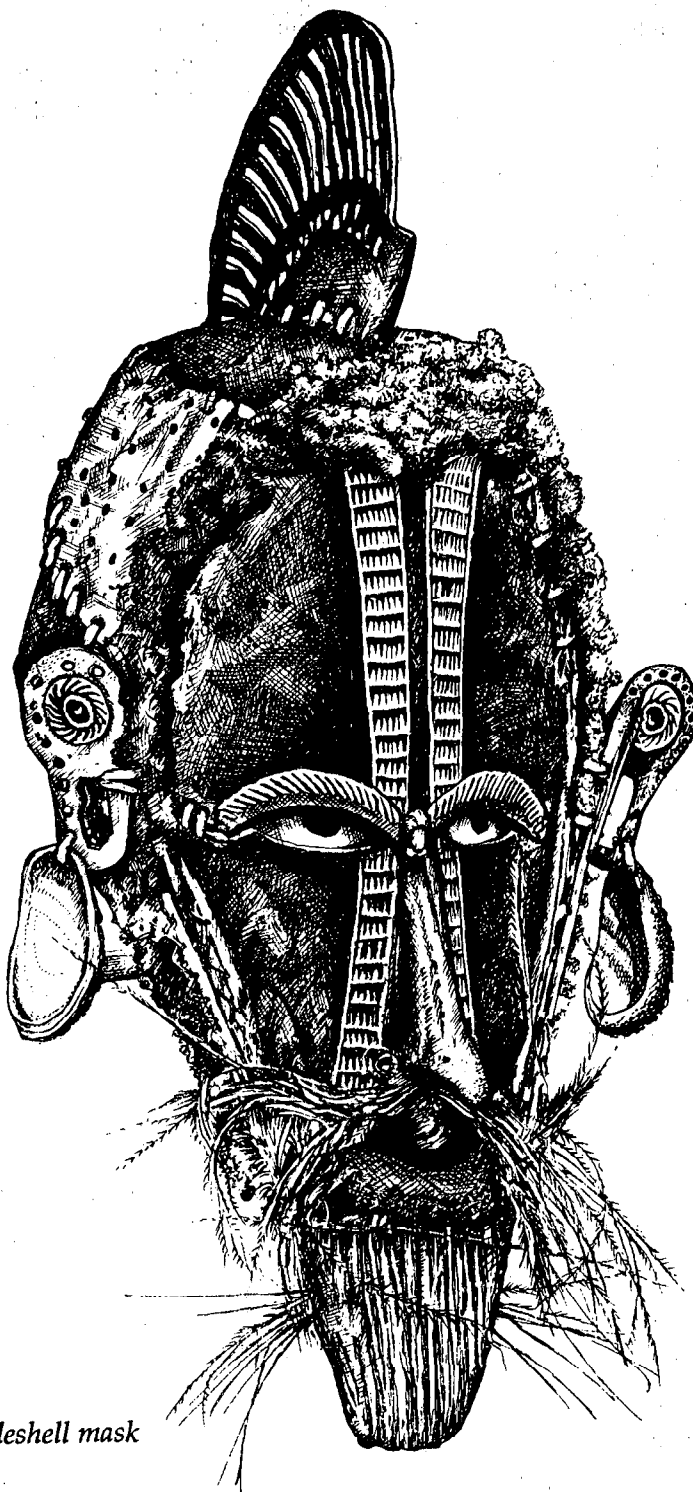


KEYNOTE ADDRESS



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Sustainable Development for Traditional Inhabitants of the Torres Strait Region

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Introduction

The subject of this conference – Sustainable Development for the Traditional Inhabitants of the Torres Strait Region – provides the framework and justification for the Torres Strait Baseline Study, the management of which is the responsibility of the Great Barrier Reef Marine Park Authority. Many other agencies and people are vitally involved.

The description of the study as a “baseline” is in fact misleading. Because the study is being started after major mining operations have been in progress for some time, it is likely that it is a study of an ecosystem which is already in the process of change. This fact will make the study more difficult. Conclusions will be harder to derive. Costs will be increased. Nevertheless, we should be thankful that the study has been approved and funded. It will provide vital guidance to governments, private companies and individuals in making decisions that affect the people of the Torres Strait region.

In this introductory talk, I shall briefly outline the geography of the Torres Strait region and describe the various social groups which depend on the resources of this region. It is important to recognise that despite the critical need for development of the region, such development must be sustainable ecologically, socially and economically. I intend to mention the importance of the “Baseline” study in making sure that development is sustainable.

The Torres Strait Region

The Torres Strait, Fly estuary and the southwest coast of Papua New Guinea constitutes a vast area of considerable geographical, ecological and cultural diversity.

The Torres Strait can be generally described as the reef-strewn passage between Cape York Peninsula and the southwest coast of Papua New Guinea, west of the Fly estuary. This passage is only a little over 150 kilometres wide and contains approximately 150 islands, islets, coral reefs and cays. Of the multitude of islands in the Torres Strait, only about sixteen are presently inhabited, although use of uninhabited islands, either permanently or temporarily, has occurred during recent times. Island occupation is largely determined by access to fresh water.

The Torres Strait region, which consists of approximately 30,000 square kilometers of shallow waters, is a complex mosaic of different environments. Extensive seagrass beds occur in the western and northern areas and this is the area in which large numbers of dugong are found. The clear waters and coral reefs to the east, near the most northerly section of the Great Barrier Reef, are rich fishing grounds which contain large numbers of edible reef fish. In the muddy waters of the southwestern coast of Papua New Guinea and adjacent islands mullet, barramundi, prawns and crabs are common. Turtles are generally found throughout the region.

The Torres Strait Islanders are therefore fortunate in having access to a large variety of marine life. The myths and legends of the Islander people are rich in references to fish, turtles, dugong, shellfish and other sea creatures. Marine resources, particularly dugong, feature strongly in customary gift giving especially at important community ceremonies such as marriages and tombstone openings, and seafoods are still distributed among close family and through the kinship network.

The major industry in the region is, naturally, fishing. Recent history has shown this to be entirely unpredictable, dependent on national and international tastes and market-place decisions beyond the control of local fishermen. This is particularly true for the pearling, beche-de-mer and trochus industries. The Torres Strait has a long history of boom and bust marine industries.

Commercial fishing appears to be one of the only sections of the economy open to Islander participation. In a community where cultural patterns emphasise the importance of marine resources, and where economic opportunities revolve around exploitation of these marine resources, protection of the marine environment assumes a high profile in Islander social and political life.

It seems certain that marine resources will continue to provide both the backbone of commercial industry as well as an essential part of the lifestyle, nutrition and customary relations of the Islander people.

This is also true for the Papuan people inhabiting the neighbouring regions along the southwest coast and Fly estuary region of Papua New Guinea. These people also share access to the marine resources of the Torres Strait and have, over the centuries, maintained economic and cultural ties with the Torres Strait Islanders. The rights of

both Torres Strait Islanders and Papuans are protected in the Torres Strait Treaty which was signed by both Australia and Papua New Guinea in 1978, and ratified in 1985.

In contrast to the reefs and islands of Torres Strait, the southwest coast of Papua New Guinea is generally flat and featureless, the only prominent feature being the hill at Mabudawan. The coastal plain is subject to seasonal and tidal flooding and the inshore waters are muddy and contain reefs, mudbanks and sandbars which hinder movement along the coast.

The Fly estuary consists of numerous channels separating low-lying islands of which Kiwai Island is the largest. Many of the other islands are tidal swamps and generally uninhabited except by fishing parties. Constantly changing shoals, and floating tree trunks, plague river journeys. The rapid rise and fall of floodwaters and an unpredictable tidal bore in the lower Fly River, especially during new and full moons in the southeasterly season, are hazards to the predominantly Kiwai-speaking people who live in this difficult riverine environment.

The Kiwai people also inhabit the six coastal villages of Parama, Katatai, Kadawa, Tureture, Mawatta and Mabudawan along the southwestern coast. Most of the people of Daru also speak Kiwai. The people of these coastal villages live on a narrow strip of land between the sea and the coastal swamp and savannah grasslands. With only limited gardening lands, and inhabiting a region of variable wet and dry climate, the coastal Kiwai have remained predominantly fishermen, sailing in large outrigger canoes into the Torres Strait to hunt turtle and dugong, and to fish the rich waters near the Warrior Reefs.

The constant supply of marine resources, in contrast to the fluctuating supply of garden and bush foods, has meant that both Torres Strait Islanders and Papuans have always depended on marine resources for their survival. The potential sustained yield of seafoods from Torres Strait can only be conservatively estimated at 20 000 tonnes per year. This is certainly enough to satisfy Islander and Papuan needs and also satisfy commercial demands if efficiently managed. Protection of this resource is therefore essential, not only to the local traditional inhabitants, but also to the wider Australian and Papua New Guinean communities.

The waters of the Torres Strait are one of the few tropical shallow-water environments that remains in a relatively good condition. However, local pollution problems such as the 'Oceanic Grandeur' accident in 1970 when large quantities of oil and non-biodegradable dispersant were poured into the ocean and the accidental loss of 24 ship containers of hydrogen peroxide in 1984 as well as the loss of 270 metric tons of sodium cyanide offshore from the Fly estuary only served to focus attention on environmental protection of the Torres Strait and Fly estuary region.

The Torres Strait Baseline Study

In 1989 the Prime Minister announced in his environmental statement that the Australian Government would fund a four year environmental programme in the Torres Strait to be called the Torres Strait Baseline Study. The Baseline Study was instigated in response to concerns expressed by Torres Strait Islanders, scientists and commercial fishermen at the Torres Strait Fisheries Seminar in February 1985, about the possible effects on the marine environment from current and proposed mining operations in the Fly River catchment area.

The marine ecological implications of the disposal of large volumes of mine tailings and overburden into tropical river systems are still largely unknown. Both the Ok Tedi Mining Limited and the Porgera Joint Venture companies have recognized the implications of large scale mining operations in difficult and unstable mountainous terrain and have developed important and scientifically sound environmental monitoring programmes in both the Fly and the Strickland River systems. The Torres Strait Baseline Study will operate in collaboration with the Papua New Guinea Government and the mining companies.

Possible effects on the marine environment of the Torres Strait include increased particulate loading of the river systems which may, due to increased water turbidity, cause a significant loss of productivity. Increased sediment in the rivers may also eliminate bottom dwelling species. However, the more serious problem may be the translocation and incorporation of residual metals from tailings waste into marine sediments, and marine organisms in the Torres Strait. Mining residue containing fluctuating high levels of copper, as well as quantities of cadmium, zinc, and lead may cause a rise in the background levels of heavy metals which are normally present in the natural, non-contaminated environments. The processes of bio-accumulation whereby these heavy metals are accumulated in marine organisms up the food chain are presently unknown. Details of the movements of ocean currents and the transportation of sediments from the river systems into the Fly estuary and the Torres Strait are currently being investigated by consultants to Ok Tedi Mining Limited.

Four oceanographic cruises between 1979 and 1982 found that water from the Fly River enters the Torres Strait through the Great North East Channel. The tongue of brackish water is vertically well-mixed by the tidal currents and extends from 70 to 100 kilometers in length. It is gradually diluted by the waters of the Torres Strait so that the potential impact would, on these estimations, be greater in the northern area of the Torres Strait.

The Torres Strait is therefore at a critical point in its history. The traditional inhabitants' concerns over loss of environment, contamination by heavy metals, destruction of marine resources, cannot be dismissed lightly. We must remember that the Torres Strait has been the home to the Islander and Papuan people for many thousands of years. Both Torres Strait Islanders and Papuans are recognized, under the Torres Strait Treaty, as traditional inhabitants of the Torres Strait region. The traditional use, or exploitation, of marine resources prior to the coming of European commercial activity to the region after the middle of the 19th century was probably sustainable. It is now up to all of us to ensure that the environment is protected for future generations.

The theme of this conference is 'Sustainable Development for the Traditional Inhabitants of the Torres Strait Region'. I have spoken about the relationship between the traditional inhabitants and the marine environment. This conference will examine current information on the physical, biological and human environments of the Torres Strait region, having regard for the impact of current and future mining operations in the Fly River catchment area on the Torres Strait marine environment.

Papers presented during this conference will consider ways in which environmental protection and economic development of the Torres Strait region can be mutually compatible, rather than contrasting objectives. The sustainable development of the

Torres Strait region, for the long-term economic, social and environmental well-being of the traditional inhabitants, will be the primary focus of the conference.

The concept of sustainable development is not new. It has existed in virtually every group of humans who have lived and depended on the earth's natural bounty. One of the most important factors in eroding the commitment to sustainability in theory and practice in the 20th century has been the application of modern economic analysis incorporating the methods of benefit-cost analysis, net present worth and discount rates. Taken together, these methods tend to lead to decisions which state tacitly or explicitly that anything that happens more than twenty years hence is irrelevant. Recently there has been a dramatic realisation by world leaders that we must change our approach to development. Margaret Thatcher, Mikhail Gorbachev, George Bush and Australia's Prime Minister Bob Hawke have recognised the absolute dependence of development on protection of the natural environment. In the 1980s the term 'sustainability' appeared in a wide range of contexts and became an international catch-cry with the publication by the International Union for the Conservation of Nature and Natural Resources (IUCN) of the "World Conservation Strategy: living resources for sustainable development" report in 1980. More recently the Australian Government has published a discussion paper titled "Ecologically Sustainable Development" which defines ecologically sustainable development as the means of:

using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased. (Australia. Department of the Prime Minister and Cabinet, 1990:1)

There are five general principles which are the key elements of ecologically sustainable development:

- Integrating economic and environmental goals in policies and activities;
- Ensuring that environmental assets are appropriately valued;
- Providing for equity within and between generations;
- Dealing cautiously with risk and irreversibility and;
- Recognising the global dimension.

Sustainable development requires fundamental changes in the way in which development is managed by shifting the emphasis of environmental policy towards anticipation and prevention. This can be achieved by reinforcing policy through the use of mandatory environmental impact assessments, development planning, commitment to the concept of sustainability and by having a strong environmental agency with sectoral agencies having open communication and commitment to national environmental goals.

The ecosystems and resources of the coastal zone are rapidly deteriorating due to intense human pressure, urban, commercial and industrial development and the over-exploitation of natural resources. Yet it is the coastal zone that has the highest biological productivity in the world. More than three-quarters of marine pollution comes from land-based sources, via rivers and direct discharges, and more than 90% of all chemicals, refuse and other materials entering the continental shelf and coastal waters remain in the sediments, wetlands, fringing reefs, and other coastal ecosystems (IUCN/UNEP and WWF 1980: 108).

There are sound reasons for the decision to make the Great Barrier Reef Marine Park Authority the managers of the Torres Strait Baseline Study. The Great Barrier Reef Marine Park Act is one of the first pieces of legislation in the world to apply the concept of sustainable development to the management of a large natural area. The Great Barrier Reef Marine Park is an example of the practical application of the principles defined in the "World Conservation Strategy" (ICUN 1980?) and in the "National Conservation Strategy for Australia" (National Conservation Strategy for Australia. Interim Consultative Committee 1985).

There are also similarities between the Great Barrier Reef Marine Park Act and the Torres Strait Treaty in approaches to marine resource management, in the recognition of the importance of protecting the marine environment, in conservation and management of fisheries resources and in the importance of protecting the traditional way of life and livelihood of the inhabitants of the Torres Strait region. It is regrettable that no comprehensive environmental management plan exists for this diverse and important region.

The process of exploration, mining and mineral processing inevitably involves some environmental and ecological impacts and changes. The issue, in the context of ecologically sustainable development, is not environmental change per se, but rather whether environmental impacts are irreversible. The impact of mining on water catchments is of particular significance. Issues of concern relate to access to land for resource exploration, the nature of resource use decision-making, the adequacy of standards and the ability of governments to enforce them, and the appropriateness of incentives for environmental protection and rehabilitation. Many of these topics will be discussed at this meeting.

The Torres Strait Baseline Study is another step towards the objective of maintaining the quality of the marine environment of the Torres Strait region to ensure the sustained use of its living resources, particularly by traditional inhabitants, and to protect the indigenous species and genetic diversity in the context of environmental changes arising from economic developments on land, sea, and seabed. The study, which is to be conducted in close collaboration with the Papua New Guinea Government, will collect data which will determine the background levels of metals and sediments in the Torres Strait marine environment and assist in determining whether there is evidence of contamination from mining operations in the Fly River catchment area. The study will aim to provide background information for options for managing and protecting the Torres Strait marine environment. The Baseline Study complements the concept plan for environmental monitoring of western Papua and Torres Strait regions which will be presented at this conference by officials of the Papua New Guinea Government.

In commencing this Baseline Study, we must recognise the complexity of the region, the many factors involved and the inadequacy of existing knowledge. A study which attempted to answer all of the scientific questions applying to the Torres Strait region would cost many times more than the funds that can be provided. It would take more time and require more scientists than will be available.

The great challenge for the Torres Strait Baseline Study team will be to define and address adequately, within the available resource limits, the questions vital to achieving ecological sustainability of the Torres Strait. Priorities will have to be set. Hard choices will have to be made. It will be a hard task. I wish them well.

Conclusion

In conclusion I should also like to thank the Queensland Government for their generous financial support for this conference. Their support will, I am sure, contribute substantially to the success of this conference.

Thank you.

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