	37.0	44.3	42.7
External Debt	36.0	38.2	53.9	63.9
Macro Balances (% GDP)				
Budget Deficit (-)	-2.1	-0.8	-11.2	-1.4
External Current Account Balance	3.9	1.0	12.5	-4.9
Memo Items (% p.a.)				
GDP growth	0.4	0.6	6.0	-2.5
Consumer Inflation (%)	0.9	2.8	3.3	2.8
Reserves (mo. imports, fob)	6.3	5.5	7.0	6.6
Long-term External Debt	18.8	19.5	25.4	29.9

Source: IMF Staff Reports and World Bank.

Activity in the offshore financial center remained weak in 1999. Much of this weakness may have followed allegations of money laundering levied against some offshore institutions, which led several major international banks to ban U.S. dollar transactions with Vanuatu. Some of these banks have since resumed U.S. dollar transactions with certain institutions. In July 2000 the Reserve Bank issued a notice requiring banks to tighten their internal procedures against money laundering.

Since 1997, the government has been implementing a wide ranging economic reform program with the support of the Asian Development Bank (ADB) and bilateral donors. This Comprehensive Reform Program (CRP) seeks to provide much needed institutional strengthening, accountability, and transparency to the public sector. While significant progress has been achieved, much more needs to be done under the program. However, implementation has slowed since mid-1999, and the release of the second tranche of the ADB loan supporting the CRP has been held up due to delay in meeting some of the conditionalities of the loan.

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