Catching Fish for Everyone!

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16 April 1999

ESD Inquiry
Productivity Commission
LB 2 Collins St East PO
MELBOURNE VIC 8003

Attention: Ms Vicki Thompson

Dear Sir/Madam

IMPLEMENTATION OF ESD BY COMMONWEALTH DEPARTMENTS AND AGENCIES

Unfortunately, we have missed the deadline for written submissions to the above Draft Report and do not have the resources to complete a detailed submission.

However, I hope you will accept the attached paper "A Critical Review of the Australian Fishing Industry's Progress towards Ecologically Sustainable Development" which I am sure you will find of interest.

I have also attached the completed Registration of Interest Form in which we request a copy of the Draft Report.

Yours faithfully,

Ted Loveday
PRESIDENT

E9814 (Essay 2) *A Critical Review of the Australian Fishing Industry's progress towards Sustainable Development*, by Ted Loveday (November, 1997)

A CRITICAL REVIEW OF THE AUSTRALIAN FISHING INDUSTRY'S PROGRESS TOWARDS ECOLOGICALLY SUSTAINABLE DEVELOPMENT

by Ted Loveday, November 1997.

Background

Sustainability of fisheries resources is a pre-requisite to the survival and future prosperity of the Australian fishing industry which produces seafood valued at over $1.6 billion annually (ABARE, 1996), provides 80,000 direct and indirect jobs and is the backbone of many regional economies (ASIC, 1996).

For this reason, fishing was one of the first industries in Australia to embrace the concept of ecologically sustainable development (known as "sustainable development" outside Australia) when it was introduced to the political and public agendas (Attachment (i)).

What is ecologically sustainable development of fisheries (fisheries ESD)?

Economic activity (how people make their living, acquire food, shelter and other necessities and comforts) takes place within, and is part of the natural environment (Common, 1995). Progress towards fisheries ESD requires managing economic activity in ways that do not undermine the capacity of fisheries resources to support future economic activity. Specifically, this will require:

- ensuring the capacity of marine ecosystems to sustain fisheries is not eroded by external or internal anthropogenic impacts;
- effectively managing the activities of all fisheries resource users;
- legislative and institutional arrangements that ensure decisions reflect the related ecological, economic, social and cultural consequences;
- allocation decisions based on the 'true value to society as a whole' of various uses;
- an efficient, diversified and prosperous fishing industry providing the maximum community benefits available from sustainable utilisation of fisheries resources; incentives for sacrificing short term benefits to achieve long term gains;
- community education programs about issues critical to ESD.

Scope of this paper

An increasingly complex range of issues related to fisheries ESD is being raised in the

global literature. This paper considers the fishing industry's achievements in relation to ESD and impediments to future progress. Key issues identified in the ESD Working Group Fisheries Final Report (FWG, 1991) are discussed within the context of the National Strategy for Ecologically Sustainable Development (NSESD, 1992). Emphasis is primarily on Queensland and Commonwealth managed fisheries.

Progress and impediments

Community Attitudes

The management, conservation and use of community owned resources such as fisheries is greatly influenced by community attitudes and as such a community wide commitment is essential to progress towards ESD.

The "myth" that our seas were teeming with fish (FWG, 1991) has been replaced with an awareness that Australia's fisheries resources are relatively sparse in global terms. This awareness, combined with a growing acceptance that external anthropogenic impacts on the aquatic environment must be reduced, has directed the community's attention towards fisheries conservation and sustainability.

Legislative Reform

The NSESD recognises that ecologically sustainable development (ESD) requires extensive legislative reform. The *Commonwealth Fisheries Management Act 1991*, was the first piece of legislation in Australia to incorporate ESD, as does the *Queensland Fisheries Act 1994.*

ESD principles are embedded in both of these Acts through:

- including objectives consistent with ESD;
- each establishing an expertise based statutory authority to discharge government responsibilities in a flexible, open and less bureaucratic way (Kerin, 1990);
- ensuring broad community and industry participation in decision making;
- requiring fishery management plans to be consistent with ESD principles including a clear description of the fishery, its known status, objectives of management and how they are to be achieved and details of how the plan may be amended or repealed; flexibility to apply management arrangements most appropriate to each fishery;
- providing for natural justice, fairness and equity considerations;
- exemption of indigenous fishing for traditional and cultural purposes, whilst making

provision to regulate those activities if necessary;
- transparent processes for issuing, renewing, amending, suspending or cancelling fishing authorisations;
- powers to control non-indigenous species;
- complimentary provisions to enable effective management of fisheries which straddle both jurisdictions, either through arrangements under OCS or Joint Authorities;

However, fisheries management is being impeded by outdated legislation that does not incorporate the principles of ESD, by inadequately regulating external activities that impact on fisheries ecosystems, or by applying environmental protection measures which are inconsistent with ESD.

For example, degradation of fisheries ecosystems caused by the discharge of society's garbage into our oceans (WCED, 1987) is unlikely to be brought under control by environmental protection laws aimed at "end of pipe regulation".

On the other hand, narrow based environmental management regimes implemented under the *Great Barrier Reef Marine Park Act 1975,* (which does not incorporate ESD principles), are undermining Queensland's ability to progress fisheries ESD.

Conflicts between Queensland and the Great Barrier Reef Marine Park Authority (GBRMPA) have increased in frequency and intensity as it becomes more difficult to develop common goals and cohesive management strategies which discharge each agency's responsibilities without cutting across or undermining the other. The Queensland Fisheries Management Authority's (QFMA) broadened consultative processes which gives GBRMPA direct input into fisheries management plans has failed to resolve this problem;

This situation is further exacerbated by including the precautionary principle in the *Great Barrier Reef Marine Park Act 1975,* and not the other principles of ESD. This may conflict with the NSESD by giving the precautionary principle dominance over other ESD principles and introduce a bias into GBRMPA's management of risk and uncertainty. Action currently before the Federal Court, QCFO *v GBRMPA, July 1997,* may help clarify whether this has already occurred.

Reform of the *Great Barrier Reef Marine Park Act, 1975* is required to make it consistent with ESD. Provisions should also be included to reduce the potential for conflict with fisheries legislation. This could be achieved by:
- incorporating ESD in its objectives;

- establishing an expertise based GBRMPA board;
- requiring arrangements under the Act to be consistent with ESD;
- recognising fisheries management plans established under Queensland fisheries legislation as the mechanism by which GBRMPA's obligations, as they relate to fisheries, should be discharged;
- providing for GBRMPA zoning/management plans to include "broad, performance based" objectives regarding fisheries, which should be developed in consultation with QFMA;
- providing that GBRMPA may implement arrangements that impinge on fisheries only if it demonstrates that relevant "broad performance based" fisheries objectives have not been 'reasonably' complied with.

Jurisdictional Arrangements

Fish know no political boundaries (OECD, 1997). Agreements between the Commonwealth and States under the Offshore Constitutional Settlement (OCS), have helped resolve major complications for effective fisheries management in fisheries straddling State and Commonwealth waters (FWG, 1991).

Arrangements under OCS have resolved most of the potential for jurisdictional conflict in fisheries adjacent to Queensland. Legislation enacted by both the Commonwealth and Queensland Parliaments in 1995, gives Queensland management responsibility for fisheries adjacent to the State, except some species of tuna, billfish and east coast deepwater offshore fisheries (OCS, 1995). Agreement has also been reached that all Torres Strait fisheries will be managed under the *Torres Strait Fisheries Act*, thereby rectifying the complex and confusing arrangements that currently exist.

Future potential exists for jurisdictional conflict in two areas where arrangements conflict with ESD principles:

- Gulf of Carpentaria inshore finfish where, depending on the method of capture, the same species remains under two jurisdictions;

- a recent decision by the Commonwealth to delegate management of recreational fishing for marlin and billfish to Queensland, while retaining responsibility for commercial fishing for those species. These species are migratory, traverse international waters, and should remain Commonwealth managed.

E9814 (Essay 2) ***A Critical Review of the Australian Fishing Industry's progress towards Sustainable Development,*** by Ted Loveday (November, 1997)

Fisheries Ecosystem Management

Progress has been made towards fisheries ecosystem management (ESM) which is critical to ESD (NSESD, 1992). The focus of fisheries management and research and development (R&D) has broadened from considering issues relating to specific species, to issues concerning fisheries resources and their ecosystems.

New institutions such as Management Advisory Committees (MACs) provide for broad community involvement in fisheries management decision making and ensures the broader community interests are taken into account.

The impact of fishing on ecosystems and non-target species has been reduced through proactive initiatives such as a cooperative industry/government program to mitigate the impact of trawling on turtles which is now being recognised internationally as the best approach to this issue (Leadbitter, 1997). Other progress includes:

- the Queensland industry recently recommending the compulsory use of Turtle Exclusion Devices (TEDs) for trawlers operating in specific areas where high potential exists for interaction between trawling and turtles;
- extensive research to identify and quantify the impact of trawling on the environment;
- a comprehensive industry strategy to mitigate the impact of net fishing on dugong;
- preparation has commenced on a national industry strategy to identify and reduce fishing related impacts on non-target species in all fisheries.

However, the lack of effective action to mitigate the impacts of non-fishing activities on fisheries ecosystems is undermining fisheries ESM, often leaving fisheries agencies with the impossible task of managing fisheries resources which are shrinking through the impacts of activities beyond their control. Issues of concern include:

- the long term consequences of introduced species already occurring in all but one Queensland catchment (QDPI, 1996);
- continued loss of coastal fisheries habitat and water quality problems, despite a plethora of studies, strategies and programs aimed at reducing anthropogenic impacts on the aquatic environment;
- strategies that do not also take an ESM approach which may axiomatically, be detrimental in the long term, for example;
  => the establishment of Dugong Protection Areas (DPAs) adjacent to areas of extensive agricultural activity, while taking little effective action to address

the impacts of agricultural run-off, may lead to a false public perception that seagrasses and other habitats in those areas are being protected.

=> promoting the establishment of Marine Protected Areas (MPAs), while not allocating sufficient funds to develop clear and agreed objectives, identify and map the biodiversity of areas under consideration, address external impacts and consider more effective strategies for managing migratory species.

- governments encouraging ESD while also promoting and funding programs that will clearly have major irreversible impacts on the aquatic environment (eg, Sugar Industry Infrastructure Program).

A further impediment is the different interpretations being applied to fisheries ESM. While fisheries management agencies attempt to implement the concept espoused in the NSESD, agencies and interests groups wanting greater control over fisheries management, often apply a much broader interpretation.

Information Requirements

Turning ESD objectives into action requires the capacity to store, analyse, manipulate and integrate ecological, economic, social and cultural data on a local, regional, national and global scale.

We may never have enough information to enable perfect fisheries management, therefore effective and accountable processes are critical to identify R&D requirements and ensure limited resources are directed at priority R&D areas (FWG, 1991).

Well tested and non-biased data is required to kill the many "myths" surrounding fisheries which impede progress towards ESD and to ensure management decisions are based on facts, not assumptions portrayed as facts. Where decisions are based on assumptions, information is required to clearly identify the implications of those assumptions being disproved.

The Fisheries Research and Development Corporation (FRDC) has been the catalyst for many positive initiatives aimed at improving fisheries information, including:

- broadening the focus of fisheries R&D to place more emphasis on post harvest activities, quality management, extension of R&D results to industry and managers and technology transfer;
- increased collaboration across R&D providers and between R&D providers, fishery managers and industry;
- development of integrated State and fishery R&D strategies supported by industry and other stakeholders;

- establishment of Fisheries Research Advisory Bodies (FRABs), with broad based representation, to identify and set R&D priorities for each State and fishery;

These processes have improved R&D outcomes particularly in the areas of stock assessment, biology, ecosystem and post harvest. However, given the importance of integrating economic and environmental considerations to ESD (Common, 1995), and the proven ability of sound economic and social data to help avoid unnecessary conflicts in fisheries, there is a paucity of economic and social data available on Australian fisheries (Hundloe, 1997).

The absolute necessity of such data is also highlighted by the OECD (1997) which reported that bioeconomic analyses are required to manage the inherently dynamic nature of fisheries whereby any shock or shift in the underlying conditions sends the fishery through a series of adjustments in response to such changes.

While recent efforts to address the shortage of economic information are acknowledged, governments, fishery managers and industry must be judged to have failed dismally in this regard for not taking sufficient action to acquire the economic and social data required to underpin ESD.

Natural Resource Accounting

New accounting systems are required to establish the "real value to society as a whole" of marine ecosystems and the "real costs to society as a whole" of degrading them. Otherwise the 'law of the commons' will continue to apply to these resources and progress towards fisheries ESD may fail (Common, 1995).

Models that enable the comparison of "apples with apples" (Hundloe, 1997) are also required to ensure resource allocation decisions are based on the "true value to the whole of society" of competing uses such as commercial, recreational and indigenous fishing and groups wishing to simply "know the resource is there" (FWG, 1991).

The fisheries allocation debate is often influenced by "emotive and often ill founded myths" (QCFO, 1991), a recent example being a Victorian study claiming every fish caught by recreational fishermen was worth $200 to the State's economy. Promoting the cessation of commercial fishing through the use of inflated estimates of expenditure incurred by recreational fishermen, is both inappropriate and dangerous (Carr, 1993). It also fails to consider that, in contrast to commercial fishing which generates new wealth from utilising a natural resource, recreational fishing simply shuffles existing wealth around the economy.

Such strategies by recreational fishing lobbyists may also work against the interests of the people they are representing and lead to increased restrictions on recreational fishing, as any activity which consumes $200 worth of resources for such little gain is inconsistent with the principles of ESD. Recreational fishing representatives would be much better served promoting the "real" social and other benefits of their activity.

Sustainability Indicators

"Issues of sustainability are ultimately issues about limits" (Costanza, 1989), however "satisfactory methods of measuring sustainability still need to be found" (Conway, 1985).

Australia is leading the way in developing indicators to measure progress towards fisheries ESD. BRS (1996) has developed a framework for evaluating progress towards fisheries ESD, taking into account ecological, economic and social considerations.

Commonwealth and State fisheries agencies are using this framework to develop sustainability indicators for inclusion in fisheries management plans and the FRDC is coordinating information exchange to ensure all agencies are aware of progress being made throughout the country. Australia is also likely to sponsor a UN workshop on fisheries sustainability indicators in the near future (Harwood, 1997).

Managing risk and uncertainty

The cornerstone of managing risk and uncertainty for ESD is the precautionary principle which first emerged at the Second International North Sea Conference in Europe in 1987 (Deville, 1997).

Fisheries management agencies are adopting a more precautionary approach towards managing fisheries resources. While fishermen generally acknowledge the need for this approach, they are often critical when its application might restrict their activities. There is also concern about the precautionary principle being mis-used to promote extreme and unjustified fisheries management measures.

"Using incorrect perceptions of the intent of the precautionary to justify extreme positions and measures" (Bewers, 1989) conflicts with ESD. The absence of a comparative risk assessment may curtail potentially beneficial activities and create greater unforeseeable risks, than proceeding step by step with prudent caution (O'Riordan, 1994).

These extreme positions may also impede the wider acceptance of the precautionary principle by providing people concerned about the concept with clear examples to promote why it should be rejected.

Monitoring and reporting

Monitoring and reporting are critical to ensuring ESD is implemented. A national State of the Marine Environment Report has been prepared. Commonwealth and State fisheries agencies are developing comprehensive reports on the status of specific species and fisheries resources on a State and regional basis.

These reports will become increasingly important as benchmarks for future reference. They should also feed into State reports to the InterGovernmental Committee on ESD, which monitors implementation of the NSESD and reports to Heads of Government, and consequently feed into Australia's annual national reports to the United Nations Commission on Sustainable Development, on progress against Agenda 21.

Excess fishing capacity

Excess fishing capacity is a key internal fisheries issue requiring attention to achieve fisheries ESD (FWG, 1991). In fisheries where excess fishing capacity exists (either through open access or excess available fishing licences) general economic trends combined with improved harvesting technology induce more investments in the fishery and put intense pressure on the resource. As the structure of the fleet becomes too large, the gap widens between what the resource is able to supply and what the fishing sector needs to survive and prosper (OECD, 1997).

Commonwealth and Queensland fisheries are subject to "limited entry" arrangements. Over the past decade the number of Commonwealth fishing licences has been reduced from over 5,000 to approximately 1,500 (Stevens, 1997) and the number of Queensland fishing licences has been reduced significantly (eg, trawl from 1,400 in 1984 to approximately 830 in 1997).

In 1996, the Queensland Government allocated $5 million dollars to speed up the removal of remaining excess fishing capacity in Queensland fisheries. A structural adjustment policy aimed at ensuring a profitable and sustainable commercial fishing fleet has been developed and MACs are reviewing the capacity in each fishery to identify priorities for restructuring.

Uncertain Access or Property Rights

Numerous government reports over the last decade, including the FWG (1991), have recognised the importance of secure fishing access rights to achieving sustainability of fisheries. A lack of right or incentive to conserve the resource results in producers imposing an "external cost" on each other as it breeds competition to catch fish before others do, drives the stock down below optimum levels, shortens seasons, results in poor quality and poor prices, and leads to excessive investments in vessels, gear, processing and

distribution infrastructure (OECD, 1997).

Progress made towards more secure fishing access rights includes:

- management plans with clear objectives and time-frames;
- precedents, and community support for compensating commercial fishermen if fishing rights are extinguished;
- legal precedents which have instilled considerations of natural justice, equity, and fairness into fisheries management decision making processes;
- various forms of transferable effort, time or catch quotas;
- recognition by governments that regimes which seek to arbitrarily extinguish fishing rights (whether previously used or not) conflict with ESD principles as they exacerbate industry uncertainty, reduce incentives for fishermen to conserve the resource and create incentives for fishermen to increase pressure on the resource and the environment.

Despite this progress issues such as jurisdictional conflict, resource allocation, native title, environmental degradation and anti-commercial fishing campaigns are creating extreme concern amongst fishermen about their future. Efforts to define more certain access rights should be increased. It should also be recognised that access rights may vary from fishery to fishery and that the key determinant should be the level of confidence and certainty required to attract investment that will underpin the fishery's progress towards ESD.

Recreational Fishing

Increasing recreational fishing pressure may be an impediment to achieving sustainability goals in some fisheries. Consistent with ESD principles, it is necessary to apply sufficient constraints on recreational fishing to ensure harvesting levels, for species caught exclusively by recreational fishermen and species also accessed commercially, are within sustainability parameters.

Progress towards achieving this has been slow, however mechanisms such as bag limits are likely to become common place as community awareness improves about the need for such measures.

Aquaculture

The FWG (1991) suggested that aquaculture will play an increasingly important role in the future. While the aquaculture industry has undergone substantial development over the last decade, its long term sustainability is likely to depend on reducing impacts on

the environment and the development of alternative aquaculture feeds.

The gap between global production and global demand for wild fisheries products continues to widen. Rather than create opportunities for aquaculture (Mace, 1996), new markets and higher prices for fisheries supplying the raw material for fishmeal, combined with high feed conversion rates, may cause the price of existing aquaculture feeds to increase sharply and make many aquaculture ventures uneconomic.

Growing concern within the international community about the world's ability to meet the food and energy requirements of an increasing global population may also have implications for aquaculture unless these high negative food conversion ratios can be improved.

Cost recovery for fisheries management

Users should contribute to the cost of fisheries management regardless of whether they fish for pleasure or profit QC, 1992). Significant efficiency benefits are only likely when users are fully engaged in the management process and are prepared to modify their behaviour in order to reduce costs and raise efficiency (Kailis, 1996).

In Commonwealth fisheries the industry now pays 100% of recoverable management costs and this is the most important factor is setting the dynamics in place for both increased industry participation and the devolution of power to MACs (McColl, 1996).

Since QFMA was established in 1982, its costs for managing fisheries have been met by industry. A review of cost recovery arrangements is currently underway to determine appropriate cost recovery under fisheries management plans.

Technology

The fishing industry has rapidly adopted technology which increases its catching efficiency (eg, new gear types, radar, GPS) and technology that increases its capacity to catch more fish by staying at sea longer (eg, modern refrigeration, longer range vessels). However fishermen have been generally reluctant to invest in technologies specifically aimed at adding value to products after capture (Loveday, 1996).

Fishermen and fishery managers have often campaigned for prohibitions or restrictions on technology in response to the need to cap and reduce fishing effort. However this conflicts with ESD principles, by avoiding core issues such as industry restructuring or by imposing increased inefficiencies and costs on operators. Unnecessarily eroding the industry's profitability and viability will force an increasing number of operators into a position where they are struggling for their daily survival, and hence not in a position to consider

the impacts their activities will have on the long term sustainability of the resource or the environment (WCED, 1987).

There are positive signs that the anti-technology culture is disappearing. Numerous failed attempts to reduce fishing effort by restricting technology, has led to a realisation that technology has a life of its own and will soon find a way to overcome any artificially imposed impediments.

There is also a greater acceptance that technology is the change factor that is most responsive to creative management action (Price, 1996) and will be critical to our ability to address many of the issues related to ESD. Advanced satellite based information technology is being implemented in many Australian fisheries. In May 1997, the Queensland Government announced the allocation of over $3 million towards a $7 million program to implement vessel monitoring systems (VMS) in the Queensland fishing industry over the next three years.

This technology will trigger significant change within the fishing industry, erode communication impediments which exist because of the industry's diversity and isolation, allow progress towards a safer, more secure and efficient industry and improve the quality of life of its participants and the community generally.
This will be achieved through:

- enabling the implementation of management strategies not previously possible;
- enabling real time collection and analysability of data;
- major advances and cost savings in fisheries management and science;
- enabling more cost effective fisheries surveillance and enforcement;
- improvements in maritime safety;
- enhanced communications making it possible for fishermen to deal with many of their business matters while at sea;
- making possible, substantial cost savings in operating and maintaining fishing vessels and equipment;
- enabling fishermen direct contact with markets around the globe via electronic marketing systems, resulting in increased competitiveness, greater marketing efficiencies, higher returns and better utilisation of fisheries resources;
- improved databases providing a foundation for investment in post harvest technology**;**

- enabling more focused, flexible and effective industry training.

Cleaner production technology will also provide major benefits by reducing the environmental impacts of fishing, further reducing by-catch, minimising waste in production and processing and reduce the use of raw materials and energy in all sectors of the industry.

International Considerations

Economic and environmental interconnections do not respect national boundaries, and action by one nation to protect the natural environment may also have implications for its trade with other nations (Common, 1995).

Tsamenyi (1995) was instrumental in raising the fishing industry's awareness of international issues relevant to fisheries ESD. Various committees have subsequently been established to ensure the requirements of international conventions aimed at more rational, conservation and sustainable utilisation of the world's fisheries, are being taken into account in domestic fisheries management processes.

Australia is also a party to two fisheries related challenges under the World Trade Organisation (WTO) namely:

- a challenge against a United States shrimp embargo which is detrimental to the international competitiveness of the Australian prawning industry (Loveday, 1996), and
- a challenge against Australia's ban on the importation of fresh salmon because of the threat of importing diseases.

Institutional and Cultural Change

As illustrated throughout this paper, fisheries have been subject to extensive institutional reforms in recent years which should deliver positive outcomes for ESD.

However, the significant cultural changes required for fisheries ESD are progressing at varying rates. While some fishery managers have welcomed the more cooperative and inclusive decision making processes, others continue to resist the move away from direct control. This is often typified by a reluctance to engage in the level of consultation required to effectively 'manage the set of human interactions' that constitutes fisheries management (Kailis, 1996), and a mis-perception that they are actually managing fish.

Fish recognise no political boundaries (OECD, 1997), and while the goal of fisheries management is the ESD of fisheries resources, achieving this entails managing a range of complex and interacting anthropogenic activities that impact on fisheries and their

ecosystems.

The cultural - change required across the fishing industry to accept short term pain in exchange for future gains has also progressed at varying rates. Fishermen in profitable and productive fisheries are much more likely to embrace change than fishermen in marginal fisheries who focus on their day to day survival. Cultural change also continues to be undermined by the lack of secure access rights.

The fishing industry's ability to demonstrate to the community that there are sufficient benefits available from commercial fishing, to maintain its future access to fisheries resources will require a quality culture throughout every aspect of the industry including policy makers, fisheries management bodies, research and development (R&D) providers, training bodies and individual enterprises (Loveday, 1997).

Progress towards this quality culture has commenced through initiatives such as SeaQual, and the Australian Seafood Industry Quality Assurance Project which assisted twenty two seafood industry companies achieve ISO 9000 certification (Sumner, 1997).

Emerging ESD considerations

ESD is not a fixed state but a process of change in which exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony (WCED, 1987).

As ESD gains further momentum and current fisheries priorities are addressed, society's increased understanding of the complexities involved in achieving sustainable development will raise the importance of some existing issues and identify new and sometimes quite subtle pre-requisites for ESD. In fisheries these issues are likely to include:

- the impact of climate change;
- greater moves to more secure property rights such as ITQs
- managing fisheries within wide and volatile natural stock fluctuations caused by weather patterns, el nino and other large scale environmental variations;
- alternative and more environmentally friendly fishing methods in some fisheries; more efficient energy use, particularly regarding non-renewable resources;
- the effect of fishing on genetic diversity of natural fish populations;
- biodiversity issues;
- increasing impacts of international laws and conventions.

CONCLUSION

Dr Pamela Mace (1996) in her concluding remarks to the Second World Fisheries Congress held in Brisbane commented that Australia was leading the way internationally with respect to its approach to fisheries management.

While this acknowledgment reasonably reflects Australia's fisheries management performance from a global perspective and major progress has been made towards fisheries ESD, much more could have been achieved if fishery Managers, scientists, industry, environmental groups and the community in general had a better understanding of the basic principles and pre-requisites of ESD.

This lack of understanding is undermining the significant efforts devoted towards fisheries ESD. Many individuals and organisations are working tenuously on the issues they understand need to be addressed, however very few people or agencies appear to be looking at the big ESD picture. As a result many current initiatives may be working against ESD.

ESD requires integrating ecological, economic, social and cultural considerations. However many scientists examining ecological issues are giving little consideration to the economic, social and cultural aspects of those issues.

Environmental groups often work against their own cause by ignoring the economic and social consequences of the extreme actions they are pursuing. Fisheries managers often impose regimes that ignore the economic or social consequences of their decisions and rather than pressure on fisheries and the environment being reduced, it is increased because fishermen are made less viable and work harder to survive financially.

Fishermen are guilty of pursuing increased economic efficiency while avoiding fundamental issues such as industry restructure and increasing profitability through quality and value adding.

Many governments and government agencies continue to avoid the issue of more certain access rights, thereby rejecting systems which will provide incentives for fishermen to make short term sacrifices in exchange for long term gains, both for them individually and fisheries overall.

Finally, this lack of basic understanding about ESD, continues to create fertile ground for politicians seeking political gains to intervene in fisheries management under auspices such as social or economic benefits, while totally ignoring the social and economic

consequences of their decisions (eg, closure of Pumicestone Passage to commercial fishing in 1995).

It is therefore argued, that a nation wide education program, aimed at ensuring that everyone in the community had a basic understanding of ESD, is the single initiative that would have the most profound and positive impact on our progress towards it.

Attachment (i)

Background to Ecologically Sustainable Development

Sustainability emerged in political and public arenas in 1972 with the publication of the book *The Limits of Growth*, and the United Nations (UN) Conference on the Human Environment in Stockholm.

The concept of *sustainable development* was placed on the international agenda by the 1987 WCED report *Our Common Future* which described *sustainable development* as:

> *development which seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future.*

Agenda 21, a global plan for *sustainable development* which sets out actions the international community can take to contribute towards the goal of global sustainability in the twenty first century, was adopted at the UN Conference on Environment and Development (Earth Summit) in Rio de Janeiro in June 1992, along with a Declaration of the principles of *sustainable development* (The Rio Declaration).

The 1992 Earth Summit also led to the establishment of the UN Commission on Sustainable Development (CSD) which meets annually to review progress in the implementation of *Agenda 21***.**

International cooperation is critical to achieving *sustainable development* and it has quickly become embedded in international conventions and laws including, Climate Change, Conservation of Biological Diversity, Convention on Straddling Fish Stocks and Highly Migratory Fish Stocks, International Code of Conduct for Responsible Fisheries, and many more. The WCED Experts Group on Environmental Law has also developed a set of *Legal Principles for Environmental Protection and Sustainable Development.*

<u>Sustainable Development in Australia</u>

A 1990 Federal Government public discussion paper entitled *Ecologically Sustainable Development* (ESD) defined *sustainable development* in the Australian context as:

Using, conserving, and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the quality of life, now and in the future can be increased.

In August 1990, the Prime Minister established Working Groups to report on ESD in nine key sectors of the economy; manufacturing, mining, agriculture, forests, fisheries, energy production, energy use, tourism, and transport.

A special report on intersectoral issues such as climate change, biodiversity conservation, urban development, employment, economic diversity and resilience and international considerations, was prepared by the Chairs of each Working Group and provided the basis for the National Strategy for Ecologically Sustainable Development (NSESD, 1992). The Working Group reports on sectoral issues fed into the NSESD.

The NSESD, prepared through a process involving consultation and negotiations with industry groups, the community, conservation groups, scientific organisations, was adopted by Australia's three tiers of Government, Federal, State and Local, in December 1992. Key elements of the strategy are:

Goal:

- *Development that improves the quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.*

Core Objectives:

- *to enhance individual and community well being and welfare by following a path of economic development that safeguards the welfare of future generations;*
- *to provide for equity within and between generations;*
- *to protect biological diversity and maintain essential ecological processes and life support systems.*

Guiding Principles:

- *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;*
- *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 enhance 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 in issues which affect them.*

The strategy also specifically states that:

i) These guiding principles and core objectives need to be considered as a package.
ii) No objective or principle should predominate over the others.
iii) A balanced approach is required that takes into account all these objectives and principles to pursue the goal of ESD.

A range of strategies and policies and strategies involving all levels of Government and the community continue to be developed under the auspices of implementing the NSESD. Each level of Government and each individual jurisdiction is also responsible for taking measures to ensure ESD principles are taken into account in their decision making process.

An InterGovernmental Agreement on the Environment (IGAE) a copy of which is set out in the schedule to the *National Environment Protection Council Act 1994,* also defines the roles and establishes the ground rules under which Governments at all three levels will interact on the environment. It establishes a mechanism for providing:

- a cooperative national approach to the environment;
- a better definition of the roles of respective governments with respect to the environment;
- a reduction in intergovernmental environmental disputes;
- more certain government and business decision making; and
- better environment protection.

Legislative, planning, development and other government programs are increasingly reflecting a commitment to ESD objectives and principles and programs that tackle sustainability issues such as cleaner production, waste minimisation, land use, transport and natural resource management are also being developed and implemented across government and industry, eg., National Forest Policy, Ozone Response Strategy, National Landcare, Coastcare and Fishcare.

Monitoring and reporting are critical to the implementation of the **NSESD.** A system for comprehensively reporting the State of the Environment has been established and

an InterGovernmental Committee on ESD QCESD) monitors implementation of the strategy and reports to Heads of Government. Annual national reports on progress against each chapter of *Agenda 21* are provided to the UN CSD.

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