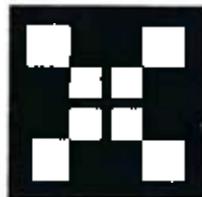




**CAPE YORK PENINSULA LAND USE STRATEGY
(CYPLUS)**

LAND USE STRATEGY MODELS

FOCUS Pty Ltd and Kim Campbell Town Planning Pty Ltd
1995



FOCUS



CYPLUS is a joint initiative of the Queensland and Commonwealth Governments

**CAPE YORK PENINSULA LAND USE STRATEGY
(CYPLUS)**

LAND USE STRATEGY MODELS

**Focus Pty Ltd and Kim Campbell Town Planning Pty Ltd
1995**

CYPLUS is a joint initiative of the Queensland and Commonwealth Governments

Final report on project:

LAND USE STRATEGY MODELS

Recommended citation:

FOCUS Pty Ltd, Kim Campbell Town Planning Pty Ltd, 'Land Use Strategy Models for the Cape York Peninsula Land Use Strategy Project'. (Cape York Peninsula Land Use Strategy, Office of the Co-ordinator General of Queensland, Brisbane, Department of the Environment, Sport and Territories, Canberra.)

Note:

Due to the timing of publication, reports on other CYPLUS projects may not be fully cited in the REFERENCES section. However, they should be able to be located by author, agency or subject.

ISBN 0 7242 6220 2

© The State of Queensland and Commonwealth of Australia 1995.

Copyright protects this publication. Except for purposes permitted by the *Copyright Act 1968*, no part may be reproduced by any means without the prior written permission of the Office of the Co-ordinator General of Queensland and the Australian Government Publishing Service. Requests and inquiries concerning reproduction and rights should be addressed to:

Office of the Co-ordinator General, Government of Queensland
PO Box 185
BRISBANE ALBERT STREET Q 4002

or

The Manager,
Commonwealth Information Services
GPO Box 84
CANBERRA ACT 2601

CAPE YORK PENINSULA LAND USE STRATEGY STAGE I

PREFACE TO PROJECT REPORTS

Cape York Peninsula Land Use Strategy (CYPLUS) is an initiative to provide a basis for public participation in planning for the ecologically sustainable development of Cape York Peninsula. It is jointly funded by the Queensland and Commonwealth Governments and is being carried out in three stages:

- Stage I - information gathering;
- Stage II - development of principles, policies and processes; and
- Stage III - implementation and review.

The project dealt with in this report is a part of Stage I of CYPLUS. The main components of Stage I of CYPLUS consist of two data collection programs, the development of a Geographic Information System (GIS) and the establishment of processes for public participation.

The data collection and collation work was conducted within two broad programs, the Natural Resources Analysis Program (NRAP) and the Land Use Program (LUP). The project reported on here forms part of one of these programs.

The objectives of NRAP were to collect and interpret base data on the natural resources of Cape York Peninsula to provide input to:

- evaluation of the potential of those resources for a range of activities related to the use and management of land in line with economic, environmental and social values; and
- formulation of the land use policies, principles and processes of CYPLUS.

Projects examining both physical and biological resources were included in NRAP together with Geographic Information System (GIS) projects. NRAP projects are listed in the following Table.

Physical Resource/GIS Projects	Biological Resource Projects
Bedrock geological data - digitising and integration (NR05)	Vegetation mapping (NR01)
Airborne geophysical survey (NR15)	Marine plant (seagrass/mangrove) distribution (NR06)
Coastal environment geoscience survey (NR14)	Insect fauna survey (NR17)
Mineral resource inventory (NR04)	Fish fauna survey (NR10)
Water resource investigation (groundwater) (NR16)	Terrestrial vertebrate fauna survey (NR03)
Regolith terrain mapping (NR12)	Wetland fauna survey (NR09)
Land resource inventory (NR02)	Flora data and modelling (NR18)

Physical Resource/GIS Projects	Biological Resource Projects
Environmental region analysis (NR11)	Fauna distribution modelling (NR19)
CYPLUS data into NRIC database FINDAR (NR20)	Golden-shouldered parrot conservation management (NR21)
Queensland GIS development and maintenance (NR08) [*]	
GIS creation/maintenance (NR07) [*]	

* These projects are accumulating and storing all Stage I data that is submitted in GIS compatible formats.

Research priorities for the LUP were set through the public participation process with the objectives of:

- collecting information on a wide range of social, cultural, economic and environmental issues relevant to Cape York Peninsula; and
- highlighting interactions between people, land (resource use) and nature sectors.

Projects were undertaken within these sector areas and are listed in the following Table.

People Projects	Land Projects	Nature Projects
Population	Current land use	Surface water resources
Transport services and infrastructure	Land tenure	Fire
Values, needs and aspirations	Indigenous management of land and sea	Feral and pest animals
Services and infrastructure	Pastoral industry	Weeds
Economic assessment	Primary industries (non-pastoral, non-forestry)	Land degradation and soil erosion
Secondary and tertiary industries	Forest resources	Conservation and natural heritage assessment
Traditional activities	Commercial and non commercial fisheries	Conservation and National Park management
Current administrative structures	Mineral resource potential and mining industry	
	Tourism industry	

CONTENTS

1.	THE CONCEPTUAL FRAME WORK: ECOLOGICALLY SUSTAINABLE DEVELOPMENT	2
2.	THE ECONOMIC RENEWAL MODEL (ECONOMICALLY SUSTAINABLE DEVELOPMENT)	7
3.	THE CATCHMENT MANAGEMENT MODEL	11
4.	REGIONAL PLANNING MODELS	17
5.	THE INTEGRATED REGIONAL ENVIRONMENTAL DEVELOPMENT PLANNING MODEL	23
6.	THE PERFORMANCE BASED PLANNING MODEL	27
7.	INDIGENOUS PARTICIPATION MODELS	31
8.	COMMUNITY BASED MANAGEMENT MODELS	39
9.	COMPARING THE MODELS	44
10.	SUMMARY: CHOOSING THE RIGHT TOOLS	58
11.	REFERENCES	66
	APPENDIX: TERMS OF REFERENCE	73

1. THE CONCEPTUAL FRAMEWORK : ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Origins

In 1987 a report was prepared by the World Commission on Environment and Development *Our Common Future* (the Brundlandt Report) focussed the international community's attention on sustainability as a means of resolving the goals of economic growth and ecological preservation, recognising that such goals need not be mutually exclusive, but had the potential to be married through comprehensive institutional reform. This followed on from the earlier World Conservation Strategy released in 1983, and the National Conservation Strategy for Australia in 1983.

Australia took up the challenge of the Brundlandt Report through the announcement of a series of principles and processes to apply to decision-making on conservation and development issues. This position was reaffirmed in the Prime Minister's Statement on the Environment in 1989 which gave commitment to the concept of Ecologically Sustainable Development. Australia's international commitment to ESD was also clearly stated through participation in the United Nations' Environmental Program (UNEP), representation on international committees such as Climate Change, and participation in the United Nations' Conference on Environment and Development (UNCED) at which international ESD agreements were advanced.

The Commonwealth focussed its commitment and broadened community debate on ESD by releasing in 1990 a discussion paper to identify specific opportunities for the nation to embrace ESD. A series of sectoral and intersectoral papers was produced by ESD Working Groups with broad representation across government and industry sectors, and with community input. The final reports of the ESD Working Groups provided advice on future policy directions and focus on measures to encourage the integration of environmental considerations into the decision-making process.

In 1991 the Commonwealth and State Heads of Government agreed on a co-operative intergovernmental process for examining the recommendations of the ESD reports to co-ordinate assessment of the implications for current and future government policy. Following the release of a draft Strategy for public comment, the *National Strategy for Ecologically Sustainable Development* was released in December 1992, and has been the basis upon which subsequent Commonwealth and State government policy has been developed.

Principles

The principles upon which the ESD Strategy is based are built upon the overriding goal to achieve

"Development that improved the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends."

The objectives of the Strategy are to enhance individual and community wellbeing through economic development which safeguards the welfare of future generations, providing equity within and between generations, and protecting biological diversity and maintaining ecological processes.

Implementation of the ESD Strategy is guided by seven principles which are explicitly accorded equal weighting in terms of significance under the Strategy. These principles are included here to provide a clear understanding of the basis for Commonwealth, State and local government ESD policy :

- *decision-making processes should effectively integrate both long and short term economic, environmental, social and equity considerations;*
- *where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation; (NB this is termed the precautionary principle)*
- *the global dimension of environmental impacts of actions and policies should be recognised and considered;*
- *the need to develop a strong, growing and diversified economy which can embrace the capacity for environmental protection should be recognised;*
- *the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised;*
- *cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms;*
- *decisions and actions should provide for broad community involvement on issues which affect them.*

Clearly, these principles bring together consideration of economic and conservation goals giving recognition to the need to integrate both dimensions in decision-making at all levels of government and across non-government sectors.

Structure and Content

Within popular literature, the principles of ESD have been stated much more clearly as:

"think globally, act locally, respond personally".

At the State level, the importance of ESD has been put clearly as follows (Discussion Paper on Ecologically Sustainable Development):

"In the long term, there is no alternative to ESD. If our economic activities are not sustainable, then neither is our quality of life. If we extract a high standard of living from the environment for a short time, future generations may find technological solutions to resource depletion but not necessarily at the same quality of life which we enjoy. Maintenance of biological diversity, ecosystem integrity, ecological processes and cultural diversity are imperatives at national, State, regional and local level".

The ESD Strategy document sets out a broad strategic and policy framework within which government at all levels will develop policy and make decisions, particularly in those areas related to resource management. The recommendations of the sectoral papers on agriculture, energy use, energy production, fisheries, forest use, manufacturing, mining, tourism and transport, and the intersectoral issues and greenhouse reports, have been taken up by government for further refinement. This is done in the context of departmental priorities and budgets, and the development of policies and mechanisms for implementation. A *Compendium of ESD Recommendations* was prepared to accompany the *National Strategy for ESD*. This document identified the relationship between the Strategy and existing government policies noting the government's response to each recommendation.

The intersectoral issues which emerged from the recommendations form an important part of the Strategy, and include such issues as environmental protection, land use planning and decision making, environmental impact assessment, changes to government institutions and machinery, industry, trade and environmental policy, and issues of particular concern to Aboriginal and Torres Strait Islander people. For each of the 22 intersectoral issues, a Strategic Approach is identified, and objectives and ways of meeting them are spelt out.

Status within Government

ESD has been embraced by the Commonwealth Government and forms the cornerstone for the Government's formulation of national and international policies. ESD principles and concepts provide a framework for future involvement in management of Cape York Peninsula to be developed through the CYPLUS processes.

In parallel with the adoption of the National Strategy for Ecologically Sustainable Development, agreement was reached between all levels of government on the need for a national approach to environmental management. This culminated in the signing of the Intergovernmental Agreement on the Environment (IGAE) which defined the roles and responsibilities of each level of government and set out agreed principles to guide formulation of national environmental policy. ESD, adoption of the precautionary principle, and integration of economic and environmental perspectives in decision making were included.

The IGAE was one of a number of related measures which the Commonwealth Government initiated to put into practice the principles of ESD within Australia. Other programs included the National Greenhouse Response Strategy, the National Strategy for Conservation of Australia's Biological Diversity, the National Waste Minimisation and Recycling Strategy, the Commonwealth Major Projects Facilitation initiative and the National Forest Policy Statement, as well as a commitment to implement the UN Conventions on Climate Change and Biological Diversity.

Implementation Status

ESD is being implemented progressively in Australia from the national to the local level through a variety of programs, policies and actions. At the national level, the establishment of a Ministerial Council, and the formation of a National Environment Protection Agency (NEPA) as a mechanism for co-ordinating national pollution control standards through the administrative structure of the Commonwealth Environment Protection Agency (CEPA) have advanced the incorporation of ESD principles into national decision making. State of the Environment (SoE) reporting was introduced in June this year and will provide a system of regular reporting on an agreed set of national indicators on a four yearly basis. Other recent Commonwealth initiatives include the establishment of the Regional Environmental Employment Program (REEP) which will provide employment opportunities to tackle regional environmental issues and the move to establish a National Pollution Inventory.

The Queensland Government as a signatory to the IGAE has undertaken a number of reforms across all Government departments responsible for resource management and decision making affecting land use. This commitment to reform was contained in the Premier's major policy statement in April 1992, *Queensland Leading State*, although specific reference to ESD was not included in that document. Subsequent reforms have included new legislation on Nature Conservation, Coastal Protection and Environmental Protection, introduction of legislation to provide for Aboriginal land claims, reform of natural resource legislation and policy, and a review of planning and development legislation. Explicitly stated in these Acts and preceding discussion papers is the underlying concept of ESD and the need to incorporate the relevant principles of the National ESD Strategy into future decision making.

Within Cape York Peninsula, local government has embraced the principles of ESD through a number of initiatives. The Kowanyama Aboriginal Community has been actively involved in natural resources management on community lands. Cook Shire Council has recently prepared a draft planning scheme which explicitly refers to the ESD principles guiding future decision making in the Shire. The Islander Co-ordinating Council is concerned to develop strategies for sustainable use of marine resources in the Torres Strait Marine Strategy. ESD principles are also being increasingly applied on a day to day basis through new initiatives in property planning based on sustainable land use practices.

Interrelated Concepts and Models

The focus in ESD has historically been on the integration of the economic and environmental dimensions of decision making. Further dimensions which are acknowledged in the ESD Strategy are the social and cultural elements which may be separately described as socially sustainable development and culturally sustainable development. However, these elements should be regarded as implicit in any use of the term ESD in the Australian context.

ESD principles form the underlying basis for many of the planning models which have since been developed in Australia even where these models had their origins overseas or prior to the adoption of the National ESD Strategy. Hence, catchment management, indigenous management, community based planning and the like are consistent with the ESD model. Further opportunities exist for the expansion of the social and cultural dimensions into the ESD model to develop equitable mechanisms for implementation of the Strategy.

Strengths and Weaknesses

The major strength of ESD is the national commitment to ESD principles as a basis for decision making throughout Australia, through the participation of all parties in the Intergovernmental Agreement on the Environment. This should provide consistency and direction both for decision makers and for those seeking decisions of governments.

Weaknesses of ESD revolve around the issue of federalism and State/Territory rights. While the ESD Strategy purposefully recognises the role of State governments under the Constitution and provides for State responsibilities within a nationally consistent framework, the Commonwealth's constitutional powers to enter into international treaties has ramifications for State governments, and there has been some reluctance to co-operate.

The challenge for ESD is to find practical and affordable strategies for achieving it. Many of our conventional land and resource management practices are far from sustainable, and there is a need for development of new techniques. Some of these were aired at the recent conference on the OECD ESD design competition for the Jerrabomberra Valley in Canberra (September, 1994).

Implications for Cape York Peninsula

ESD underlies the CYPLUS project and all outcomes must reflect ESD principles. This is an important starting point for the development of future land use and management arrangements. The formation of an ESD Working Group with responsibility for ensuring the project continues to meet ESD principles underscores the community's commitment to the project beyond the position adopted by the Commonwealth and State governments. As a project involving all levels of government and significant business and community representation, CYPLUS provides an opportunity for ESD to be successfully advanced.

2. THE ECONOMIC RENEWAL MODEL (ECONOMICALLY SUSTAINABLE DEVELOPMENT)

Origins

This model was developed by the US Rocky Mountain Institute, which is a non-government research organisation. The core business of the Institute is research and development concerned with energy efficiency and innovative power generation. The economic model developed out of an analogy between economic systems and energy flows, which hold good when empirically tested. A series of community workbooks has been developed which enable local or regional communities to assess the features of their economies, and to develop strategies for improved and more sustainable economic performance.

Principles

The model is based on gaining an appreciation of what happens to both money and resources arising from economic activity. Development of appropriate strategies seeks to -

- maximise use of untapped local resources in a sustainable manner, including making use of waste streams through recycling, and value adding to existing resources, and
- maximise local retention and recycling of money within the community, through "plugging the leaks", minimising imports, and promoting local circulation of funds.

Maximising use of untapped resources requires an excellent appreciation of what is locally available, through a resource inventory. This should encompass physical resources, labour market resources, infrastructure and access to capital. Maximising local retention and recycling of money requires developing an assessment of what actually happens to the flow of money through the local economy. Despite the crucial importance of this information, present institutional structures (eg financial institutions) and data sets (eg ABS statistics) do not facilitate such an analysis. However, some broad assessments can be made, based on key indicators and observed economic behaviours.

Structure and Content

The economic renewal model relies heavily on community participation and ownership of the planning process. The workbooks have been designed to assist communities in developing strategies without reliance on government assistance, and to exert a strong sense of direction on their local economies. Tools are provided for identifying opportunities and solutions to apparent problems. These are applicable to rural communities (eg the Food and Agriculture Workbook) as well as small towns.

The model recognises the economic value that the community places on its quality of life, including :

- arts and cultural assets
- clean air and water
- recreational resources
- community heritage
- cost of living
- community safety
- housing quality.

Economic strategies seek to increase local wealth and distribute it amongst the community without jeopardising these values. Only those activities which are consistent with community aspirations are supported.

The model relies on the community's own resources to increase sustainable wealth. The more conventional economic development strategy of attracting outside industry to relocate has a relatively low priority, and is only considered appropriate where a new industry fulfils some local need that cannot be met in any other way. There is much more emphasis on supporting the expansion and diversification of existing businesses, building on what the community already does well. In addition, windows of opportunity are sought which will achieve synergy with existing enterprises and infrastructure. Both strengths and weaknesses are identified, with the aim of converting weaknesses into strengths where possible. The goal is to develop an economy that is not merely propped up by a few economic activities which are essentially footloose, but rather achieve a broad and firmly localised base for growth. This base can then survive the anticipated cycle of local businesses opening and closing, without giving rise to "boom and bust" phenomena.

The process followed in this model involves facilitation of structured workshops to establish individual and community goals, and opportunities to be pursued. Implementation then relies largely on the community's own resources, and government support is not an essential component.

Status within Government

There has been some past interest at State and Federal level in adapting the model and its associated workbooks to fit the Australian context. This does not require a conceptual shift, as the principles and techniques in the model hold good for the Australian environment. However, there is a need to adapt language, place the model in the context of Australian administrative structures and legislation, and provide appropriate working examples. To our knowledge, this work has not yet been undertaken.

Support for the model has come from a number of sources within governments, often resulting from the personal conviction of individual officers. In Queensland, visits by US experts in the model have been sponsored, and projects which have sought local application of the model have been funded. Both the Department of Employment, Vocational Education, Training and Industrial Relations (DEVETIR) and the Department of Business, Industry and Regional Development (DBIRD) have been involved in these initiatives.

Recently there has been interest in developing training materials that can promote the model amongst economic development officers throughout the State, employed by local government or regional development associations. A training workshop has also been delivered to local government elected members.

Implementation Status

Implementation of the model within the United States is reported to be well established, and the Californian Briarpatch Network of enterprises is a well known grouping which applies the model's principles. The Rocky Mountain Institute has more recently extended its work to look at its application elsewhere, particularly in some developing countries.

In Australia, implementation has been partial and scattered. No cases are known where the workbooks have been meticulously followed. However, the DBIRD Future Search Conferences which are held throughout the State have tended to increasingly apply a similar methodology.

Application of principles to development of local economic strategies has emerged in several areas. The Caboolture Shire Development Strategy and the Cassowary Coast Economic Development Plan are examples of work in this area, with associated development of particular enterprises such as the Woodford Herb Industry Project. The Cooloola Regional Development Board embraces the model's principles. The Cape York opportunities study carried out by Wynter and Hill (1991) also follows these principles to a large extent.

Interrelated Concepts and Models

Interesting parallels can be made between the processes developed in this model and those needed for implementation of ecologically sustainable development (ESD). The recent conference on the OECD sponsored ESD design competition for the Jerrabomberrah Valley (Canberra, September 1994) revealed an awareness amongst some ESD practitioners of the model. There was considerable interest in transferring the principles across into ESD.

Partly this is because ESD can probably work best if there is a well recognised economic dimension, which this model can provide. However, there is also recognition that the principles are readily transferable to ESD design : conducting an inventory of physical and human resources and infrastructure, turning wastes into productive resources, minimising imports to the locality, and developing local self reliance.

At odds with the model is the more conventional "top-down" approach to economic development, and planning at the macro-scale. Assessment of these models indicates that they have best application at national level, or in relation to single major developments at the regional level. They perform poorly in providing a broad framework for regional economic development that can be maintained over a sufficient period of time to achieve implementation.

Of particular relevance to the model is the emerging field of environmental economics, which places economic values on environmental assets. There is some emerging expertise in Australian academic institutions (eg ANU) and some sponsorship of further research by the Federal Government. A capacity to place environmental values within the model would considerably strengthen it, provided that the results are easily articulated, and do not alienate the community participants.

Strengths and Weaknesses

Although the model departs significantly from conventional economic planning practice, it has been found to be extremely useful even by conventional practitioners (eg Econsult, personal comments). Both the community development processes and the economically sustainable outcomes are seen as positive characteristics.

The community development processes are likely to be particularly successful where :

- there is an opportunity for broad community participation and control of the planning agenda;
- there is a vehicle for community education and facilitation; and
- government takes a relatively hands-off approach.

The economically sustainable outcomes are likely to be successful where :

- the area functions separately from major cities; and
- there is historically a high level of dependence on external agencies in directing economic activity.

The model is likely to be inappropriate where :

- the economy is led by a single major enterprise; or
- a high level of government intervention is occurring.

Implications for Cape York Peninsula

The appropriateness of the model for Stage 2 of CYPLUS is identified as follows -

- the process may provide a useful framework for implementation of ESD principles;
- the process is applicable to planning for economic development if a highly participative framework with broadly based opportunities is established;
- the products are highly relevant and useful in the Cape York context; but
- the process and some aspects of the products may not be appropriate if a single major Government initiative emerges at the expense of more diverse initiatives, as might have originally occurred with the Spaceport proposal; and
- the model is unlikely to produce strategies for the location and development of industries which are needed by the broader community but which are likely to be unpopular locally (the NIMBY industries).

3. THE CATCHMENT MANAGEMENT MODEL

Origins

The original use of the term *Integrated Catchment Management* (ICM) was in relation to management of water systems, balancing supplies and storage with demands. However, this has changed to include integration of water and land management activities as well as the activities of different agencies with responsibilities relevant to a water catchment area. This approach to natural resource management dates back to the 1950s (eg the Tennessee Valley Scheme). The term *Total Catchment Management* (TCM) is used in some areas to refer to a similar approach, though more clearly oriented to management of all natural resources without any essential focus on water. In this report, we have referred to Catchment Management encompassing both ICM and TCM, which are not clearly separated.

Principles

Catchment management is based on two assumptions which are now widely accepted. These are -

- (i) natural resources need to be managed if they are to be capable of sustainable use, and
- (ii) it is possible to manage resources and activities within the catchment to achieve sustainable uses and avoid resource degradation.

It is recognised that, if the required management is to occur, it needs contributions by specialists in different fields of resource assessment, and by a range of agencies with different responsibilities. This requires a high degree of co-ordination, within the context of broad planning objectives.

Structure and Content

There are many different models for catchment management which have been used over time. However, recent work in this area has tended to be structured as follows.

First, it is essential to establish baseline data about the state of resources within the catchment. This often follows state-of-the-environment reporting, which identifies different environmental characteristics, their original state before human impacts, their present state, and the trends observed as a result of human impacts and other factors. Within catchments, this work typically extends to habitat systems, surface water systems, groundwater systems, soil systems and (where appropriate) coastal systems. The dynamic interrelationship between these systems is also identified.

The type of information that might be included, for instance, is :

• **habitat systems**

- the natural flora and fauna regimes, and the environmental conditions they depend on (eg water, soil)
- loss of diversity through selective clearing and selective reforestation
- clearing of land for agriculture or urbanisation
- loss of habitat in terms of carrying capacity
- loss of aquatic habitat through water quality
- weed and pest invasion, and their impacts
- fire regimes, natural, indigenous and those introduced through white settlement.

• **surface water systems**

- the natural condition and characteristics of surface water systems and the conditions giving rise to this (eg habitat, soil, groundwater)
- increased turbidity arising from clearance of vegetation and soil erosion
- increased pollution from human wastes, urban stormwater run-off and agricultural run-off
- increased quantity of discharges, including flooding, arising from land clearance, filling of natural detention areas (eg wetlands) and increased impermeable surfaces
- take-up of surface waters for irrigation, industrial and domestic use
- destruction of wetlands through vegetation and clearance, with impacts on water quality, water retention, and habitat.

• **groundwater systems**

- the natural conditions of aquifer storage, groundwater quality and water table levels
- altered permeability arising from sedimentation, with resultant reduced recharging of aquifers
- salinity arising from irrigation practices in arid areas, secondary salinisation where activities in part of the catchment lead to a rise in water table levels elsewhere, and salt water infiltration of coastal aquifers where groundwater resources are extracted beyond their capacity to recharge from freshwater sources
- pollution, for example from septic and sewage wastes, agricultural chemicals and industrial contamination
- destruction of wetlands affecting water levels and quality, particular in areas of surface-groundwater interchange.

• **soil systems**

- natural soil conditions arising from weathering of rock and the interaction with vegetation systems, significantly affected by water regimes
- soil erosion arising from vegetation removal, cultivation and other disturbance, particularly on steep or unstable lands, and including destructive gully erosion of some areas
- streambank erosion resulting from vegetation clearance and grazing, as well as increased discharges
- loss of soil nutrients arising from vegetation clearance, leaching by irrigation, cropping, overgrazing
- change in soil nutrients arising from agricultural fertilisation and absorption of sewage wastes
- soil compaction due to overstocking, reducing soil permeability to water and nutrients
- pollution of off-shore waters when sedimentary materials and nutrients are carried out to sea.

• **coastal systems**

- the natural state of the coastal environment and its contribution to marine habitat
- disruption of sand flows through construction of hard coastal features such as boat ramps, training walls and groynes, and resulting in sacrificial erosion of other coastal areas
- depletion of fish and other marine species through overfishing or loss of habitat
- foreshore development resulting in loss of vegetation, reduced defences against coastal erosion, and discharges of sewage waste
- pollution arising from discharges from boats
- mangrove and seagrass destruction through development and sedimentation
- reef destruction through sedimentation and an increase of dissolved nutrients from land sources, which can be fatal to coral
- the greenhouse effect, with consequent expected sea level changes, and likely consequent erosion and coastal inundation.

Having recognised the dynamic and interrelated processes occurring, it is possible to develop strategies aimed at reducing harmful environmental impacts, and introducing restoration practices. This is done within a framework of objectives that are agreed between agencies, and with an allocation of responsibilities to different agencies. Different landscape units are usually identified for the purposes of introducing these strategies.

Often catchment management stops at the level of assessing the changes to the quality of resources, and recommending corrective action. However, there are some moves to take a more proactive approach to resource management, using the planning system. This would allow for direction of particular future land uses into those areas of the catchment that can best accommodate them, and the imposition of conditions that avoid harmful impacts on the environment.

The resourcing of the establishment of the Johnstone River ICM pilot cost in the order of \$600,000 over a three year period. This was in addition to committed research funding by various government and academic agencies. The more recent exercise in Cardwell Shire is operating with a set-up budget of around \$400,000.

Status within Government

The Commonwealth Government has implicitly endorsed the concept of catchment management through the establishment and work of the Land and Water Resources Research and Development Corporation, and through its support for the Murray-Darling Basin Natural Resources Management Strategy Program. The CSIRO has also played an important part in the development of catchment management approaches.

In Queensland, the Department of Primary Industries has embraced catchment management as a major tool in natural resource management, and is the lead agency for promoting it. The Department has supported a number of catchment management initiatives, and can provide funding and other resources to assist this practice in other areas.

Implementation Status

In Queensland, the Lockyer Valley is an area of considerable past study and strategy development. This is now being reflected well in the development of the new Planning Scheme for Gatton Shire, potentially providing a powerful implementation vehicle.

The Johnstone River Catchment Project is more recent, and has been regarded as a State pilot, but it has proved to be difficult to gain the required level of local support for effective implementation. Some confusion of roles between implementation agencies is also apparent.

The current management strategies being developed for the Tully-Murray river valleys sugar expansion area is of interest as there is an economic planning dimension. The considerable injection of public funds into infrastructure, together with the significant anticipated profits for landowners, provides an opportunity to assess who will pay and who will benefit from the changes to the catchment, and to include an economic assessment of natural resource values over time. The proposed establishment of a Water Management Board, with statutory responsibilities, may also assist in implementation.

In parts of Australia (eg the Hunter Valley) the need for specific financial resources to put into catchment management has been met by a special rate. It does not appear that this is yet proposed in Queensland. However, there are indications that catchment management will be supported by appropriate legislation in the future, which may provide an opportunity to strengthen implementation tools.

Interrelated Concepts and Models

Catchment management is clearly related to the concept of ecologically sustainable development, and it provides a practical model for implementing ESD principles.

There is increasing interest in land management models for smaller areas than whole catchments, which can apply similar principles. Permaculture is one of these, providing a sustainable base for agriculture and human settlement. The associated Keyline System of water management, originally developed for agricultural lands in the United States, is of increasing interest for sustainable land use and stormwater management.

A modification of the catchment management model is needed for small islands. There the appropriate management unit is the watershed, ie a direct reversal of the catchment. There is considerable interest amongst Pacific Islands in catchment management principles, and they also have potential significance for the Torres Strait islands.

There is an important link between catchment management and indigenous participation, as demonstrated by the initiatives of the Kowanyama community in catchment management of Cape York. This community has assisted in the establishment of a multi-agency project for the Mitchell River Catchment, and sees this as possibly extending to other catchments in Cape York. In addition, there is interest in using catchment management as a focal issue for natural resource management, as well as environmental education.

The powerful contribution that the community can make towards catchment management is also demonstrated by the activities of Landcare groups. Landcare initiatives at the local level are generally compatible with broader catchment management objectives.

Strengths and Weaknesses

On an international level, it must be acknowledged that catchment management has fallen down badly in its implementation. This may be attributed to :

- a search for scientific certainty about environmental trends before action is taken, which can lead to protracted research and delays in strategy development (i.e. a lack of acceptance of the ESD precautionary principle)
- considerable energy invested in establishing new multi-agency committees, which lack the power to exert management influence
- confusion over who is responsible for what, and how the actions of different agencies complement one another
- a lack of recognition of the full range of legislative and administrative tools that can be employed in catchment management (such as the planning system, local government rating, other taxation)
- an imbalance between the generous resources invested in research and development of management plans and the sparse or non-existent resources invested by governments in implementation.

The result is that there are few if any good models of catchment management implementation, but a prevalent situation of continuing catchment deterioration.

There are successes in terms of community mobilisation over particular catchment issues. The Hunter Valley provides some excellent case studies of concerted action to correct some immediate problems through stabilisation of land and revegetation. The Western Australian government has developed excellent materials to assist community participation in water quality monitoring. In addition, some good strategies have been developed for the Murray-Darling Basin. But these lack the overall management framework that is envisaged by ICM and TCM.

Implications for Cape York Peninsula

The potential achievements of catchment management are considerable, and catchments may provide highly appropriate resource planning units in Cape York. However, there is a lack of directly appropriate catchment management models that can be transferred. The principles of catchment management can be applied readily, but regionally appropriate management and implementation structures will need to be specifically developed. In addition, the need for an adequate statutory and resource base for implementation should be carefully considered.

4. REGIONAL PLANNING MODELS

Origins

Regional planning as seen in different models within westernised countries is described in this section - some alternative models applied in developing countries are described in the subsequent section.

Regional planning as a significant activity came later than national planning and local planning, but it has emerged in various forms. In the UK it was at its height in the early 1970s, building on earlier French experience with economic planning at a regional level. This was extended into comprehensive regional planning, addressing the full range of issues affecting a particular region. North America has a more recent interest in regional planning, often focused on growth management around larger cities.

In Australia, there was strong interest in regional planning in the 1980s, again often focused on growth management, particularly around the metropolitan areas. In New South Wales, the Hunter and Illawarra Regional Plans were examples of the comprehensive models, addressing a range of rural as well as urban issues. For example, the Illawarra REP was informed by 22 different specialist studies into regional characteristics. Elsewhere, regional planning has often been more narrowly framed, for instance around economic development (as in the Golden Triangle, Victoria) and tourism (as in the Gippsland Hinterland).

New Zealand has recently introduced a new imperative for regional planning, based on the Resource Management Act, 1991. This follows the rationalisation of local governments and the formation of catchment regions as a prime planning unit.

Queensland has lagged behind in regional planning initiatives, but now has two current models for comprehensive regional planning being undertaken : SEQ 2001 in South-East Queensland and FNQ 2010 in Far North Queensland. The two regional planning exercises are at different stages of development, with SEQ 2001 being advanced to the stage of release of a Regional Outline Plan.

The basis for undertaking the SEQ 2001 project was the sustained high population growth being experienced in South-East Queensland. Similarly, in Far North Queensland, the State Government has recognised that effective planning to accommodate growth and provide the necessary infrastructure to sustain a good quality of life requires co-ordinated planning across government agencies and local government boundaries.

A SEQ Regional Planning Advisory Group was formed in July 1991, with broad government, business and community representation, and this has overseen the subsequent process. Local government representation on the RPAG has been co-ordinated through a Regional Organisation of Councils (ROC) which comprises four sub-ROCS for manageability and implementation purposes. The FNQ model is less well advanced, and has a simplified structure, including a single ROC.

Principles

The principle on which regional planning is based is that certain issues can best be addressed within the region rather than on a broader national or narrower local basis. Past experience indicates that this principle is particularly well accepted where there is a high rate of growth around a major population centre, or where large economic or infrastructure development projects are planned which will have impacts well beyond local boundaries.

Three further principles which are commonly applied to regional planning as well as some local planning are :

- **land capability assessment** : different land units should be assessed in relation to their ability to support different forms of development, and this should be the prime locational planning tool (determining what goes where);
- **land supply management** : a planned approach to supplying land for residential, industrial and commercial development, based on anticipated demands, can stabilise the development industry and lead to more efficient outcomes. This avoids boom and bust phenomenon through either undersupply (forcing prices up through competing demand) or oversupply (increasing holding charges for developers unable to sell their development in a reasonable time frame); and
- **infrastructure planning** : the community will benefit from a co-ordinated and pre-planned approach to infrastructure provision, as neighbourhoods can then receive the services they need at an appropriate time, and services are provided at an affordable public cost.

SEQ 2001 is based on the principle of growth management which seeks to accommodate and distribute growth and development in ways that manage environmental and social impacts, while achieving maximum efficiency in the provision of services and infrastructure. A variety of measures to achieve this has been examined in the context of the regional study.

The concept of regional carrying capacity was investigated but was unable to be conclusively used because of substantial data gaps. This prevented the development of quantifiable relationships between population growth and environmental deterioration. The Strategy recognises that regional growth is inevitable due to natural increase and immigration, but that growth in some localities within the region must be limited due to environmental and resource constraints.

The principle of applying regional planning to those areas which clearly cross local boundaries could well be applied to rural areas. This is demonstrated in the New Zealand model, where water catchments are a clear basis for the definition of planning regions. It has yet to be seen whether the concept of catchment carrying capacity becomes a significant tool in regional growth management under this model.

Structure and Content

There are two essential models for regional planning - top down and bottom up. European experience has often been of the top-down variety, with regional plans being developed as an articulation of national plans, or more recently European Community plans. The North American and Australian models are much more bottom-up, driven by common interests perceived by local as well as regional communities and agencies, and developed in co-operation with the state or national government. In these models there is a much higher priority placed on participation by the non-government sector from the earliest stages of establishing regional visions and goals. The SEQ model took account of these bottom-up models, and the RPAG visited some North American regions to assess the relative success of different approaches.

The initial approach to developing a regional plan for South-East Queensland was to prepare and agree a set of sectoral papers which presented a policy framework for various components of the Regional Strategy. A total of fourteen sectoral papers was prepared on issues as diverse as agricultural land, cultural development, human services, livability, mineral resources, transport, waste management, employment and conservation. These explored the impacts and dynamics of growth in the region.

The findings of each sectoral paper were presented in a report format which documented the background material, existing scenarios, opportunities and shortfalls, and emerging trends. Key issues which emerged from the analysis were documented and policy options examined. A detailed program setting out policies and implementation responsibilities, resource implications, priorities and general guidance, was developed through workshops with community and government stakeholders.

These policies were then integrated into a Regional Outline Plan (ROP) which drew together the various sectoral strategies in a preferred pattern of development within the region. Institutional arrangements to achieve the ROP were also examined. The ROP, institutional arrangements and vision statement collectively form the Regional Framework for Growth Management. Action plans were then prepared for the various sectoral strategies.

The resources committed for the more comprehensive SEQ exercise were around \$2M for the development of studies and broad strategies. The FNQ exercise is much leaner, relying largely on putting together work already done by councils in the region - its initial budget is in the order of \$200,000.

Status within Government

Regional planning has experienced fluctuating support from governments in various parts of the world. It obviously has a firmer foundation if there is political alignment within the region through a regional council or board. For the most part, this has yet to be achieved in Australia : there are a number of effective regional development boards with a specific economic planning agenda, but these do not have authority to develop more comprehensive regional planning strategies.

The SEQ regional planning model has so far enjoyed strong support and commitment from within government both at State and local government levels. The formation of an RPAG provided a co-operative community/ business/ government process for developing policies. Funding for the next three years has been committed by the State Government to progress the regional planning process through to the implementation stage. This further work by State Government agencies in partnership with sub-ROCs and community groups is to groundtruth the ROP findings in a subregional context.

Implementation Status

As noted above, the regional planning exercise is well advanced in South-East Queensland and is working towards implementation through the continuing work of the State agencies in co-operation with the sub-ROCs. It is recognised that the individual local authorities in the region will play a major role in the implementation of regional growth management recommendations, and arrangements for ongoing work programs have been negotiated between the sub-ROCs and State Government agencies.

The preparation of sub-regional structure plans which take up the recommended policies and actions of the sectoral papers in greater detail will be a key implementation tool. Working groups have been formed within each of the sub-regions to work through the findings of the ROP as it relates to each sub-region. These findings are to be completed by March 1995, and submitted to Cabinet for final approval. The outcomes will be incorporated into the State Government's three and ten year infrastructure planning program (PICC).

As well as shaping State Government policy and programs the findings of SEQ 2001 will be incorporated into the Strategic Plans of local governments in the region. In undertaking the project, there was a clear commitment from the State Government not to create another tier of government to implement the project outcomes, but to work with existing institutional structures. Nevertheless, the planning legislation is likely to provide for State Government intervention on issues of State or regional significance, and this may be relied upon if regional allocation disputes cannot be resolved by negotiation at the local level.

The Commonwealth Government has varied over time in its approach to regional planning. The recent formation of the Department of Housing and Regional Development has led to increased emphasis on regional planning, and this has coincided with a number of funding programs for regional initiatives. FNQ 2010 is in one of two regions in Australia which are seen as pilots for developing models for regional infrastructure planning, with Commonwealth support (the other being the Latrobe Valley in Victoria, an urban area of economic decline).

Within Northern Australia, there have been regional planning initiatives in the Kimberly and the Gulf regions, dating from the 1980s, but these have fallen short of expectations. A particular shortcoming is the lack of Aboriginal perspective within the planning framework, and they are seen as technical and bureaucratic products rather than being open-ended and flexible to meet community needs.

Interrelated Concepts and Models

The SEQ and FNQ models were partially drawn from overseas regional planning models and have some similarities with UK models. These two Queensland examples also embrace concepts such as ESD, but they have not taken into account such other models as catchment management, indigenous management and economically sustainable development, which are described in this paper. These models may have greater relative importance in a low-growth, homogenous or closed system region.

There is an obvious and useful link between catchment management and regional planning, where regional boundaries can be aligned with catchments. The New Zealand legislation provides scope for some development of this regional catchment planning model, also providing for indigenous participation at the regional level.

Strengths and Weaknesses

The fluctuating fortunes of regional planning can largely be attributed to weaknesses in implementation. Often the structures created to implement regional plans are highly complex, drawn from a web of local, regional and national interests. The fact that legislation is normally geared to national or local actions means that regional planning often lacks statutory teeth, and initiatives may founder whenever there is a significant dispute between the parties.

The SEQ 2001 model and its Far North counterpart have considerable strength in both the broad based involvement of different interests and agencies on the planning process, and willingness by local government in advancing the regional plan through to implementation. Negotiated agreement between the levels of government, the community and stakeholders has underpinned this commitment and forms a supportive basis for implementation. The fact that this has reached the point of integrated budgetary planning by participating agencies represents a considerable strength, and a regional planning achievement of international significance.

Weaknesses in the model may become apparent in the implementation stages if local government becomes alienated from the process through overt State Government intervention. For this reason, it is important for all parties to work collaboratively towards the preparation of the subregional structure planning components. If this does not occur, and agreement on the pattern of settlement is unable to be negotiated between the agencies, the model could fail. It should be noted that these weaknesses will be apparent in any regional planning exercise which involves co-operative rather than top-down approaches - they have their own inherent drawbacks relating to acceptability and implementation.

The essential weakness of regional planning, unless it is properly addressed, is well summed up by Boulder (quoted by Holmes) :

"The world moves into the future as a result of decisions, not as a result of plans. Plans are significant only in so far as they affect decisions if planning is not part of a decision making process, it is a bag of wind, a piece of paper, and worthless diagrams."

Implications for Cape York Peninsula

The FNQ model is already reasonably well known on Cape York Peninsula, through the involvement of key government agencies who have their regional base for Cape York Peninsula in Cairns, and for local governments which have representation on FNQROC. However, it would be less well known to the majority of people living on Cape York relative to other regional planning models such as catchment management, the concept of ESD, or indigenous management.

Its drawbacks for CYPLUS are that, to date, the model has been most effectively used to determine a framework for growth management in regions of sustained high growth : this clearly does not apply to Cape York Peninsula. However, as a tested model in Queensland it has broad based acceptance and demonstrated outcomes, and these may be able to be adapted through the integration with other concepts and models for the particular circumstances prevailing in the Peninsula.

The newly emerging New Zealand regional planning processes, based on catchment units, is of considerable relevance to Cape York. The outcome of these new processes will take time to be realised, but CYPLUS may seek further information on progress at an appropriate time.

5. THE INTEGRATED REGIONAL ENVIRONMENTAL DEVELOPMENT PLANNING MODEL

Origins

This model is drawn from Asia where the Asian Development Bank has funded eight regional environmental planning projects since 1978. The model was developed in response to earlier regional planning exercises under which land use planning decisions were made principally on economic or technical criteria, with an overriding emphasis on increasing national economic growth. The natural environment was more often viewed as an economic constraint to development to be overcome through engineering solutions. The resultant environmental degradation, irreversible loss of ecological resources, social costs, and decline in amenity and quality of life led to the recognition of the need to incorporate environmental objectives into any regional planning exercise.

Early examples of rural regional planning in Asian countries include the National Land Settlement Administration of the Philippines, which attempted to settle underpopulated Mindanao, the trans-migration programs and river basin planning in Indonesia, refugee placement in Pakistan, the Mekong River basin integrated water resource development involving Cambodia, Laos, Thailand and Vietnam, in addition to a number of urban projects.

Principles

The model is based on the integration of regional economic and environmental planning, expanding the Environmental Impact Assessment process to meet regional needs. Implicit in the model is the incorporation of all salient planning parameters including socio-economic dimensions. Importantly, the plan must show the linkages between economic development, resource use, production of residuals, impacts on environmental quality and communities. It also must give attention to regional economic considerations.

Structure and Content

The model was used in the following eight case studies which placed varying degrees of emphasis on environmental and economic considerations. A number of other South-East Asian projects have essentially followed this model but are less well documented. The eight studies referred to include:

- Philippines/Laguna Lake Basin - a comprehensive basin wide water quality management plan;
- Philippines/Palawan Integrated Area Development Project - a regional environmental development plan for the island of Palawan;
- Korea/Han River Basin Environmental Management Plan - a regional pollution control project with a regional economic development planning focus;

- Thailand - Eastern Seaboard Planning Study - a regional economic development planning project which was further developed by the Eastern Seaboard Regional Environmental Management Planning Project into a comprehensive regional environmental development plan;
- Thailand/Songkhla Lake Basin Planning Project - regional economic planning project;
- Indonesia/Segara Anakan Environmental and Optimal Use Planning Project - a study of an estuarine mangrove swamp incorporating basic regional economic development priorities;
- Malaysia/Klang Valley Environmental Improvement Project - a regional environmental development plan incorporating economic as well as environmental aspects;
- Thailand/Samutprakarn Industrial Pollution Control and Management Planning Project - a regional environmental development planning project with some attention to economic benefits and constraints.

Each of the eight regional plans prepared under this model followed a general format requiring the sequence of work from inception, through data collection, prioritisation of natural resources management, assessment of the impact of new development, preparation of a draft regional environmental development plan, testing the plan, adoption and evaluation. The model provides for technology transfer and training to leave skills in the community.

The Songkhla Lake Basin Planning Study in Thailand, which was completed in 1985, was the first to integrate environmental factors into regional economic planning from the outset. This followed two earlier projects which gave only secondary attention to environmental factors, and they were subsequently revised to incorporate this more fully.

The project was prepared by consultants who provided assistance to government because of the lack of available local expertise, and it covered natural resources protection and utilisation, rural and industrial sector issues and urban area infrastructure elements. The project was deemed to need improvement in linkages to economic decision makers who were strong in overall land use planning. Significantly, no reference was made in the case study analysis of community involvement or consultation during the project.

The status of regional environmental development plans varies from project to project. In each case, the project was sponsored by a government agency. However, the status of the plan is contingent upon the degree of involvement by the various agencies responsible for its implementation from the outset. Where it is not possible to integrate economic and environmental planning in the project outcomes, economic analysis for the development plan should include an evaluation which :

- * shows that the proposed environmental improvement expenditures are affordable, and within the levels for such expenditures established by experience in other developing countries,
- * includes an assessment of the likely natural resource requirements and residuals of any existing regional economic development plan, and

- * considers the relationship between the benefit/cost analysis for the proposed environmental plan and overall regional economic development planning.

Meaningful participation by state government agencies not directly involved is also essential, including a definition of their roles in the implementation of the plan.

Implementation Status

The eight case studies prepared under the auspice of the Asian Development Bank indicate the extent of acceptance of this model throughout the Asian region and implementation of the project outcomes to achieve national and regional economic goals. In noting the stages of evolution of regional planning in developing countries with respect to the environmental parameters, the model has evolved from conventional regional planning in the 1950s, through regional economic development planning, environmental impact assessment and environmental profiles in the 1960s and 1970s, to regional environmental development planning and regional economic-cum-environmental planning in the 1980s. This integration of the environmental and economic dimensions is expected to be refined in the 1990s and beyond.

Interrelated Concepts and Models

The model has close links with the EIA process on an expanded region-wide impact assessment basis. This is not dissimilar to regional planning currently being undertaken in Queensland, where regional and sub-regional issues are evaluated at the plan formulation stage, and the role of EIA is limited to localised impact assessment. Examples of this model have also been applied to catchment management, but broadened to embrace more substantial economic elements beyond natural resource management, such as with the Laguna and Songkhla Lake Basin Planning Projects, the Han River Basin Environmental Master Plan Project and the Klang Valley Environmental Improvement Project.

Strengths and Weaknesses

The strengths of this model lie in the integration of economic and environmental considerations from the project outset, a particularly critical approach in developing countries where national economic growth is an overriding government priority. The model as it is currently practiced also has obvious weaknesses, particularly in its lack of reference to community involvement in developing the project outcomes. While limited consultation may occur and skills would be developed largely with participating personnel, the model makes no specific reference to input of skills and knowledge, or the values and aspirations of local communities. Further, it is evident that the projects do not always involve all government agencies which will be responsible for implementation of the plan. This can ultimately result in government action contrary to the planning directions suggested by the regional planning documents. In any cost/benefit analysis undertaken as part of this model, the valuation of environmental factors must be sufficiently developed to enable a fair weighting of recommended strategies.

Implications for Cape York Peninsula

As distinct from many of the other models examined, the regional environmental development model gives recognition both to the environmental and economic considerations. It is believed that the shortcomings of the present model can be overcome by incorporating elements with other models such as those relating to indigenous participation and community based management. It would also be important to closely involve all relevant government agencies through appropriate forums.

6. THE PERFORMANCE BASED PLANNING MODEL

Origins

In the late 1980s there was a strong move towards regulatory reform, as part of more general initiatives in micro-economic reform. Performance based regulation emerged in a number of areas in different forms. It emerged in a particularly well developed form in New Zealand, in the planning and building regulatory areas. The New Zealand Building Act was completely converted to a performance based format, and it remains as one of the best models of this form of regulation.

In Queensland, performance based regulation was seen as having particular benefits for business, as an outcome of the Savage Report on business regulatory reform. In 1989 the then Department of Local Government sponsored application of the technique to local government by-laws, on a trial basis.

A national conference (with New Zealand participation) was convened in Queensland in 1991, bringing together the various initiatives to discuss state-of-the-art approaches, and implementation difficulties. This was attended by a range of disciplines and practitioners, and the legal profession made a significant contribution.

Principles

Performance based regulation is based on the principle of regulating according to the end achievements of development rather than the method of development. It is firmly founded on making the objectives of the regulation completely clear. This is seen as providing developers with encouragement to offer technically innovative solutions which would otherwise be stifled, and accommodating changing community needs.

A further principle of performance based regulation is accountability. The essential test for this form of regulation is to be clear about the reason for the regulation, and what it is realistically expected to be achieved on the ground. This makes it possible to evaluate whether the regulation is justified, and whether the end results indicate that it is successful in achieving its objectives. Such a test is much more difficult with conventional approaches to regulation, which often suffer from the principle of "if it's there, regulate it" rather than applying the test "why".

Structure and Content

The structures that have been developed for performance based regulation differ in terminology, but are fairly simple in underlying arrangements.

The first step in developing performance based regulation is to define the objectives, in a clear and unambiguous way (much more explicitly than the motherhood statements normally applied to regulation). The objectives should indicate the desired end results of the regulation.

The next step is to identify elements, or categories, of regulation which can contribute to achieving the objectives. For example, in relation to regulating. The objectives need to relate to the elements, and in some models each element will have its own set of objectives (sometimes termed the "intent").

Within each element the regulatory requirements are drafted in terms of performance requirements. Many early models were relatively vague about intended performance, relying on fairly subjective interpretation in relation to the objectives. More disciplined drafting can remove much of this vagueness by developing very clear statements, such that they can be easily tested against a proposed development. The ideal is to state performance requirements so clearly that a "yes/no" answer to whether a proposal complies is readily achieved.

For each performance requirement, it is possible to develop performance indicators. This is an optional component, but it is desirable to assist in measuring the effectiveness of the regulation, or to ensure that it is complied with over time. This component also makes it possible to integrate regulatory requirements within a corporate planning framework for the regulating agency - making it clear what broader organisational goals are promoted through the regulation.

A final component of performance based regulation is an identification of acceptable solutions, which are examples of the types of development that are considered to comply with the performance requirements. These can provide a "fast track" provision for desirable development that clearly complies. It also gives a clear indication of the type of solutions that are favoured, as a pointer to other possible alternatives. Acceptable solutions have often been referred to in the past as "deemed to comply" provisions or simply "performance measures". However, they should not be confused with minimum standards - rather they indicate desirable standards, but without precluding other solutions.

Because of the transparency of performance based regulation, it is possible to derive from the regulations the information that is required of an applicant in order to assist the performance assessment. Sometimes such "advice to applicants" is built into the regulation. Where regulatory requirements are integrated (eg in the New Zealand development system) it may be possible to define all the information and regulatory requirements at the outset of a project, rather than dealing with an application in sequential stages.

The legal enforceability of performance based regulation has been questioned in some areas. However, it is clear that if the regulations are unambiguously drafted, they may prove to be more resilient than conventional prescriptive regulation, because of their greater accountability. Of course, this is enhanced by the removal of open-ended discretionary clauses such as are found in many prescriptive regulations ("as may otherwise be determined from time to time", etc).

Some agencies hold the view that performance based regulation is more expensive to administer than prescriptive regulation, given the greater emphasis on merit-based assessment. However, this may be based on false notions of cost, including costs borne by regulators, developers and the community. In addition, administrative structures can be designed to achieve either high or low costs. However, a transition to a performance based administration does involve a fundamental change in the way regulations are drawn up and administered, and it would be appropriate to commit training resources to this process.

Status within Government

The Commonwealth Government has embraced performance based regulation in recent years, and has joined with the States in this support through the Planning Officials' meetings, the Council of Australian Governments (COAG) on planning and development matters, and the Urban Reform Working Group (as well as its predecessors). The development of the Australian Model Code for Residential Development (AMCORD) is a significant Commonwealth initiative which is increasingly rigorous in its use of the performance based approach.

The COAG National Objective No. 6 : Regulation is "to contain the costs of housing and urban development and promote efficient expression of housing and locational choice through regulations and building codes which are performance based rather than prescriptive and approvals processes which are as streamlined as possible".

At the State level, the Department of Housing, Local Government and Planning has funded and otherwise supported a number of initiatives in performance based regulation. The discussion paper for the new Planning and Development Act indicates that the legislation will encourage this form of regulation within planning instruments.

Implementation Status

Implementation of performance based regulation in the planning field can be seen in AMCORD (Edition 2, AMCORD Urban, and the current draft of AMCORD 95), and in some draft local planning schemes (Gatton being the best developed example, following on from State funding for its development).

The Building Code of Australia (BCA) has so far adopted a partially performance based approach, which is being implemented in all States. Current work is converting this to a full performance base, in line with the New Zealand model.

Standards Australia uses a performance based approach for most of its current standards.

Interrelated Concepts and Models

Performance based regulation is one of a number of regulatory reform initiatives that are promoted with a view to increasing efficiency and effectiveness of development regulation. Others include :

- **removing regulation** - using the test "why regulate" to remove regulation where there are clear alternatives;
- **using plain English** in regulatory drafting, applying the principle that if the lay person can't understand the regulation, it is unlikely to be effective;
- **developing scope for private certification** of compliance with regulations, which performance based regulations clearly accommodates.

The performance based approach also has some relation to the threshold-based (UET) planning system promoted by the University of Queensland. However, there are some important differences. The UET method relies on identifying the acceptable threshold for environmental impact on different areas, and then defines those activities which are likely to meet these threshold requirements. The weakness of this approach is that it relies on classifying development types according to their expected impact, which may not hold good in practice. The performance based approach relies on the fact that development falling within a single category of development can have a range of impacts, which can be influenced by development specifications for performance.

There has not so far been a blending of these two approaches, so that environmental impact thresholds are defined for different localities, and then transferred into the performance requirements for development taking place in these locations. This would have considerable merit, and may be a particular opportunity within the context of integrated catchment management - where defined landscape units may be appropriate management areas.

Strengths and Weaknesses

Performance based regulation is appropriate in circumstances where regulation can be met in a variety of ways, and where the end is more important than the means. For example, the prescriptive method of regulating against the spread of fire in buildings is to specify construction of a double brick wall between units. The performance based approach would call for a wall sufficient to hold back fire for a specified time period, and this encourages the development of cheaper solutions, technically better solutions, and alternatives to better suit local circumstances.

It offers the advantages of :

- flexibility to accommodate technical innovation or changing community needs
- choice between solutions that achieve satisfactory results
- removal of outmoded practices and encouragement given to cost effectiveness.

It is not appropriate where the means of meeting the regulation is just as important as the end result. For instance, it is appropriate to be highly prescriptive about which side of the road vehicles use, and it would be inappropriate to merely specify that vehicles could drive on either side so long as they didn't collide!

There is a weakness in performance based regulation if it is poorly drafted or inappropriately implemented. Successful application will require training, and this is likely to occur in a number of areas (for example in association with the BCA and AMCORD 95).

Implications for Cape York Peninsula

Performance based planning offers considerable advantages in terms of accountability and achievement of objectives through the regulatory system. However, to do this successfully it needs to be backed up by training of practitioners. It can be used as a tool in implementing any of the other planning models presented in this paper.

7. INDIGENOUS PARTICIPATION MODELS

Origins

Indigenous communities have long traditions of reliance on natural resources and the development of sustainable management practices. This is not to say that all traditional practices were essentially benign to the environment, but adverse impacts were on a much smaller scale or extended over a much longer time frame than is the case with some modern practices.

Many indigenous cultures have lost the knowledge of previous generations that would assist them in sustainable resource management. Some useful knowledge does remain, however. In other cases, there is sufficient knowledge about past practices for it to be practical to reintroduce them, where appropriate.

Indigenous participation in land management has emerged as making a powerful contribution in three distinct ways. First, it is critical in the appropriate management of traditional lands, so that a management framework is introduced which has cultural relevance and respect. Second, the wisdom of many traditional practices is such that indigenous participation can make an important contribution to mainstream planning and resource management. Thirdly, the development of new approaches to land management by indigenous peoples may see the emergence of totally new initiatives, arising out of a fusion between the old and the new. Such initiatives may have a broader influence on land management practices in Australia, in the long term.

Models of indigenous participation, particularly in the management of protected areas, have tended to be more recent., partly because of earlier held assumptions that traditional knowledge had less to offer than advanced scientific knowledge, and partly because conservation areas were viewed as protected areas where human impact was minimised or totally excluded, other than in a management role.

In 1975, the International Union for the Conservation of Nature (IUCN) passed a resolution on the *Protection of Traditional Ways of Life* which called on governments world wide to devise means by which indigenous people may bring their land into conservation areas without relinquishing their ownership, uses or tenure rights. Again, in 1982, the IUCN initiated a new direction when it convened a symposium on traditional lifestyles, conservation and rural development. This led to the formation of a Working Group on Traditional Ecological Knowledge founded on the belief that the value of this knowledge for natural resource management had been grossly undervalued by western-trained scientific managers.

Principles

The indigenous management model is based upon the application of traditional ecological knowledge in the wider context of development and social change. It involves using traditional knowledge and understanding of environmental structures and processes, networks of cause and effect, and people's perceptions of their own roles within environmental systems. Implicit in this is an acceptance of cultural and religious significance and the traditional economy and lifestyle of indigenous people.

Structure and Content

The structure and content of indigenous participation models vary, but most rely on the co-operative development of a management plan between the traditional owners of an area and the government agency responsible for resource management.

New Zealand offers a demonstration of what can be achieved in land management terms from a treaty structure. The 1840 Treaty Of Waitangi was signed by the first British Governor and around 500 Maori chiefs. There is an English and a Maori version, and the two versions differ in interpretation. The status of the Treaty has been recognised by the Government and the Courts, but many Maori people consider it has not been correctly implemented.

The Treaty confirmed chiefs and tribes as having "the full exclusive and undisturbed possession of their Lands and Estates, Forests, Fisheries and other properties". However, unused land was claimed by the Crown, and sale of land to non-indigenous people has been vigorously negotiated over time. In 1975 widespread Maori protest led to the Treaty of Waitangi Act, which ratified and preserved Maori title on remaining tribal lands. The Waitangi Tribunal was also established to hear complaints in relation to the Treaty's implementation. This Tribunal is able to examine retrospective issues, and also to challenge any law which is considered likely to breach the Treaty. A significant recent development has been the extension of claims to fishing rights, and the establishment of the Maori Fisheries Commission which allocates fishing quotas to Maori people.

In Canada there have been some moves from the somewhat indeterminate native rights available through treaties to clearer legislative rights. The 1982 amendment to the Constitution recognises existing treaty rights, and a further amendment extends this recognition to future claims of traditional rights. There has also been a series of constitutional conferences debating further amendments, but the priority given to this has been largely overtaken by the development of regional agreements.

The framework for regional agreements is provided by Comprehensive Land Claims Policy of 1973, and it was influenced by the 1971 ratification of the Alaska Native Claims Settlement by the Inuit people of Alaska and the US Government. This has led to the negotiation of legal agreements in Canada which encompass :

- land ownership
- rights to use land, for example for hunting and fishing
- rights to participate in management of land
- provision of both funds and skills so that communities can establish the infrastructure they need for social and economic development
- establishment of appropriate self-governing structures.

The agreements are seen as comprehensive frameworks for ongoing land management and planning, providing for coexistence and co-operation. It is recognised that indigenous people need control over their natural resource base in order to determine their social and economic development.

Regional agreements are also seen as important tools in the re-introduction of concepts of sustainable development to natural resources. The process of negotiating the agreements can provide opportunities for community education and development of appropriate management systems.

So far, six regional agreements have been finalised. The Nunavut Agreement is the most recent of these, and is the only one so far that conveys sovereignty over traditional lands.

The Nunavut Agreement has the following relevant objectives :

- to provide for certainty and clarity of rights to ownership and use of lands and resources, and of rights for Inuit to participate in decision making concerning the use, management and conservation of land, water and resources, including the offshore;
- to provide Inuit with wildlife harvesting rights and rights to participate in decision-making concerning wildlife harvesting;
- to provide Inuit with financial compensation and means of participating in economic opportunities;
- to encourage self-reliance and the cultural and social well-being of Inuit.

Provisions include :

• **wildlife harvesting** - the Agreement recognises the importance of wildlife as a resource for the Inuit, the principles of conservation applied by the Inuit, and the Government's ultimate responsibility for wildlife management. It establishes the Nunavut Wildlife Management Board to regulate by-laws, identify needs, establish quotas and fees, identify management zones and recommend planning for these, approve designation of rare, threatened and endangered species, advise on education and training in wildlife management, establish qualifications for guides, maintain a data base and conduct a Wildlife Harvest Study. The Board's decisions are subject to Ministerial approval. Military lands and smaller freehold lots are exempt from the Board's management.

In allocating quota, the Board determines

- the basic need level
- increased consumption by Inuit over time
- intersettlement trade
- marketing for consumption or use in the Nunavut Settlement Area.

There is then a complex formula for allocating harvesting rights. Surpluses in the quota are available for (in order of priority) other local residents, and then for spot enterprises designed to benefit the Inuit. All hunters must have Inuk as guides. There is also provision for emergency kills - to protect life, property or prevent starvation. Each community is obliged to have a Hunter and Trappers Organisation, and each region must have a Regional Wildlife Organisation.

Claims can be made against developers for present and future loss of wildlife harvested, and loss or damage to harvesting equipment caused by the development.

• **outpost camps** - these are similar to Australian Aboriginal outstations, eg camps 'occupied by families or other groups of Inuit who occupy the particular location on a temporary, seasonal, intermittent, semi-permanent or a year round basis for the purpose of wildlife harvesting and the associated use and enjoyment of lands'. They include

- the residential base, and
- the surface lands on which the residential base rests and the surface of lands within a distance of two km from the centre of the residential base.

However, they do not include any randomly occupied locations used only for periods of several days or weeks. The Agreement provides scope for establishing outpost camps, provided that they are not constructed in council areas or on freehold land unless the appropriate consent is given.

• **National Parks** - The Agreement provides a process for establishing these, including consultation involving Inuit and other local residents in management where possible.

• **planning principles** : The Agreement recognises that -

(a) people are a functional part of a dynamic biophysical environment, and land use cannot be planned and managed without reference to the human community; accordingly, social, cultural & economic endeavours of the human community must be central to land use planning and implementation;

(b) the primary purpose of land use planning in the Nunavut Settlement Area shall be to protect and promote the existing and future well being of those persons ordinarily resident and communities of the Nunavut Settlement Areas taking into account the interests of all Canadians; special attention shall be devoted to protecting and promoting for existing and future well being of Inuit and Inuit owned lands;

(c) the planning process shall ensure land use plans reflect the priorities and values of the residents of the planning regions and others.

Land use plans which are prepared and implemented under the Agreement must address economic opportunities and needs, community infrastructure requirements, cultural factors and priorities, environmental protection and management, energy requirements, sources and availability. The Nunavut Planning Commission oversees this process.

• **development impact** : The impact of proposed developments is assessed by the Nunavut Impact Review Board. This has the functions of -

- * screening proposals to see which ones require assessment
- * assessing the impacts of selected proposals
- * recommending approval and monitoring projects
- * holding public hearings into project proposals.

The Board must take into account whether the project would enhance and protect the existing and future wellbeing of the residents and communities of the Nunavut Settlement Area, also considering the interests of other Canadians. The Minister makes the final decision on project approvals, and may call for a further review by a Federal environmental assessment panel. However, the Minister must provide written reasons for any decisions, and so needs to explain departures from the Board's recommendations.

There are some exempt activities not requiring consideration by the Board, including town development, small tourist development, and small minerals claims.

- **water management** : The Nunavut Water Board is established to regulate and manage water in the Nunavut Settlement Area. Its planning must integrate with land use plans developed under the Agreement. Board approval is needed for use of water or disposal of waste into water systems except in the case of domestic or emergency use.

- **marine areas** : The Agreement recognises indigenous use of marine resources. A Marine Board is established to negotiate and liaise with government on marine management matters.

- **financial resources** : The Agreement provides that no tax is payable on Inuit lands unless in they are in municipal areas or have substantial improvements. There are substantial incentives for Inuit employment and granting of contracts to Inuit companies.

Australian examples of indigenous participation in significant resource management are in the area of conservation co-management. This typically involves the transfer of ownership of conservation areas to traditional owners on a lease-back arrangement. This is usually described as the Kakadu model which refers to the first Australian National Park to be managed under this arrangement. While earlier park management provided no formal control of the Park by Aboriginal owners, renegotiation of the leases will provide majority representation on the Board of Management.

Similar arrangements have been put in place in other NT National Parks at Uluru, Nitmiluk and Watarka, although these later models provide for varying degrees of representation of Aboriginal interest. Nitmiluk provides the greatest opportunity for participation by traditional owners. They are paid an annual rental fee, have majority representation on the Board of Management, and access to training and employment opportunities, with provision for the future excision of land from the Park for the establishment of a cultural centre.

Status within Government

The Australian Government has not taken any steps towards using regional agreements as a basis for settling native title claims, despite some interest amongst indigenous peoples in pursuing this course.

There is evident government commitment to developing programs for joint or co-operative management of conservation areas for cultural, ecological, social or economic benefit to traditional owners. The Northern Territory Government has been the most proactive of State and Territory governments in Australia in adopting this model, recognising the significant benefits of traditional ecological knowledge in the management of conservation areas as well as the cultural and economic benefits for indigenous communities.

This model with some modifications has been adopted in Queensland for the co-management of Queensland National Parks claimed under the Aboriginal and Torres Strait Islander Land Acts. The Nature Conservation Act, 1992, specifically provides for the preparation of management plans for National Parks declared under the relevant provisions of the Act, with lease-back arrangements to the State Government.

Implementation Status

The main implementation experience with regard to regional agreements is derived from Canada. However, there are similarities with the processes used to negotiate agreements for Kakadu and Uluru National Parks, and the mining agreement between the Jawoyn people of the Northern Territory and the Zapopan company. The process may also resemble that being pursued in relation to the Torres Strait Marine Strategy.

The National Park co-management model is well established in Australia and overseas. It has demonstrated benefits to local people in recognising the contribution of their traditional ecological knowledge, and in terms of the cultural, social and economic gains that can be made by the traditional inhabitants of conservation areas.

The NT Uluru and Nitmiluk models have now been in practice for several years. The models are based on recognition of ownership for the traditional owners and representation through the policy making Board of Management. In the NT, this generally involves majority representation on those Boards.

Queensland is at an earlier stage in the implementation of models of indigenous participation with the notable exception of the Kowanyama Aboriginal Land and Natural Resource Management Office. Drawing on the experiences of Native Americans of the Pacific North-West, Kowanyama developed its own program for management of the community's land and natural resources and initiated land management on a catchment basis for the Mitchell River system, including lands external to its boundaries. The program was developed with the support of the Aboriginal Community Council, the Council of Elders and the Kowanyama community which collectively set the agency's policy direction.

Apart from the Kowanyama example, the potential for co-management of conservation areas was explored with Aboriginal communities from Cape York Peninsula and other regions at a 1991 seminar on "Cross Cultural Management of Natural and Cultural Heritage" (Tinaroo Lake, September). During the proceedings, each community developed strategies within which it could see value in participation.

Some attempts to develop co-management strategies have been attempted by the Wet Tropics Management Authority, but with limited success. Co-management models in Queensland have also recently been examined through marine park planning and the commencement of a management plan for Cape Melville National Park. The development of the this park planning process may provide a model for future co-management of National Parks in the State.

Interrelated Concepts and Models

Many of the models of indigenous participation are similar to those for community based management (see below). A distinction is made, however, between those models which include a recognition of political differences between the indigenous population and mainstream society, and a need to negotiate a form of agreement to promote harmonious co-existence.

The indigenous participation models recognise the ecological, cultural, social and economic dimensions of regional planning which are a feature either singly or in combination with other concepts and models. They offer particular options for ESD practices, from which mainstream society can learn.

Strengths and Weaknesses

The major strength of the indigenous participation model is the benefit of obtaining an holistic ecological understanding of a region which has a greater value than scientific knowledge alone. On the other hand, traditional ecological knowledge is enhanced through the application of scientific knowledge for management purposes and the role of conservation areas is broadened to include social and cultural dimensions. The model is also well suited to less developed areas where traditional lifestyles and associations with land have been maintained.

A weakness of the indigenous participation model has been its limited application in Australia other than in conservation areas. Applied on a regional scale across varying public and private land tenures, the model may have considerable potential, as has been demonstrated in Canada.

The Canadian regional agreements have involved the extinguishment of native title claims, which in the Australian context would probably be unacceptable to indigenous people. However, the advantage for the Canadian Government has been to clear the way for major resource-based economic development projects. Significant social and economic advantages have been negotiated for indigenous peoples, but only where this was a trade-off against land rights. Experience in implementing the model in Canada suggests that it is workable with very modest levels of government support, provided the indigenous community is prepared to participate fully. However the Nunavut Agreement has received a significant funding support base, with around \$12m Canadian committed in the first year.

Implications for Cape York Peninsula

Cape York Peninsula is widely accepted as a region in which Aboriginal and Torres Strait Islander people have maintained strong links with their country and traditional knowledge has been preserved to some degree. While traditional lifestyles are no longer strictly observed, access to traditional foods and the religious and cultural relevance of land and resources continue to be significant to communities in the region.

Indigenous management is now observed through the management of the Kowanyama community lands, providing an opportunity to assess the model's applicability for the whole of Cape York Peninsula. However, given the range of interests represented on the Peninsula, it is likely that a broader based land use model might be required.

It should be recognised that communities may need resources and time to allow for them to discuss and agree their own priorities before negotiating with mainstream society.

8. COMMUNITY BASED MANAGEMENT MODELS

Origins

Community based management has a long history, and there are many different models throughout the world. A range of experiences suggests the relevance of community management systems to resource management.

In particular, a number of initiatives emerged in the 1970s within the area of urban renewal, in both Britain and the United States. These were in areas threatened with demolition, where the local communities had considerable vested interest in taking control of their environments. Where government initiatives had failed, there was often a willingness to hand over responsibility to the community. Some of these initiatives have led to outstanding successes in both physical and social terms.

A more widespread range of initiatives has been introduced relating to community based management of conservation areas, such as National Parks. This has been particularly important in some developing countries, but the principles have also been found applicable in developed countries.

Principles

The principle of community management of resources is that by involving the community in resource management, there can be mobilisation of effort as well as a high level of support for planned outcomes.

A further principle, which is sometimes but not always a component of community management projects, is related to the concept of promoting community wellbeing. Achieving control over those resources that are essential to meet the community's (or the individual's) needs is seen as the most effective vehicle for promoting wellbeing. This is different to the "welfare" principle of objectively assessing the community's needs, and providing essential resources according to these prejudged needs. The community management model is much more one of empowerment, and it allows for different communities to have different values, reflected in how they manage their resources.

Structure and Content

Models differ. Some are based on highly democratic structures, such as neighbourhood or tenant committees, which work on consensus or majority decision making. Others may be based on systems of traditional authority. Some have a high level of external support and others do not. However, provision of resources for training, so that communities can develop the skills they need for resource management, is common to many models.

The issues that can be addressed by community management are not limited. However, experience suggests that those issues which are essential to the community's residential environment or economic livelihood are likely to attract most active management participation. It is clear that some initiatives fail because they do not address those issues that have real significance for the community.

The urban renewal models that have emerged in Britain and the United States involve a very high level of participation and control. Typically all members of the local community are encouraged to become active members of a locally based organisation, which is structured as a corporate body. A committee is elected to direct projects, including property acquisition, rehabilitation and upgrading, property management and maintenance. Some of these structures have extended to develop specific business ventures, that provide employment for members of the community. The organisation has its own staff, often recruited from outside the community with a view to bringing in essential skills. The size of these structures vary considerably, but they are often multi-million dollar businesses. While they have often been formed as a last ditch attempt by governments to "save" particular areas, all other attempts having failed, they have proved to be highly cost effective in particular circumstances. Australia has no experience of these models - such community based housing organisations as do exist are very small and highly regulated, with little discretion in terms of asset control.

Of particular relevance to this report are models of co-management of National Parks in Australia and overseas, often involving traditional local communities (referred to earlier on page 37). These are largely brought about at the instigation of governments. However, there is also an example of the establishment of a conservation area at the instigation of a local community in the Udírbi Park in Panama. The park was created as a wildlife reserve for conservation purposes, scientific research and scientific tourism at the request of the Kuna people who were disturbed at colonial encroachment and destruction of rainforest posing a threat to their continued traditional lifestyle. The Kuna people's ability to maintain political and cultural independence can be largely attributed to their willingness to protect their natural resources, co-operate with scientific, conservation and funding agencies, and understand and accept modern management practices which build upon traditional knowledge.

Other overseas conservation models give examples of management which recognise the implications of population displacement or resource exclusion and provide opportunities for community involvement.

Status within Government

Community based management does not have status within Australian governments, except as part of more general local government structures. However, there are many examples of status being accorded in other countries (see below).

Implementation Status

Community based management of urban renewal projects is well established in parts of Britain - particularly in Glasgow, where at one stage there were over 22 housing associations with budgets of several million dollars per year each, typically with a housing stock of around 1,000 tenement units. The prime example of the same sort of mobilisation of community resources in the United States is in St Louis, where the scale of organisation is even larger. These initiatives were a product of the 1970s, and subsequent government initiatives have been more hesitant about handing over large resources to the community. The London Docklands Project, for example, which followed the successful community based renewal tradition, did not involve handing real power to the local community, and apparently tolerated a high degree of local displacement.

Co-operative management of rural conservation resources, however, has grown in strength in many areas. The following case studies present different forms of implementation of this co-management, but follow the same principles :

- **Koprülü Kanyon National Park** in Turkey has received UNESCO funding to integrate the aspirations of local communities into conservation of this highly significant environment. This extends to horticultural enterprises (which will replace harvesting of wild plants), sustainable use of regional economic plants for various products, establishment of regional botanic gardens, medicinal plant production and regional research activities.
- **The Royal Chitwan National Park** in Nepal, provides an example which maintains dislocated villagers' access to grass cutting. This plays a significant role in maintaining the Park's savanna habitat.
- **The Palamau National Park** in India provides another example - this encompasses 44 villages within its boundaries where conservation objectives were developed involving the local villagers as an alternative to relocation.
- **The Amboseli National Park** in Kenya, has seen the government together with the local Masai developing a program for harvesting of wild animals, an animal grazing compensation fee, and development of economic opportunities.
- **The Varzea of Marituba** in Brazil is a wetland area where traditional fishermen and subsistence farmers have offered alternative management to capital-intensive irrigation projects, through their Rural Workers Union. A current international research project into Brazil's wetlands is supporting local initiatives for sustainable use of natural resources.
- **The Guapore Valley** is another wetland area in Brazil, where the local rubber-tappers organised themselves into unions in the 1970s, supported by the National Council of Rubber-Tappers and the Indian Tribes of the Amazon, to oppose logging of local rainforests. Their strategy includes establishment of legally protected "extractive reserves" that can be sustainably managed by the communities that live within them. This approach has potential for extension to other parts of the Amazonian Region, and to combine it with National Park surveillance.

- **The WWF-Zambia Wetlands Project** has integrated wetlands management with community development. The wetlands are divided into management units within which the pre-existing chiefdoms are identified. Management strategies need to accommodate hydro-electric power generation, agricultural irrigation, urban and industrial water supply, fishing, traditional grazing for livestock, tourism and hunting. Each chiefdom is briefed on the project, and assisted in restoring local vested interests within local wetlands management and through Community Development Units. Implementation is supported by various government administrative agencies. Community development includes training and employment, upgrading of schools and health facilities, development of tourism enterprises, management of grazing and wildlife harvesting. The management arrangements are funded externally, but a large part is based on revenue from hunting licenses given to tourists. The project has resulted in a ten-fold decrease in poaching of some species, through community based enforcement of regulations.

- **Management of the Djoudj National Park** in Senegal recognises that local people can be alienated from national parks through the removal of economic resources. Traditional uses are allowed to continue - fishing and grazing. In addition, there are plans to introduce construction of canals and ponds for fish rearing, into which fish fry will be let from the waters of the National Park. Technical support is being given to villages in agricultural production, reforestation and housing. Local people are also being encouraged to participate in the tourism economy of the Park. The aim is to achieve a situation where local villages tangibly benefit from the Park, so that they will support its management.

- **The Friesian people along the North Sea coast** of Germany have been involved in similar initiatives. Initially there was lack of support for the conservation measures proposed for the Wadden Sea. This has improved with participation in designation of public access systems and route systems for boats. Negotiations have allowed for a large measure of local determination, and have avoided what might otherwise have been a destructive conflict.

- **The management of the Cevennes National Park** in France has taken account of traditional land uses and agricultural practices. Agriculture is being maintained as an alternative to "reconstructed nature". Technical support is being given to local community based initiatives in methane production from cattle dung, development of collective organisations to improve village life, and management of resources. Educational courses are encouraging local knowledge of cultural heritage which can be applied as an asset in the tourist industry. Improvements are also being introduced to livestock management which will lead to sustainability and acceptable environmental impact. The management plans aim to avoid population loss and maintain traditional lifestyles in conjunction with Park conservation.

Interrelated Concepts and Models

Community based management models are closely interlinked with models of indigenous participation in some areas. They present a structure and some tools which can be effectively applied to any form of resource management, including ESD, catchment and regional planning. However, the examples of practice are more limited in scope.

There are some links with the community based economic development model described in this report. However, this model does not involve direct corporate control of assets by the community, nor organisational structures for co-management of resources.

Strengths and Weaknesses

The strength of community based management is that if it works, it is very powerful and cost effective. Local communities have a vested interest in ensuring that management is successful, and the mobilisation of local resources presents opportunities that cannot be realised in any other way. However, it should not be presumed that this model can rely purely on voluntary effort. Resources for employment of staff, whether local or external to the community, will have to be found. This may be funded through cost recovery or government subsidy, depending on the context. It is likely that the cost of outcomes will be less than for equivalent outcomes achieved solely by government effort.

The essential weakness of community based management is that many communities do not seek an active management role. Community mobilisation occurs most successfully when there is a real threat to life or livelihood, and if issues are not seen in these terms then the community may prefer to leave management to other agencies. It is important that the issues presented are ones which have real meaning within the value system of local people, and to provide a resource and training base which is adequate to support mobilised effort.

Implications for Cape York Peninsula

Community based management could have considerable potential for CYPLUS provided that governments are prepared to hand over real authority for resource management to local communities, and provided that the communities are willing to take on the consequent responsibilities. In sparsely populated areas, resource management may be most effectively pursued by local inhabitants, and there is the potential to provide training appropriate to a community management role.

9. COMPARING THE MODELS

This section provides a comparison between the models described earlier in the report, against criteria which are relevant to CYPLUS Stage 2.

(i) The needs of indigenous and other residents

The Economic Renewal Model

Being a highly participative model, and one which is "bottom up" in terms of being community driven, this model rates well in providing for indigenous and other residents. However it focuses on those who are prepared to participate, and it could have weaknesses if some groups are left out of the planning process.

The Catchment Management Model

The model has been applied in various ways, but often uses a "top-down" approach, being driven by government agencies. However, the Kowanyama involvement in the Mitchell River catchment management project indicates that the model can be highly responsive to indigenous and other community needs, if it is structured appropriately.

Regional Planning Models

Regional planning models are usually participative, providing for the needs of indigenous and other residents to be identified at an early stage and taken into consideration in developing policies and strategies. Top-down regional planning generally involves governments implementing national development plans and is more common in European examples.

The Integrated Regional Environmental Development Planning Model

The model is top-down in its approach. However, recognition of the social as well as the economic and environmental dimensions is explicit and case studies have evaluated adequacy of socio-economic considerations as acceptable. The model would be appropriate to meet the needs of indigenous and other residents.

The Performance Based Planning Model

This model is firmly driven by clear objectives, and these can be responsive to indigenous and other community needs if there is appropriate participation in their establishment. The model also provides a means for developing a high level of accountability and transparency within the planning system, which can assist local communities in ensuring that activities are well directed.

Indigenous Participation Models

These models most clearly meet the needs of indigenous residents by providing for control of indigenous peoples over natural resources on which their traditional cultural and/or economic well-being relies. The needs of other residents are less clearly provided for but are nevertheless relevant in developing appropriate structures or agreements for access to and management of resources.

Community Based Management Models

These models involve a high degree of recognition of indigenous and community needs, supported by resourcing residents to meet their own needs in a self-determined manner.

(ii) Roles of local, State and Commonwealth governments

The Economic Renewal Model

As designed, the model does not depend heavily on government participation, though government support in removing development blockages is essential. As applied in Australia, it has been useful to involve local government in driving the planning process, together with the local community.

The Catchment Management Model

Within Australia, State governments have taken the lead in promoting and steering the model. Local government has been fully involved in development and implementation, though sometimes this has not been well integrated within local government corporate responsibilities. The Commonwealth Government has been supportive, but not actively involved.

Regional Planning Models

In Australian and North American (Vancouver) examples, State or Provincial Government has prime responsibility for regional planning, but there is heavy reliance on the participation and support of local government and, to a lesser extent, national government. Generally, all or most State agencies are involved in the process to enable a co-ordinated plan to be developed which has acceptance across government. Outcomes are generally incorporated in State Government budgets to provide for major infrastructure investment.

**The Integrated
Regional
Environmental
Development
Planning Model**

The model depends heavily on government involvement in initiating and co-ordinating projects, and at the implementation stage with recommendations for the establishment of a regional environmental management unit. While there are clear linkages to national economic planning and programming, linkages to local government are not evident.

**The Performance
Based Planning
Model**

Any agency can take the lead within this model, and there are precedents for its use by local, State and national Government for application in Queensland. Where the levels of government are involved in planning co-operatively, the model will work well so long as the objectives can be agreed within the different frameworks of government policy and corporate objectives.

**Indigenous
Participation Models**

Although provided for by State and potentially national government, implementation of indigenous participation is at the regional or local level and there are a number of examples of development and implementation of the models both in Australia and overseas. The model has to be essentially driven at the community level.

**Community Based
Management Models**

For this model to be effective, it is essential that all levels of government are prepared to accept devolution of decision making to the community level. This involves tolerance of end results which may not always conform with government preferences.

(iii) Public participation

**The Economic
Renewal Model**

The model rates very highly (highest of all the models described). The community drives the process and takes responsibility for implementation.

**The Catchment
Management Model**

Apart from the Kowanyama/Mitchell River experience, the model has often involved the public only in particular segments. This has focussed on areas where community resources can contribute (eg landcare projects, community participation in environmental repair work) rather than the overall planning for the catchment. This is a weakness, as property owners have prime responsibility for catchment management through their land use activities.

Regional Planning Models	Public participation is an important element of these models, both in setting goals acceptable to the community and in evaluating strategy outcomes.
The Integrated Regional Environmental Development Planning Model	From information sourced, the model does not explicitly provide for public participation although limited consultation by consultants with local communities is likely to occur and the impact of development options evaluated. The model would benefit from the strengthening of this aspect.
The Performance Based Planning Model	This is not an essential component of the model, but it is readily accommodated.
Indigenous Participation Models	The models rely on a high level of public participation from within indigenous communities.
Community Based Management Models	The model is entirely dependent on broad participation by all sections of the community. Participation by only a portion of the community will undermine the model's credibility and limit its effectiveness.

(iv) Use of existing institutional arrangements

The Economic Renewal Model	There is no critical need for new institutional arrangements, so long as co-ordination of responsibilities can be assigned to an existing institution. This should be an agency with broad community representation, and the CYPLUS committee structure would appear quite appropriate.
The Catchment Management Model	It is notable that resources have often been wasted in the establishment of new institutional arrangements (eg Catchment Co-ordination Committees) which lack credibility within the existing socio-political structure. They often lack real teeth, being comprised of agency representatives who do not have decision making delegations. However, the model does not essentially require new institutional arrangements, and may be more effective if it spells out implementation responsibilities that require the commitment of existing agencies.

Regional Planning Models	A new administrative structure can be developed although the models can be readily accommodated under existing institutional arrangements as has occurred in South-East and Far North Queensland with the SEQ 2001 and FNQ 2010 projects.
The Integrated Regional Environmental Development Planning Model	The model uses existing institutional arrangements but would benefit from greater inter-agency co-ordination. A critique of case studies of projects drawing upon this model recommends the establishment or strengthening of a special regional environmental management unit with responsibilities limited to the particular regional problem.
The Performance Based Planning Model	This model can be implemented within any effective institutional framework.
Indigenous Participation Models	The models can work within existing government structures and legislation. However, they seek to redefine the relationship between indigenous people and the dominant society, so that renegotiation of existing arrangements generally results in new institutional structures and mechanisms such as regional agreements and structures for co-management of conservation areas.
Community Based Management Models	Depending on the nature of existing institutions, it is quite likely that new structures will be necessary, to ensure empowerment of all sections of the community. However, the representative structures developed for CYPLUS could play an important part, co-ordinating existing grass-roots organisations.

(v) Devolution of decision-making

The Economic Renewal Model	This model involves a high level of devolution, with decisions being made very much at "grass roots" level. Once overall objectives are identified, the emphasis is on facilitating rather than directing activities.
-----------------------------------	---

The Catchment Management Model

Typically the model has not devolved decision making to people in the local area, though it sometimes has attempted to devolve implementation responsibilities. Lack of local commitment to implementation has often resulted from the lack of devolution of decision making responsibility.

Regional Planning Models

The models provide for implementation at the State and local government levels. Local governments are encouraged to amend their Strategic Plans to incorporate regional policies and strategies and hence be largely responsible for day-to-day implementation of the regional plan. The plans are less well adapted for devolution of decision-making to the community level.

The Integrated Regional Environmental Development Planning Model

The model provides for no evident devolution of decision-making, with responsibility for implementation clearly being retained at the national or regional government level.

The Performance Based Planning Model

The model can be implemented with decision making taking place at any operational level.

Indigenous Participation Models

Implementation of the models requires devolution of decision-making to the local or regional community by the implementation of agreed principles and management policies.

Community Based Management Models

This is essential to the model, and is more significant than for other planning models.

(vi) Regional appropriateness

The Economic Renewal Model

The model is not appropriate for major metropolitan centres. It is highly appropriate for regions and centres located some distance from the metropolis, including remote regions with a low population density. However this may require innovative solutions to the problems of networking between residents/communities within the region.

The Catchment Management Model	This model is highly appropriate to management of a large rural region, particularly where a high priority is placed on management of natural resources. The low population density does not impede the model's effectiveness.
Regional Planning Models	The regional planning models are generally used in areas experiencing sustained high growth such as Cairns and the area around Brisbane. Because the models are essentially looking at accommodating future growth and the effects of this on the provision of services, they are less relevant in their current form to more remote, sparsely populated areas.
The Integrated Regional Environmental Development Planning Model	In its integration of environmental and economic considerations, the model is appropriate for regions such as Cape York Peninsula where the impacts of economic decision-making need to be evaluated in an environmental and social context. The model is particularly suited to accommodating rural and resource-based issues taking a regional rather than a local perspective to impact assessment.
The Performance Based Planning Model	The model can be used within any regional context, and can integrate local and regional frameworks. However, to be effective, there needs to be a regional capacity to assess and monitor the performance of development.
Indigenous Participation Models	The models are appropriate to planning on a regional basis, particularly for an area such as Cape York Peninsula where indigenous residents and communities comprise a significant proportion of the population and links with traditional country have been maintained.
Community Based Management Models	Given the nature of Cape York Peninsula, the model would require implementation through a series of local initiatives, co-ordinated at the regional level. The units for planning purposes should relate to areas of identified community interest.

(vii) Conservation of natural resources

The Economic Renewal Model	The model respects the value of natural resources as it is based on establishing a resource inventory at the outset, and ensuring that sustainable management is put in place.
-----------------------------------	--

The Catchment Management Model

The model is entirely compatible with ESD principles, and can assist in their achievement through establishing baseline conditions, monitoring environmental changes, and intervening to protect the ongoing value of resources.

Regional Planning Models

Resource management and conservation is an important consideration in these models which aim to accommodate regional growth while identifying and protecting elements of the region which are of environmental or resource significance.

The Integrated Regional Environmental Development Planning Model

The model requires the setting of natural resource management priorities and the development of a natural resource management plan using base-line information. Overall development strategies including natural resource, socio-economic, and environmental development strategies evolve from this and targets are set. The model addresses natural resources both in terms of conservation and economic development potential.

The Performance Based Planning Model

Performance based planning is highly appropriate where there is a need to manage natural resources, as it can be based on appropriate standards of environmental impact.

Indigenous Participation Models

The management of natural resources for spiritual and cultural purposes and sustainable harvesting takes precedence over conservation, although these purposes can be mutually achievable.

Community Based Management Models

The model relies on the value systems of the Local community. Provided that the local community places a high value on resource conservation, the model can be highly effective through the mobilisation of community resources.

(viii) Use of alternative technology

The Economic Renewal Model

By identifying locally appropriate and self contained systems for achieving development, the model has a good track record in encouraging use of alternative technologies. This particularly applies to generation and conservation of energy, and recycling of waste streams.

The Catchment Management Model	Enhancing environmental performance through improved catchment management can lead to demands for new technologies. This has occurred particularly in relation to stormwater management (urban and agricultural) and sewerage disposal. The need for alternatives to conventional septic tank systems is particularly evident in areas with highly permeable soils and aquifers.
Regional Planning Models	Opportunities for and use of alternative technologies do not rate highly in these models.
The Integrated Regional Environmental Development Planning Model	The model provides good opportunities for the development of alternative technologies, particularly in planning for resource management or minimising the impact of development options.
The Performance Based Planning Model	The model does not specify particular technologies. However by specifying the end results rather than the means of development, it offers scope for innovation in technologies employed.
Indigenous Participation Models	The models provide significant opportunities for developing and using alternative technologies which are economically, climatically and culturally appropriate to local users.
Community Based Management Models	Community based initiatives will often encourage use of alternative technologies where this is consistent with increasing local self sufficiency and control.

(ix) Resourcing, benefits, costs

The Economic Renewal Model	The model relies on the community's own resources to a large extent. Government resourcing needs to be closely targeted to selected opportunities. The benefits relative to costs can be very high, if success is achieved in maximising local recycling of financial and other resources. Start-up costs are facilitation of workshops, possibly around \$10,000.
-----------------------------------	--

The Catchment Management Model

The economic dimension of catchment management has often not been clearly spelled out, and this has limited its effectiveness. The actual costs involved are likely to reflect the level of human impact on the catchment, significant budgetary commitment by participating agencies has often been slow and small, despite the fact that long term benefits are capable of evaluation. Some of these deficiencies may be addressed in the current Tully-Murray river valley project (Cardwell Shire), which addressed agricultural expansion within a catchment management context. Start-up costs of \$4-600,000 are typical.

Regional Planning Models

The models require major investments of time, money and personnel both within government and the community to be effective. Because of the number of agencies involved, projects usually run for several years and require a substantial funding commitment from State and local government. The benefits for managed growth and cost effective provision of infrastructure can be substantial if agreement can be reached between state and local government on an appropriate framework for regional growth. Start-up costs of \$250,000 - \$1M would be typical, depending on the process followed.

The Integrated Regional Environmental Development Planning Model

Projects funded using this model have been sponsored by international assistance agencies with comparatively moderate financial support from government. The projects have tended to be short-term, and managed by local or overseas consultants with correspondingly few skills transferred or resources committed to implementation agencies for on-going environmental monitoring. Information on precise costings are not immediately available, but may be accessed through the Asia Development Bank.

The Performance Based Planning Model

This model requires resourcing in terms of training and skill development, as it involves changing the conventional approach to planning and regulation. However this is balanced by long term benefits in regulatory streamlining. Start-up costs of around \$50,000 in system design and training would be reasonable.

**Indigenous
Participation Models**

This model requires investment of resources for indigenous communities to develop appropriate agreements, projects or programs and will involve increasing skills at the community level. Start-up costs of \$12M canadian p.a. have been quoted, at the high end of the range. However the levels of ongoing resourcing by governments have tended to be very low, by comparison with other models. The benefits which potentially flow from implementation of the models include more effective management of natural resources, greater economic self-sufficiency, protection of cultural integrity, and reduced social impact of decision-making.

**Community Based
Management Models**

This model requires investment of considerable resources in developing skills within the local community, to support management activities and outcomes. Significant input of financial resources may also be required, depending on the nature of the management task. However, given this investment, the model has the potential to deliver benefits which cannot be achieved in any other way. An example of a high-cost program is in Glasgow, where administration funding of over \$10M p.a. was involved in the 1970s (through funding of over 20 separate organisations).

(x) Limitations

**The Economic
Renewal Model**

One of the factors limiting the successful application of the model is the lack of information about money flows within, into and out of a region. There is potential for the Commonwealth Government to assist in this area, through requirements for reporting from the banking and superannuation industries for example.

**The Catchment
Management Model**

In practice, catchment management has some way to go in implementation. It has generated volumes of paperwork, research fieldwork, considerable activity in meetings and development of organisational structures, but not so much on the ground. It has proved to be weak in integration, and it will only be successful if there is a considerably interagency commitment in this area.

**Regional Planning
Models**

The extent of financial and time commitment required at the government level presents a constraint to wide usage of these models. Its application to areas of low growth has yet to be tested.

**The Integrated
Regional
Environmental
Development
Planning Model**

The major limitation of this model is the lack of co-ordination between agencies with responsibilities for implementing the model. This could be overcome with greater involvement of agencies from the project outset resulting in an ownership of and commitment to the strategies developed. Community involvement in setting priorities and evaluating options would greatly enhance the value and acceptance of the project and devolution of decision-making to local agencies is potentially achievable.

**The Performance
Based Planning
Model**

Performance based planning will not work well where objectives cannot be agreed and clearly articulated. Its implementation will also be limited if agencies are unfamiliar with appropriate operational techniques.

**Indigenous
Participation Models**

Lack of meaningful devolution of decision-making would potentially limit the application of these models in the absence of reform of legislation or management structures. Another potentially limiting factor is the extent to which the models provide for non-indigenous participation.

**Community Based
Management Models**

The model will not work if there are no incentives for the local community to become involved in management, or if there are no aspirations for particular outcomes. Disagreement within the community, or between the community and government agencies, may paralyse community based management processes.

(xi) Acceptance

**The Economic
Renewal Model**

In the United States, there is a high level of acceptance for the model within communities which have used it. In Australia, experience is more recent but there are indications of sustained and tangible benefits readily appreciated by the community.

**The Catchment
Management Model**

There appears to be little difficulty in gaining community acceptance for the model, as it is capable of being logically presented, and the benefits are self evident. However acceptance of the actual results of catchment management activities is more patchy, and awaits more effective implementation.

Regional Planning Models

The models are generally well accepted in North American examples. In Queensland, both SEQ 2001 and FNQ 2010 have so far enjoyed strong support from State and local government, although they are yet to reach the implementation stages.

The Integrated Regional Environmental Development Planning Model

The model has been in use in South-East Asia and the South-West Pacific regions for the past decade and is well-accepted in countries in the region. The model is being increasingly utilised in developing countries to ensure the environmental as well as economic objectives are incorporated in regional planning from the outset.

The Performance Based Planning Model

Performance based regulation is well accepted at the national level, within building regulatory reform (Building Code of Australia) and planning initiatives (Australian Model Code for Residential Development - AMCORD). The Queensland State Government has also embraced this model in several areas, and leads other States in this respect.

Indigenous Participation Models

A somewhat limited version of the models is being increasingly accepted in Australia in the co-management of National Parks in the Northern Territory. The Queensland State Government is now developing management plans for National Parks claimed by traditional owners under the Aboriginal Land Act. North America, in particular, Canada has examples of regional agreements which give recognition to native rights which were previously not clearly recognised under existing legislation.

Community Based Management Models

At its most successful, this model has demonstrated a high level of acceptance, and sustained benefits over a long period. However the model has failed in some circumstances, as indicated above.

(xii) Prescriptiveness

The Economic Renewal Model	The model is flexible, but works within a conceptual framework. This framework is highly consistent with ESD concepts and principles. The operational components of the model are capable of a fair degree of mix and match to suit particular local circumstances. This is necessary to make sure that the model fits within the local sociopolitical structure.
The Catchment Management Model	The essential components of this model are integration (between issues and agency responsibilities) and management (intervention to secure the long term viability of resources). Beyond this, the model is capable of adaptation to suit a wide range of circumstances.
Regional Planning Models	The models are not prescriptive based although there is some potential for local government to translate outcome into prescriptive standards as a means of implementation.
The Integrated Regional Environmental Development Planning Model	The model does not rely upon a prescriptive approach to economic-environmental development planning.
The Performance Based Planning Model	The model is not seen as prescriptive - it is at the opposite end of the planning spectrum from prescriptive planning. However it involves a process which is well defined, and which should be followed to achieve best results.
Indigenous Participation Models	The models are not prescriptively based.
Community Based Management Models	There is very little prescription within this model. What works for one community may not work for the next. The essential components are the provision of skills and financial resources to the community, and devolution of responsibility for implementation.

10. SUMMARY

Introduction

This report has been prepared to advise government agencies and the Cape York Peninsula community. It outlines some of the models that are relevant to future land use and resource management in of the region, within the context of ecologically sustainable development (ESD). It is designed to assist management of land use and resources as part of CYPLUS Stage 2.

It has not been desirable or practical to outline all possible planning concepts and models within this report. Those selected have significance to planning for this region at this particular time. As will be seen, they are capable of being applied in combination, and there are many overlaps between them.

Ecologically Sustainable Development as a Conceptual Framework

This concept represents an approach to resource management which has full Commonwealth and State Government support. There is a strong commitment to apply ESD concepts and principles to planning of Cape York Peninsula as part of CYPLUS.

There are many different definitions of ESD, but all imply management of natural resources in a way which preserves their value for future generations. While the principles are well agreed, there is a need for innovative planning to actually put them into practice, and in some areas there is a need for improved technologies. It is important to see ESD as a steadily developing approach, with improved environmental performance being sought as time goes on.

A further principle of ESD is referred to as the "precautionary principle". This states that when the full scientific facts are not known, decision making should take a cautious approach, and one which minimises risk of future ecological damage.

The National Strategy for Ecologically Sustainable Development was established after the preparation of a series of working papers on agriculture, energy use, energy production, fisheries, forest use, manufacturing, mining, tourism and transport. A number of common issues emerged from these papers, including :

- environmental protection
- land use planning and decision making
- environmental impact assessment
- changes to government institutions and machinery
- industry, trade and environmental policy, and
- issues of particular concern to Aboriginal and Torres Strait Islander people.

These are all areas where it is expected that ESD principles would be applied. The National Strategy is also reflected in the Intergovernmental Agreement on the Environment, which defines the roles and responsibilities of Commonwealth, State/Territory and local governments.

An important tool for measuring the effectiveness of ESD is "state of the environment" reporting. This has been particularly promoted by the United Nations. Governments at all levels are encouraged to describe the characteristics of local environments and the changes taking place, and to monitor those changes over time. It can be used to assess the need for improved resource management, and also to judge the effectiveness of management strategies.

The Economic Renewal Model (Economically Sustainable Development)

It is increasingly recognised that if planning systems are to aim for sustainability, they need to deal with economic as well as environmental issues. This will avoid the situation where ESD principles demand one course of action, and economic considerations demand another.

An approach that is highly relevant to the concept of economically sustainable development is the Economic Renewal Model initially developed by the Rocky Mountain Institute in the United States. This has been successfully applied in Australia and elsewhere. The model seeks to :

- maximise use of untapped local resources in a sustainable manner, including making use of wastes through recycling, and value adding to existing resources, and
- maximise local recycling of money within local communities, through "plugging the leaks" in the local economy and increasing local self-reliance.

Implementing the model requires identifying all locally available resources, including materials and products, labour and skills, services and access to funds. A high level of community participation is then used to set priorities for local economic development, focusing on building from existing grassroots strengths and activities. This is different from more conventional economic development strategies which often rely on attracting industries to relocate from outside an area, or to subsidising large industries in their expansion. Building a diverse and locally sustainable economy is seen as increasing economic stability as well as local wealth.

The model incorporates placing a value on local assets which are often ignored by economists - cultural heritage, quality of life and community safety, for example. The emerging field of environmental economics, which is being promoted by the Commonwealth Government as a planning tool, may assist this model in taking account of natural resource values.

There is unofficial support for this model from within a number of government as well as non-government agencies, though it lacks more formalised government support as yet. A number of regional development agencies are promoting its use, and some training materials have been developed.

It is a particularly appropriate model to use in areas which are remote from large cities, and which have a range of resources available to support economic development. However, it requires a large measure of community support and involvement.

The Economic Renewal Model provides a process and a set of products which are relevant to the Cape York Peninsula environment. It is highly compatible with the ESD framework, and it is capable of being combined with some of the other models described below.

The Catchment Management Model

This is a resource management model that is particularly relevant to achieving ESD principles. It is based on management of resources and activities within water catchment units, acknowledging the highly interrelated impacts of human activities on habitats, soils, groundwater, surface water and coastal systems. It recognises that these impacts can only be effectively managed by a combination of agencies, each using its own legitimate authority in a complementary manner. State of the environment reporting, which is an important tool within ESD implementation, is used to identify the need for improved management practices, and to monitor the effectiveness of management actions. These strategies are often developed within the context of different landscape units within the catchment.

Catchment management is sometimes referred to as "Integrated Catchment Management" (ICM) and sometimes as "Total Catchment Management" (TCM). While originally the terms had slightly different meanings, the difference between them is no longer significant. The Queensland Government has adopted ICM as a model to be promoted, and the Department of Primary Industries is the lead agency in this work.

Often, ICM has been unsuccessful in implementation, due to lack of commitment by relevant agencies to integrating their activities and accepting appropriate responsibilities. It has also lacked direct implementation through the planning system, despite the potential relevance of planning strategies and regulations as tools. A further weakness is that it has lacked an economic component, which is needed to avoid conflict with economic goals. However, there are several recent and current initiatives which may better address these issues.

On Cape York Peninsula, the Kowanyama community has been particularly interested in using ICM as a model for managing resources in the Mitchell River catchment, and possibly extending it to other catchments in the region. Initiatives have also been taken to introduce ICM to the community through environmental education. Landcare groups in the region have a potential contribution to make within this management model, providing a community based component.

Elsewhere in Australia, there are good examples of mobilising community resources over ICM issues, and good documentation exists. In New Zealand, the planning system has adopted catchments as the prime planning units, and this may lead to improved implementation in due course.

Catchment management provides a logical and highly appropriate model for ESD implementation, provided that its current weaknesses can be addressed. It requires commitment of stakeholders including local communities, individual land owners and government agencies. It also needs a firm co-ordination and management structure, through either existing or new institutional arrangements. The model can be integrated with other models, providing land units for planning purposes, as well as driving principles and a definition of desired outcomes.

Regional Planning Models

The regional planning models applied in western cultures have some relevance to Cape York Peninsula. However, they have tended to focus on management of population growth and consequent demands for land, particularly around major urban areas. There is less application to managing regional resources in sparsely populated and largely rural regions.

Australian regional planning has drawn on European and North American experience, with much recent interest in models applied in the western United States and British Columbia. These have tended to encourage a large measure of community participation in establishing a regional vision for the future, and setting targets for quality of life.

Australian models have tended to use a comprehensive approach to regional planning, addressing environmental, social, economic and infrastructure issues. However, there is also some experience of regional planning around a narrower range of issues, notably economic development and tourism. Queensland has comparatively little experience of comprehensive regional planning, but there are recent initiatives in both South-East Queensland and Far North Queensland which are relevant to Cape York Peninsula.

The SEQ model is particularly interesting for the planning and implementation processes it has used. It has deliberately avoided formation of a regional planning agency, and relies on a high degree of participation and co-operation between different agencies. This will lead to the establishment of subregional strategies which provide an integrated framework for planning and budgeting by different agencies.

Apart from these institutional arrangements, regional planning models in existence have limited application to Cape York Peninsula, being largely designed for managing high rates of urban growth. The current New Zealand experience in regional planning on a catchment basis appears to be much more relevant, though documented examples are not readily available - it may be appropriate to pursue this further in preparation for CYPLUS Stage 2.

The Integrated Regional Environmental Development Model

This is a counterpart to the regional planning models already described, and it has particular application in Asia. It focuses on the management of natural resources for economic benefit, but with a view to maintaining the long term value of these resources, and protection of environmental amenity. It has been introduced in reaction to experience of poor development, with significant adverse impacts for local communities.

This is not essentially a community based model, and it tends to be top-down, led by government agencies. It involves application of environmental impact assessment techniques at a regional scale, to assess regional development options. This involves consideration of social as well as physical and economic impacts. It results in a regional planning framework that can direct development activities into suitable locations, and provide appropriate conditions. Once the framework is in place, local communities may be resourced to assist in implementation.

Some plans have been developed by international consultants, because of a lack of indigenous skills. However, the model has been found to be ineffective if government agencies are not involved in the planning process from the outset. The plan also needs to clearly specify the roles of different agencies in implementation.

The particular strength of the model is the integration of environmental and economic assessments within a single framework. This is despite the fact that it has been used mainly in areas where the economic development component receives a very high priority.

This model is more relevant to Cape York Peninsula than other regional planning models, being adapted to management of rural resources, and addressing environmental and economic concerns. It lends itself to an impact-based planning approach, which provides a development framework based on acceptable and sustainable impact - this can potentially be strengthened by the use of the performance based planning model (see below). This regional planning model can also be strengthened by including greater community and interagency participation.

The Performance Based Planning Model

This model offers a planning process and format which can be applied in any institutional or environmental setting. It is based on a very clear definition of planning objectives, to the extent that these spell out directly the desired environmental outcomes.

The process involves identifying the different elements or factors which can contribute to achieving the established objectives. For each element, performance requirements are then clearly defined. These may be linked to performance indicators, which can be used as a measure in evaluating whether development is achieving the objectives, on the ground. In each case, "performance" involves a statement of the end results to be achieved by a development, including acceptable environmental impacts.

Performance requirements are supported by a description of "acceptable solutions", which give an example of the type of development considered to meet the requirements. This can then be used as a "fast track" mechanism for preferred development types. It is very different from the minimum standards established in conventional planning regulation. Acceptable solutions do not preclude other solutions, and these can be considered if they demonstrate achievement of required performance. This allows scope for technical innovation and response to changing community needs.

This model is highly appropriate to most planning situations, and it has strong Commonwealth and State Government support. It can be implemented at any government level, or by the community. However, it does require appropriate skills for effective implementation. Several training courses are currently being developed, to support various government initiatives using the model.

Performance based planning offers a technical mechanism that is appropriate to the ESD framework, as sustainable environmental performance can drive the planning process. It requires a high level of agreement on desirable targets for environmental performance, and a commitment to ensure that these targets are met through the planning process.

Indigenous Participation Models

These models are driven by demands from indigenous people to have control over the natural resources on which they depend for their wellbeing. Reinforcement of traditional cultural values is an additional aspiration. A further benefit of the various models is application of traditional techniques of land and resource management, which are often well based on sustainability, and which can inform mainstream resource management techniques.

These models have been developed in various parts of the world, notably including New Zealand, North America and Scandinavia. A recent trend has been international networking between indigenous peoples, to compare experiences and enhance political skills in negotiating with governments.

Of particular interest to Australia generally and Cape York Peninsula in particular is the trend towards regional agreements (in North America) by which land claims and other legal rights are set within a negotiating context that seeks to satisfy particular regional aspirations. This has not yet been applied in Australia.

A common feature of indigenous participation models is protection of traditional rights for wildlife harvesting on land and sea. Some agreements, notably the Nunavut Agreement in Canada, go well beyond this to incorporate participation in broader aspects of natural resource management, and generation of economic benefits that can be applied to achieving social objectives. Establishment of such a broadly based model requires a good appreciation of appropriate resource management techniques, and options for gaining sustainable economic benefits.

Indigenous participation models are highly relevant to Cape York Peninsula, offering a means for ensuring that indigenous aspirations are reflected in the planning process. It would appear possible to include development of a regional agreement, at least as an outline proposal, as part of the regional planning process. This could particularly contribute to eventual planning implementation.

Community Based Management Models

Some of these models have involved devolution of considerable control over resources to local communities, including significant external funding. Training of local communities in management skills is also an essential resource to support community based management. Typically this has been put in place in situations where there were tasks that governments wanted done, but which for various reasons were not achievable by other means. At their most successful, these models have demonstrated the considerable capacity of local communities to undertake complex management tasks, and achieve significant outcomes to meet their own as well as the government's objectives.

The models can only be successful if governments are prepared to accept, as a trade-off against community assistance, that tasks will be undertaken within a framework of local community aspirations - these may not necessarily coincide with government objectives. However, the existence of at least some common objectives between governments and managing communities is highly desirable. Lack of agreement in core areas will leave the process particularly vulnerable to future changes in government support and resourcing. At the same time, development of long term self-generated resources from within local communities will make them more secure in the face of government policy changes.

Community management models can be very powerful, but they require a highly motivated local community, with clear and agreed short and long term goals. They are more readily applied at a local rather than a regional level, and they are particularly well geared to implementation.

Provided that the regional planning processes designed for CYPLUS Stage 2 take account of local aspirations and values, there is good potential for subsequent application of community based management models in implementing the regional planning framework. This would be highly appropriate, given the large area of Cape York Peninsula, and the fact that government agencies have a very limited local presence. However, it will require a large measure of trust and mutual respect between government and community agencies to be achieved during the planning phase, and commitment to providing training and other resources to assist communities in the implementation phase.

Where To From Here?

It is not the purpose of this report to recommend an appropriate formula for planning in Cape York Peninsula. Instead, the report has been structured to present those models which appear to have most relevance, and to indicate the possible combinations and adaptations that can be made. There is no model that is directly transferable to CYPLUS Stage 2, given the range of issues to be dealt with and the environmental context.

The ESD framework has not yet been fully applied to drive regional planning processes, and there is much new work that needs to be done in this area. CYPLUS Stage 2 presents an exciting opportunity to develop a new process and product, combining the components of various models in a regionally appropriate manner. It is hoped that this report will assist in the design of an integrated package that is highly geared to meeting regional needs.

11. REFERENCES

Ecologically Sustainable Development

- Commonwealth Department of Environment, Sport and Territories (1993) :
"Biodiversity and its Value" , Canberra, A.C.T.
- Commonwealth of Australia (1992): "Ecologically Sustainable Development
Working Groups, Chairs, Intersectoral Issues Report", Australian Government
Publishing Service, Canberra
- Commonwealth of Australia (1992): "National Strategy for Ecologically Sustainable
Development", Australian Government Publishing Service
- Department of Primary Industries (1994): "The Sustainable Use and Management of
Queensland's Natural Resources. Policies and Strategies. A Summary of the
Discussion Paper". Miscellaneous Publication, Brisbane, Q.
- Department of the Arts, Sport, the Environment and Territories (1991) : "Australian
National Report to the United Nations Conference on Environment and
Development
- Harrington, P. and Oakley, R. (1992): "Recent Developments In Resource Pricing
And Allocation Policy". Commonwealth Department of Primary Industries and
Energy
- International Union for Conservation of Nature and Natural Resources (1980) :
"World Conservation Strategy - living resource conservation for sustainable
development"
- International Union for Conservation of Nature and Natural Resources (1980):
"*World Conservation Strategy*".
- Mollison, Bill, (1988): "Permaculture: A Designers' Manual", Tagari Publications,
Tyalgum, N.S.W
- Queensland Department of Tourism, Sport and Racing (1994); "Queensland
Ecotourism Strategy - Discussion Paper", Brisbane
- Thackway, Richard (1992): "Environmental Regionalisation: Establishing a
Systematic Basis for National and Regional Conservation Assessment and
Planning", Environmental Resources Information Network, Canberra, A.C.T.
- Walker, K. (1992): "Australian Environmental Policy", New South Wales University
Press Limited, Kensington, NSW

The Economic Renewal Model

- Cantrell, Patricia (1991) : "Food and Agriculture Workbook", workbook 3, Economic
Renewal Program, Rocky Mountain Institute, Old Snowmass, Colorado

- Cole, Barbara and M. Miller (1988) : "Financing Economic Renewal Projects", workbook 9, Economic Renewal Program, Rocky Mountain Institute, Old Snowmass, Colorado
- FOCUS (1992) : "Caboolture Shire Economic Development Strategy; Creating a healthy future", Caboolture Shire Development Association, Caboolture
- FOCUS (1993) : "Cassowary Coast Economic Development Plan", Cassowary Coast Development Bureau and Johnstone Shire Council, Innisfail
- Kinsley, M. (1989) : "The Rocky Mountain Institute's Economic Renewal Program - an introduction", Rocky Mountain Institute, Old Snowmass, Colorado
- Kinsley, M. (1992) : "Economic Renewal Guide - how to develop a sustainable economy through community collaboration", Rocky Mountain Institute, Old Snowmass, Colorado
- Hill, R. and Wynter, J. (1991) : "Cape York Peninsula - pathways to community economic development". final report of the Community Economic Development Project, Cook Shire, Cook Shire Council, Cooktown
- Office of Business Development (undated) "Business Opportunities Workbook - a rural revitalisation program for community leaders", US Small Business Administration, Washington D.C.
- Stanley, Jane (1994) : "The Rocky Road to Local Economic Development", conference paper and training workshop delivered to the Urban Local Government Association Annual Conference, Mount Isa

The Catchment Management Model

- Commonwealth Environment Protection Agency (1992) : "Development of a National State of the Environment Reporting System Discussion Paper" , Canberra, A.C.T.
- Department of the Environment, Sport and Territories (1994) : "State of the Environment reporting: framework for Australia", Canberra
- Drummond, Ian, and Associates (1993) : "Tully and Murray Rivers Management Study", Cardwell Shire River Improvement Trust, Tully
- Integrated Catchment Authority (1993) : "Draft Management Strategy: Johnstone River Catchment"
- Kellow, A.J. (1992) : "Saline Solutions: Policy Dynamics in the Murray-Darling Basin", Centre for Applied Social Research, Deakin University, Geelong, Victoria
- Kowanyama Aboriginal Land and Natural Resource Management Office and Kowanyama State High School(1992) : "Development of a School Curriculum"
- Laut, P. and Taplin, B.J. (1989) : "Catchment Management in Australia In The 1980s". CSIRO Division of Water Resources, Canberra, A.C.T.

Murray-Darling Basin Commission (1992) : "Murray-Darling Basin Commission 1992 Annual Report" , Canberra, A.C.T.
Strategy" for Cardwell Shire River Improvement Trust

Regional Planning Models

Alexandra, Jason (1994) : "New Zealand Legislates for Sustainable Development: Lesson for Australia, A Brief Review of New Zealand's Resource Management Act"

Department of Primary Industries and Regional Development (Far North Region), (1992) : "Queensland Rural and Remote Settlements Economic Study"

Department of Primary Industries and Regional Development (1993) : "Major Development Projects and Proposals in Queensland. Issue No. 13", Brisbane

Glasson, J, M.G. Lloyd, A. McMillan and C. Wood (1990) : "Models of Regional Planning", Oxford Polytechnic School of Planning, Working Paper No 124. Oxford

Hansen, N., Higgins, B. and Savoie, D.J. (1990) : "Regional Policy in a Changing World", Plenum Press, New York, N.Y.

Holmes, J. (1992) : "Strategic Planning on the Northern Frontiers", Northern Australian Research Unit discussion paper no. 4, Darwin

National Capital Planning Authority (1993) : "Infrastructure Co-ordination and Urban Land Release Systems", Building Better Cities occasional paper series 1, no.1, Australian Government Publishing Service, Canberra

Regional Planning Advisory Group (1993) : "Institutional Arrangements for Growth Management in South-East Queensland", Brisbane

Regional Planning Advisory Group (1993) : "The Preferred Pattern for Urban Development for South-East Queensland, Brisbane

Thackway, R. (editor) (1992) : "Environmental Regionalisation - establishing a systematic basis for national and regional conservatiopn assessment and planning", proceedings of workshop, Canberra, Environmental Resources Information Network

Wet Tropics Management Authority (1992) : "Wet Tropics Plan: Strategic Directions", Crown Copyright

Integrated Regional Environmental Development Models

Asian Development Bank (1988) : "Guidelines for Integrated Regional Economic -cum-Environmental Development Planning - a review of regional environmental development planning studies in Asia", Environment Paper No. 3, Volume 1, Environment Unit, Asia Development Bank

The Performance Based Planning Model

- Kozlowski, J. and Hill, G. (undated) : "Towards Planning For Sustainable Development. A Guide for the Ultimate Environmental Threshold (UET) Method", University of Queensland
- S and S Consultants (1990) : "Introducing Objective Based performance Oriented By-laws", Local Government Department, Brisbane
- S and S Consultants (1991) : "Performance Based Regulation - are you ready for it?", collected conference papers, Brisbane
- Stanley, J. (1994) : "What about Regulatory Reform", training workshop for postgraduate planning students, University of Technology, Sydney

Indigenous Participation Models

- Canadian Government (undated) : "Aboriginal Peoples, Self-Government, and Constitutional Reform", position paper prepared for constitutional discussions
- Cape York Land Council, (1992) : "Aboriginal Land Issues Workshop", Cairns
- CYPLUS (1993) : "Does This Look Familiar? - From The Far North Of Canada", *'CYPLUS Talkback'* Issue 4 December
- Gray, G. (1991) : "A New Deal for Aboriginals", *'Options Politiques'*, September issue
- Hill, R. (editor) (1991) : "Cross-Cultural Management of Natural and Cultural Heritage", seminar proceedings, Tinaroo Lake, Cairns College of Technical and Further Education
- Indian and Northern Affairs (1991) : "Aboriginal Self-Government", Canadian Government
- Jull, Peter (1992) : "Discussion Paper - A Guide for Australian Research into Northern Regions and Indigenous Policy in North America and Europe", Australian National University, North Australia Research Unit, Darwin, N.T.
- Jull, Peter, (1992) : "Canada's Future and the Frontier", A Draft for Policy Options
- Jull, Peter, (1992) : "Discussion Paper - The Constitutional Culture of Nationhood, Northern Territories and Indigenous Peoples". Australian National University, North Australia Research Unit
- Lane, Marcus, (undated): "Joint Management: Sharing The Wet Tropics", Discussion Paper Commissioned by the Rainforest Aboriginal Network.

- Lawrence, D. and T. Cansfield-Smith (1990) : "Sustainable Development for Traditional Inhabitants of the Torres Strait Region. Proceedings of the Torres Strait Baseline Study Conference", Australian Government Publishing Service, Canberra, A.C.T
- Lee, G.A. (editor) (1980) : "World Systems of Traditional Resource Management", Edward Arnold, London
- McCormick, Christopher (1990-91) : "Paper: Self-Government for Aboriginal People", Canadian Parliamentary Review, Vol. 13 (4)
- McLeay, E.M.(1991) : "Two Steps Forward, Two Steps Back: Maori Devolution, Maori Advisory Committees and Maori Representation", Victoria University, Wellington, Article: Political Science, Volume 43, No. 43. July
- McNeil, K (undated) : "The Decolonisation of Canada - moving towards recognition of first nation governments", Osgoode Hall Law School, Toronto
- Northwest Indian Fisheries Commission (1992) : "Annual Report Fiscal Year "
- Northwest Indian Fisheries Commission (1993) : "Coordinated Tribal Water Quality Program", Canada
- Northwest Indian Fisheries Commission (1994) : "Timber/Fish/Wildlife Tribal Programs Report to Congress on Accomplishments for 1992 and Funding Proposal for Fiscal Year 1994" Washington
- Northwest Indian Fisheries Commission (undated) : "What is Cooperative Management?" Olympia
- Ontario Government (1992) : "Final Report: Select Committee on Ontario in Confederation", 35th Parliament, Ontario, Canada
- Pelly, David (1994) : "Birth of an Inuit Nation", Geographical, Vol. 66 (4) April: pp 23-25
- Pinkerton, Evelyn (1989) : "Co-operative Management of Local Fisheries", University of British Columbia Press, Vancouver
- Richardson, B, D. Craig and B. Boer (1994) : "Aboriginal Participation and Control in Environmental Planning and Management - review of Canadian regional agreements and their potential application to Australia", unpublished papers
- Richardson, B., D. Craig. and B. Boer (1994) : "Aboriginal Participation and Control in Environmental Planning and Management: Review of Canadian Regional Agreements and their Potential Application to Australia", Centre for Resource and Environment Studies, Australian National University, Canberra.
- Sanders, Doug (October, 1992) : "Towards Aboriginal Self-Government: An Update on Canadian Constitutional Reform", 'Aboriginal Law Bulletin', Vol.2 No. 58

Sanders, Douglas (1990) : "Paper: The Supreme Court of Canada and the "Legal and Political Struggle" over Indigenous Rights", University of British Columbia

Sanders, W. (1993) : "Discussion Paper : Rethinking the fundamentals of social policy towards indigenous Australians: block grants, mainstreaming and the multiplicity of agencies and programs", Australian University, Canberra, A.C.T.

Tungavik and the Hon. Tom Siddon, P.C., M.P., Minister of Indian Affairs and Northern Development (1993) : "Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada", Ottawa, Canada

Ward, Alan (1991) : "Interpreting the Treaty of Waitangi: The Maori Resurgence and Race Relations in New Zealand", *The Contemporary Pacific*, Volume 3, No. 1, Spring 1991, University of Hawaii Press

Wolfe, J., Bechard, C. and Cole, D. (1991) : "Indigenous and Western Knowledge and Resource Management Systems", University School of Rural Planning and Development.

Wolfe, Jackie (1984) : "A Federal Planning For Canada's Aboriginal Peoples: The Department of Indian Affairs Comprehensive Planning Policy In Theory and Practise, University of Guelph

Wolfe, Jackie (1993) : "North Australia Research Unit Discussion Paper: Lessons in Regional Planning and Development from Canada and Australia", North Australia Research Unit, Australian National University, Darwin, N.T.

Community Based Management Models

Adams, J., Castelain J. and Martin (1994) : "Aurukun Community Plan, Report 1, Community Survey Homeland Development", Yalga-binbi Institute for Community Development

Ayasligil, Y and F. Dunne (1993) : "Prospects of Köprülü Kanyon National Park for Meeting both Conservation Targets and People's Need for Development", *"Landscape and Urban Planning 24, pp143-151*

Bachert, S. (1991) : "Acceptance of National Parks and Participation of Local People in Decision-Making Processes", *'Landscape and Urban Planning' 20 pp 239-244, Amsterdam*

Collin, G (1990) : "Rural Society and Protected Area - which dialogue? The case study of Cevennes National Park and Biosphere Reserve (France", *'Landscape and Urban Planning' 19 pp 173-180, Amsterdam*

Deardon, P. (1981) : "Public Participation and Scenic Quality Analysis", *"Landscape Planning' 8 pp 3-19, Amsterdam*

Diegues, A.S. (1991) : "The Role of Cultural Diversity and Communal Participation in Wetland Management in Brazil", *'Landscape and Urban Planning' 20 pp 61-66, Amsterdam*

- Fletcher, S. (1990) : "Parks, Protected Areas and Local Populations : New international issues and imperatives", *'Landscape and Urban Planning'* 19, pp 197-201
- Jeffrey, R. and P. Chooye (1991) : "The People's Role in Wetlands Management - the Zambian initiative", *'Landscape and Urban Planning'* 20 pp73-79, Amsterdam
- Poole, K (1991) : "Tourism in Fiji - small-scale village-based tourism as a rural development alternative", University of Oregon thesis, UMI Press, Ann Arbor
- Porter, E.F. (undated) : "Tenants Rights Advocate Bertha Gilkey - velvet fist, iron glove", US Post-Dispatch
- Stanley, J. (1978) : "Action Area Improvement in Glasgow's Tenements - the community based approach", paper presented to the Annual Conference of the Scottish Federation of Housing Associations, Glasgow
- Stanley, J. (1982) : "Community Based Housing Associations in Scotland - their relevance for the Australian housing scene", paper presented to Housing Seminar, Leichardt Municipal Council, Sydney
- Wells, M., K. Brandon and L. Hannah (1992) : "People and Parks - linking protected area management with local communities", International Bank for Reconstruction, Washington DC
- World Wildlife Fund (1991) : "Community-Based Conservation in Southern Africa", workshop proceedings, Hwange National Park, Zimbabwe

General Information

- ATSIC (1994): *"A Fine and Delicate Balance. A Discussion Paper on Aboriginal and Torres Strait Islander Commission's Draft Environment Policy"* Aboriginal and Torres Strait Islander Commission, A.C.T.
- "Cyplus Talkback"*, (undated): Cyplus Cape York Peninsula Land Use Strategy
- "Kowanyama Aboriginal Community, Visitor's Guide"*, (1988): Department of Aboriginal Affairs, Canberra. A.C.T.
- Plowman, K., Ferrier, T. and Tilden, J., (1993): *Getting Your Head Around Land Use Planning. Volume: The Government Planning Process*. Page People, The Gap, Brisbane

APPENDIX : TERMS OF REFERENCE

Background

The Cape York Peninsula Land Use Strategy (CYPLUS) project is a joint Queensland and Commonwealth Government initiative to develop a basis for sustainable land and resource use and management on Cape York Peninsula.

The project is being implemented in three stages:

- **Stage 1** involves the gathering, analysis and integration of essential data at the regional level on the natural and developed resources and key land and resource use and management issues and values of the Peninsula;
- **Stage 2** is the formulation of a land use strategy to guide the ecologically, culturally, socially and economically sustainable development of Cape York Peninsula;
- **Stage 3** is the implementation of the Strategy.

Purpose

To collect and analyse available information on land use models which will assist in defining the appropriate form of the strategy to be produced in Stage 2.

Objective

To prepare a discussion paper that presents existing and emerging options for land use strategy models.

Specific Outputs

It is expected that the discussion paper will include:

- (a) A brief review of land (and resource) use concepts relevant to sustainable development such as multiple or mixed land use strategies and management plans and guidelines;
- (b) A brief review of land use/resource management models, both in Australia and internationally, that may be applicable to Cape York Peninsula, including details of:
 - Their stage of development/implementation;
 - The circumstances to which they have been applied;
 - The principles on which they are based and the means by which these principles were developed;
 - Their objectives and focus;
 - Key types of participants;
 - Basic structure and indicative content.

- (c) A short list of preferred models for balanced development, i.e. models relevant to a mix of conservation and development, in relatively remote areas. Key factors which these models should take account of include:
- The needs of indigenous and other residents;
 - The roles of local government/complementarity of roles between local, state and national government;
 - Public participation/representation in development and implementation of a land use strategy;
 - Use of existing institutional arrangements for land and resource use planning and management;
 - Devolution of decision making;
 - Regional remoteness, population density, and diversity and significance of natural resources;
 - Resourcing.
- (d) An assessment of the success, strengths, and weaknesses of the shortlisted models with specific coverage of:
- Acceptance of each model and its outputs;
 - Degree of prescriptiveness and types of mechanisms used to direct/encourage particular land uses;
 - Benefits/costs.

Methodology

Preparation of the discussion paper is essentially seen as a desk research activity using available information including that obtainable from relevant government agencies, and scientific and academic institutions.

Timing

The elapsed time to completion is 6 to 8 weeks.

Reporting

The consultancy will be managed by the CYPLUS Intergovernmental Management Committee (IGMC) and the discussion paper will be submitted to this Committee on completion. A mid-term progress report and a draft for approval by the IGMC are required.

