

Indigenous participation in commercial fisheries in Torres Strait: A preliminary discussion

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CONTENTS

Abstract	ii
Acknowledgments.....	ii
Foreword	iv
The fisheries regulatory regime in the Torres Strait	2
Current value of the fishing industry	6
Potential expansion.....	8
Islander participation in the commercial fishery	9
Barriers and incentives to indigenous participation.....	10
Options for creating Islander property rights in commercial fisheries.....	12
Assertion of sovereignty.....	12
Treaty leverage.....	13
Compensation: the buy-back option.....	14
Active participation.....	14
Policy implications.....	15
Distribution of property rights.....	15
Strategic fisheries planning.....	16
Monitoring Islander effort and catch	16
Conclusion.....	17
Notes	18
References	20

TABLES

Table 1. Total allowable catch (tonnes) for major Article 22 fisheries, 1985-86 to 1992-93.....	4
Table 2. Boat licences issued or renewed by the TSPZJA, 1985-86 to 1992-93.....	4
Table 3. Current principal Torres Strait commercial fisheries, 1992.....	7
Table 4. Recent Article 22 commercial fisheries catch, 1989-93.....	7
Table 5. Estimated current productive involvement in major Torres Strait commercial fisheries.....	10

FIGURE

Figure 1. The Torres Strait region.	6
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ABSTRACT

The Torres Strait Treaty between Australia and Papua New Guinea, ratified in 1985, recognised customary, and limited commercial, indigenous rights in marine resources in Torres Strait. Since the High Court's *Mabo vs Queensland* decision in June 1992, and the establishment of the Torres Strait Regional Authority (TSRA), effectively from July 1994, the issue of rights in marine resources has become central to the development of a sustainable regional economic base for indigenous people in Torres Strait. This paper describes the regulatory framework for managing marine resources in Torres Strait, the current value of the commercial fishing sector, and the potential for expansion of the industry. Attention is then focused on current Islander participation in the industry, and especially on barriers and incentives affecting participation. Options for creating well-defined Islander property rights in commercial fisheries are examined, and the policy implications of these options are discussed. Finally, the importance of further research is put in the context of the TSRA's responsibility for a Torres Strait Development Plan and the goals of increased indigenous participation in commercial fisheries and greater economic self-sufficiency for the region.

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FOREWORD

In 1994, CAEPR made a concerted effort to focus a significant proportion of its research effort on Torres Strait issues. This decision was influenced by a number of factors. First, a combination of the High Court *Mabo* decision in 1992, the passage of the *Native Title Act 1993* and the formation of the Torres Strait Regional Authority (TSRA) in 1994, have given Torres Strait a special significance in contemporary indigenous affairs policy in Australia. Second, specialist staff resources were available in 1994 to focus on Torres Strait. Bill Arthur visited CAEPR on secondment from the Australian Institute of Aboriginal and Torres Strait Islander Studies for three months (April to July). Richard Davis, a doctoral student in the Department of Archaeology and Anthropology, Faculty of Arts, ANU who also joined CAEPR for a short period, has resided on Saibai Island in Torres Strait where he undertook anthropological fieldwork. Third, CAEPR maintains a commitment to focus a proportion of its research effort on Torres Strait Islander issues.

This paper is one in a set of four CAEPR Discussion Papers, Nos 71-74, being released simultaneously. They focus on: socioeconomic change in Torres Strait between 1986 and 1991 (No. 71); socioeconomic differences between Torres Strait Islanders living elsewhere in Australia and in the Strait (No. 72); the development potential of commercial fisheries in Torres Strait (No. 73); and the new Torres Strait Regional Authority as a political structure and its potential implications for future regional government (No. 74). Richard Davis's discussion paper on the Saibai Island microeconomy and its development potential will be completed and published at a later date. It is anticipated that additional work on Torres Strait issues, some specifically for the TSRA, will be undertaken in 1995.

There is currently no readily available map that indicates the coverage of the TSRA. A number of people assisted us in eventually determining the current boundaries. These people included Benny Mills, Office of Torres Strait Islander Affairs, ATSIC, Canberra; George Menham and John Spottiswoode, TSRA, Thursday Island; David Singh, Gai Popovic and Jo Victoria, ATSIC, Canberra; Graham Glover, Department of Foreign Affairs and Trade (DFAT), Canberra; Alistair McGaffrey, DFAT, Thursday Island; and David Dobson, Australian Land Information Group, Canberra. The resulting map was drawn by Ian Heyward, Department of Human Geography, Research School of Pacific and Asian Studies, ANU. We emphasise that the map is preliminary and presented for research purposes; it is based on the best available information at October 1994.

Jon Altman
Series Editor
October 1994

In June 1992, the High Court of Australia found in favour of the plaintiffs in the now historic *Mabo vs Queensland* judgment. This decision recognised the potential existence of native title in land, but has not, as yet, been extended to sea rights (see Smyth 1993; Bergin 1992; Cordell 1991). Statutory recognition of this form of common law ownership of land under the *Native Title Act 1993* similarly does not comprehensively address the issue of indigenous property rights in coastal and offshore resources.

Just as the *Mabo* judgment has had primarily symbolic value for those indigenous Australians with access to land under land rights law, one can ask how the *Mabo* decision will affect the property rights in fisheries that have been largely earmarked for Torres Strait Islanders since the ratification of the Torres Strait Treaty between Australia and Papua New Guinea in 1985. The main purposes of the Treaty include the protection of the traditional way of life and livelihood of the inhabitants of the Torres Strait and protecting the Torres Strait marine environment (Mulrennan and Hanssen 1994; Reid et al. 1993). Such treaty obligations extend primarily to customary fisheries and the impact of commercial fisheries on the marine environment and species traditionally utilised. The focus of this paper is on commercial, rather than customary, fisheries in the Torres Strait.

In recent years, there have been calls by the Torres Strait political leadership for recognition of Islander property rights in fisheries (Smyth 1993; Arthur 1990; Scott 1990). These calls have increased following the establishment of the Torres Strait Regional Authority (TSRA) and its operationalisation from 1 July 1994 (TSRA 1994). The TSRA represents a move towards regional self-government for Torres Strait; associated with such a move has been the statutory requirement under s.142D of the *Aboriginal and Torres Strait Islander Commission Amendment Act (No. 3) 1993* that the Authority produce a Torres Strait Development Plan. The Torres Strait Regional Council area was geographically delineated in the *Aboriginal and Torres Strait Islander Commission Act 1989*. On 1 July 1994, the council area became the TSRA area. The TSRA has authority, in relation to indigenous but primarily Islander issues, over all islands in Torres Strait, plus the two predominantly Islander-populated communities of Bamaga and Seisia on the northern tip of Cape York. Arthur (1994:1-2) has divided the Torres Strait region (now the TSRA area) into three parts, which we term here the Outer Islands in the north, the Inner Islands clustered around the regional administrative and service centre of Thursday Island, and the Cape Islander communities.

This paper examines the aim of the newly formed TSRA to create a sustainable regional economic base, focusing on the commercial Torres Strait fisheries sector estimated to have an official gross value of production of \$27 million in the 1992 calendar year. This accounted for about 2 per cent of the estimated total gross value of production of the Australian fishing industry of \$1.4 billion (Australian Fisheries Management Authority (AFMA) 1993a) or about 11 per cent of the gross value of production (\$244.6 million) of the Queensland industry. In stating its economic objectives for 1994-95, the TSRA emphasises the creation of a sustainable regional economic base for the Torres Strait area, with particular emphasis on sea rights, and the need to ensure that Torres Strait Islanders and Aboriginal people living in the Torres Strait area have control over the use of resources and management of the environment (TSRA 1994: 16; Lawrence and Cansfield-Smith 1991).¹ Associated with such regional economic development goals is a desire by the TSRA to increase regional self-sufficiency and thus reduce regional dependence on Commonwealth welfare and program dollars (Arthur 1994; TSRA 1994).

These economic policy objectives highlight the need for the TSRA to facilitate greater Torres Strait Islander participation in commercial fishing, as this is one of the few potential avenues for regional economic growth that will generate employment and income for Islanders. The broad options available for increased participation are threefold. First, Islanders could reduce 'latent effort' in fisheries that are currently operating below sustainable capacity. Second, Islanders could seek to enter fisheries where they are currently unrepresented or under-represented. Third, Islanders could seek to have their customary property rights in Strait fisheries resources fully recognised and then seek to utilise or trade these rights for monetary gain.

This discussion paper explores the complex policy options available. A brief summary of the fisheries regulatory regime operating in Torres Strait is followed by an attempt to gauge the sustainable development potential of fisheries in Torres Strait with reference to secondary sources about the current and potential value of all commercial fisheries in the Strait.² Examination of the extent of Islander involvement in commercial fisheries involves assessing whether previously identified barriers have been ameliorated and whether new barriers to indigenous participation in fisheries are evident. Of greatest policy relevance, we ask what potential exists for the expansion of Islander participation in fisheries. What options are available to the TSRA to either remove or reduce barriers to entry and to utilise commercial concessions and competitive advantage? Finally, some issues for further research are raised and the policy implications of greater Islander involvement in regional commercial fisheries are discussed.³

THE FISHERIES REGULATORY REGIME IN THE TORRES STRAIT

The regulatory framework for managing marine resources in the Torres Strait emanates primarily from the international Torres Strait Treaty between Australia and Papua New Guinea. This Treaty was initially signed in 1978 and ratified in 1985. At this time, the Commonwealth *Torres Strait Fisheries Act 1984* became law in Australian waters. This Treaty established the Torres Strait Protected Zone and the Act established the Torres Strait Protected Zone Joint Authority (TSPZJA) which is a joint Commonwealth/Queensland State body. The TSPZJA is responsible for the management of the following fisheries often referred to, with reference to the Torres Strait Treaty, as Article 22 fisheries: prawn, tropical rock lobster, Spanish mackerel, pearl shell, dugong, turtle and barramundi. All other fisheries in the Strait, which include trochus, mud crab, bêche-de-mer, shark and line fishing for all species except Spanish mackerel are currently managed by Queensland under a complementary Queensland *Torres Strait Fisheries Act 1984* (AFMA 1993a, 1993b; TSPZJA 1993; Queensland Fish Management Authority (QFMA) 1993).⁴ This paper focuses on Torres Strait marine resources with recognised commercial potential (Arthur (1990) has discussed other possible fisheries and aquacultures for Torres Strait).

The Torres Strait Treaty and associated legislation establishes a regulatory regime, of which Article 23 is concerned with commercial catch-sharing between Australia and Papua New Guinea. There are two articles of the Treaty that are of most direct relevance to the issues addressed here. The first, Article 10, notes:

The principal purpose of the Parties in establishing the Protected Zone, and in determining its northern, southern, eastern and western boundaries, is to acknowledge and protect the traditional way of life and livelihood of the traditional inhabitants including their traditional fishing and free movement (Department of Foreign Affairs and Trade (DFAT) 1978: 16).

Broadly interpreted, this article provides an in-principle and equitable guarantee to recognise and protect customary property rights in fishery. The second, Article 21, states:

The Parties shall cooperate in the conservation, management and optimum utilisation of Protected Zone commercial fisheries. To this end, the Parties shall consult at the request of either and shall enter into arrangements for the effective implementation of the provisions of this Part (DFAT 1978: 26).

This article has a very different focus from Article 10: it is concerned to efficiently and commercially utilise the marine resources of the Strait, but provides no Treaty guarantee that the traditional inhabitants of the Strait should have their property rights in customary marine resources extended to commercial fisheries.

The TSPZJA comprises Commonwealth and Queensland ministers with responsibility for fisheries; it has established a structure of advisory bodies with Islander, industry and government representatives. These include a Torres Strait Fisheries Management Committee (TSFMC) and a Torres Strait Fishing Industry and Islanders' Consultative Committee (TSFIICC). Both Committees have Islander representation nominated by the Island Coordinating Council (ICC); Islanders do not have the majority on either committee. These committees do not vote on issues.⁵ On those occasions where consensus is not reached, dissenting views are recorded. There are five working groups (prawn, lobster, pearl shell, mackerel and licensing) reporting to the TSFIICC. Together these working groups initiate the majority of recommendations on fisheries management. Working group meetings are well attended and in most cases, non-members freely participate. TSFMC, TSFIICC and working group meetings are held on Thursday Island to facilitate attendance from local community members (the prawn working group, however, sometimes meets in Cairns). Smyth (1993) notes that in the Australian context, Islander representation on the TSFMC and TSFIICC represents the greatest indigenous involvement in the regional management of marine resources.

The TSPZJA is responsible for monitoring the condition of the jointly managed fisheries and for the formulation of policies and plans for their management (TSPZJA 1994: 2). This involves, initially, negotiation with Papua New Guinea to reach agreement about the extent of fishing effort, in terms of vessels and fishing technology, allowed in Australian and Papua New Guinean sectors of the Protected Zone. The most recent agreement, concluded in February 1993 and covering the period 1993-96, allows Papua New Guinean participation in prawn and tropical rock lobster fisheries in the Australian sector of the Zone and permits five Australian boats to be licensed to collect pearl shell in Papua New Guinea waters, provided only three fish there at any one time. In 1993 and 1994, three Papua New Guinean freezer boats with 27 associated dinghies were allowed to take lobster in Australian waters. Papua New Guinea has not nominated any prawn boats for cross-border endorsement. Five Australian boats were licensed by Papua New Guinea to collect pearl shell in 1994.

Table 1. Total allowable catch (tonnes) for major Article 22 fisheries, 1985-86 to 1992-93.

Year ended 30 June	Prawn	Lobster	Mackeral
1986	1200	208	500
1987	1500	Catch of dive fishery	500
1988	1500	Catch of dive fishery	500
1989	1500	Catch of dive fishery	500
1990	Catch of fishery	Catch of dive fishery	300
1991	Catch of fishery	Catch of dive fishery	300
1992	Catch of fishery	Catch of dive fishery	300
1993	Catch of fishery	Catch of dive fishery	300

Source: Annual reports of the TSPZJA.

Table 2. Boat licences issued or renewed by the TSPZJA, 1985-86 to 1992-93.

Year ended 30 June	Prawn	Lobster	Mackeral	Pearl	Mixed	Mackeral
1986	453	79	57	47	n.a.	n.a.
1987	422	153	103	66	n.a.	n.a.
1988	139	30	29	10	175	383
1989	135	54	43	9	179	420
1990	130	71	50	10	215	476
1991	119	79	55	11	262	526
1992	107	76	57	11	275	526
1993	100	58	62	7	291	518

Source: Annual reports of the TSPZJA.

Australia and Papua New Guinea also jointly set Total Allowable Catches (TACs) for Article 22 Protected Zone commercial fisheries. TACs for the period since ratification of the Treaty in 1985 are summarised in Table 1. As Table 1 demonstrates, TACs have increasingly been set in terms of the catch of the fishery rather than in terms of catch quota. However, fishing effort has been managed in a number of ways. In the prawn fishery, for example, new management arrangements allocate individual vessels transferable time quota (subject to conditions) of the number of fishing days that they may operate in the Protected Zone prawn fishery (Reid et al. 1993). These measures aim to limit both commercial fishing effort and the extent of non-Islander participation in the fishery. In the tropical rock lobster fishery strict licensing arrangements are also in place for the non-Islander sector, but the major restriction on the catch is

technological: since 1984 there has been a ban on trawlers taking lobster; additionally, lobsters must only be taken by divers using a short hand spear.

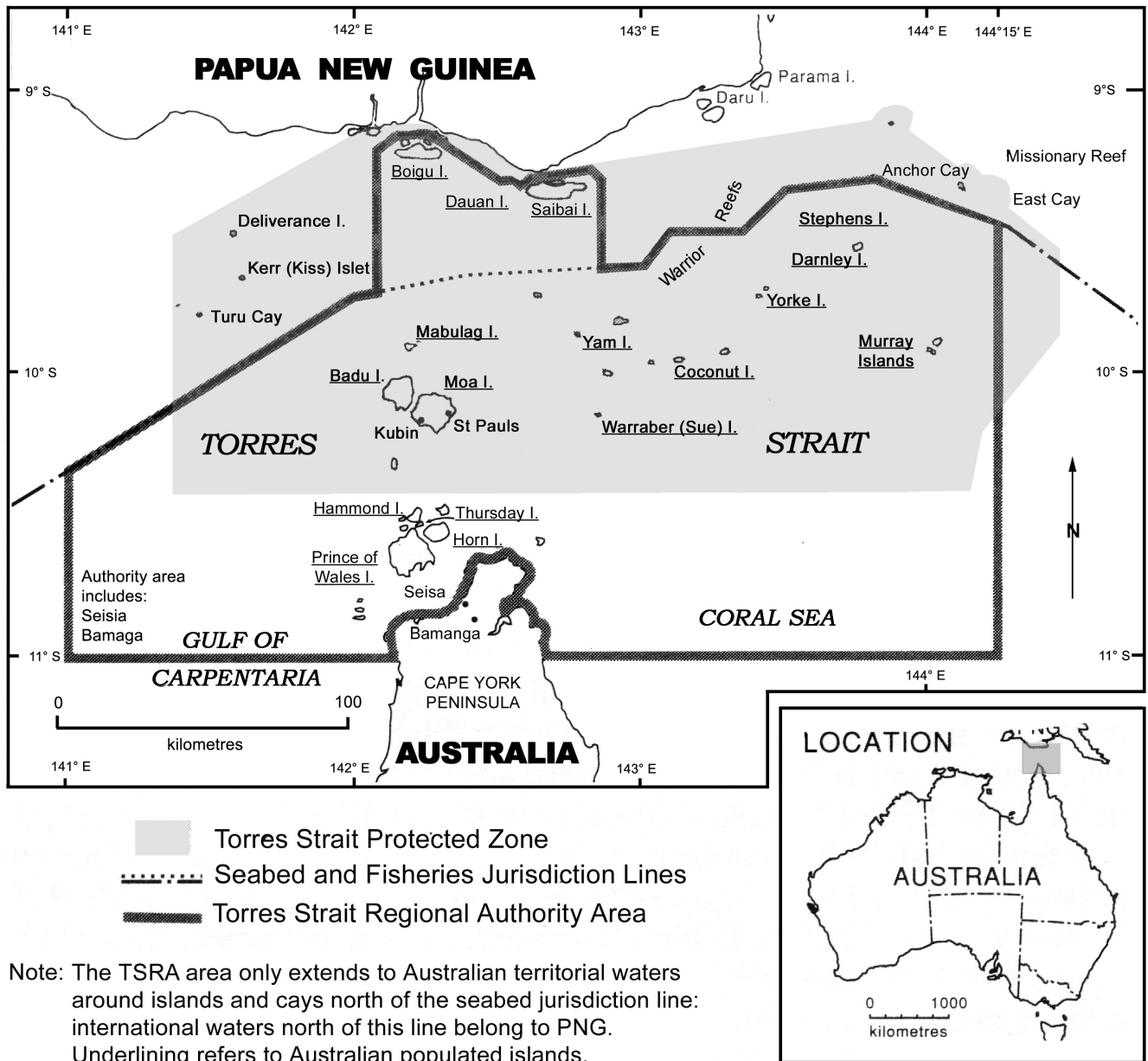
Table 2 summarises information available on the boat licences issued or renewed by the TSPZJA. This information has shortcomings that future research will need to rectify. For example, commercial fishing licences issued by the TSPZJA include licences issued to Islanders as individuals but do not include the community fishing arrangements, a special form of licensing which merely requires Outer Islanders to register with their community council before fishing commercially.⁶ It is unclear how many Islanders fish under the community fishing arrangements. (The substantive difference between the individual licences and community arrangements is that a boat licence allows fishers to tax deduct expenses, whereas fishing under community arrangements does not.) It is known for example that 300-400 dinghies operate from Islander communities in the lobster fishery; most would operate from Outer Islands in the Protected Zone under community arrangements, but some also operate from Thursday and Horn Islands which are outside the Zone where community arrangements are not available. The issue of rationalising licensing arrangements in order to gauge Islander fishing effort, but also to monitor total catches, will be addressed below.

It is important to briefly describe the linkages and cross-cutting cleavages between the regulatory framework for fisheries in the Protected Zone under the Torres Strait Treaty with the wide ranging and complex set of administrative arrangements currently in place for the Torres Strait region and described in some detail by Sanders (1994). Figure 1 delineates a number of these jurisdictions. Of greatest relevance from the fisheries perspective is the boundary of the Protected Zone which extends from Australia's border with Papua New Guinea to the north of the Inner Islands.

As is evident in Figure 1, the Inner Islands and the Cape Islander communities are in fact outside the Protected Zone, as the TSRA area extends south beyond the jurisdiction of the TSPZJA. Conversely, the Protected Zone extends east beyond the area of the TSRA inside Australian waters, and north beyond the seabed jurisdiction line into Papua New Guinea's territorial waters. While the TSRA is created by Commonwealth statute, its membership is elected under Queensland legislation. Indeed at present the boundary of the TSRA is delineated by the electoral boundary of the ICC. TSPZJA fisheries management is jointly controlled by the Commonwealth and Queensland fisheries ministers. State fisheries (the unshaded area south of the seabed jurisdiction line in Figure 1) comes under the authority of the Queensland minister.

Since the TSRA is required to formulate a Torres Strait Development Plan including the articulated goal of enhanced involvement in commercial fisheries for all Islanders in the TSRA, it is noteworthy that the TSRA geographic jurisdiction extends beyond that of the TSPZJA into Queensland territorial waters. The complexity of this regulatory regime can be clearly demonstrated with respect to pearl farming. Islanders are heavily involved in gold-lipped pearl oyster shell collecting in the Protected Zone, an Article 22 fishery. Incomplete records from log books indicate that in 1992, a minimum 13,000 shells were collected by Islanders. Live pearl oysters are collected for pearl culture farms located outside

Figure 1. The Torres Strait region.



the Protected Zone, operated primarily by Japanese interests in the TSRA region. There is no accurate information available on the value of this aquaculture fishery (Ward 1993).

CURRENT VALUE OF THE FISHING INDUSTRY

The fishing industry in Torres Strait can be viewed as composed of three sectors: a commercial sector, an indigenous subsistence or customary sector, and a non-indigenous recreational-domestic sector. This paper deals only with the commercial sector, the value of which varies considerably with fluctuating market demand reflected in price. A recent incomplete estimate of the value to the catcher of the

Table 3. Current principal Torres Strait commercial fisheries, 1992.

Species	1992 catch ^a		Potential catch ^b		Potential increase (\$ million)
	Quantity	Value (\$ million)	Quantity	Value (\$ million)	
TSPZJA					
Prawn (tonnes)	2,035	20.5	2,035	20.5	0.0
Lobster (tonnes)	158	4.5	500	14.2	9.7
Mackerel (tonnes)	105	1.0	300	3.0	2.0
Live pearl shell (number) ^c	13,000	0.3	60,000	1.4	1.1
QFMA ^d					
Trochus shell ^e	70	0.4	150	0.9	0.5
Total value		26.7		40.0	13.3

Sources and notes:

- Tonnage based on 1992 recorded catch of the fishery and price (TSPZJA 1994).
- Based on estimated sustainable yield, which in the case of prawns is the catch of the fishery; assumes 1992 prices for output.
- Valued to the fisher at \$20/shell (Williams 1994: 75); only includes catch recorded by voluntary log books.
- The value of cultured pearl aquaculture and bêche-de-mer is not included as there is no information available. Recent discussions with the Torres Strait Fishermen's Association indicates that in the region of 20-30 tonnes of bêche-de-mer has been harvested to date in calendar year 1994 and sold at between \$1.00 to \$3.20 per kilo.
- The potential for trochus is set at the current TAC.

Table 4. Recent Article 22 commercial fisheries catch, 1989-93.

Calendar year	Prawn (tonnes)	Lobster (tonnes)	Mackerel (tonnes)	Pearl Shell ^a (number)
1989	1,164	243	109	3,000-3,500
1990	836	183	99	16,543
1991	1,853	160	103	17,000
1992	2,035	158	105	13,000
1993	1,418	189	70	4,122

- Only includes catch recorded by voluntary log books.

Source: Annual reports of the TSPZJA to 1992; 1993 data from Mick Bishop (AFMA) and Geoff Williams (Bureau of Resource Sciences).

commercial sector is \$26.7 million (see Table 3).⁷ As noted above, this does not include the value of cultured pearl farming which is not known to the fish management authorities. Similarly, there are no data on the value of bêche-de-mer.

The estimate in Table 3 is based on 1992 data for Article 22 fisheries and an estimate from various sources for trochus. It is important to recognise that the quantity of different species available varies from year to year and that fishing effort will also be greatly influenced by market prices. Fluctuations in catch of major Article 22 fisheries can be seen for the past five years in Table 4. The commercial sector is dominated by two fisheries: prawns which accounted for 78 per cent of the known total value of commercial fisheries in 1992 and lobster which accounted for 17 per cent; that is, these two fisheries accounted for 95 per cent of the documented total value of Torres Strait commercial fisheries. The remaining fisheries each form a comparatively small proportion of the total.

Commercial fishing is undertaken by indigenous and non-indigenous people from Torres Strait and, in the case of the prawn and mackerel fisheries, by non-indigenous people from Queensland's east coast ports (Arthur 1990). Generally, non-indigenous people are full-time fishers while a small number of indigenous people fish full-time and a larger number fish part-time and work part-time on the Community Development Employment Projects (CDEP) scheme. In 1990 there were an estimated 35 full-time indigenous commercial fishers in Torres Strait and another 177 who mixed part-time commercial fishing with part-time work in the CDEP scheme (Arthur 1990: 38-9; Arthur 1991a: 112). Given that most of the over 500 licences issued in recent years were issued to Islanders (see Table 2), it is possible that up to 300 more Islanders who did not participate in the CDEP scheme did undertake some commercial fishing.

Production varies with each fishery. Prawning is highly capitalised; the unit of production is an owner-operated trawler costing between \$200,000 and \$500,000 with a crew of between two and four. Lobster, pearl shell, bêche-de-mer and trochus shell are usually fished from owner-operated boats with a small fleet of dinghies or by dinghies alone, and fishers may free dive or fish with the assistance of compressed air (hookahs). A dinghy and motor may cost \$10,000. Mackerel is generally fished from dories; dinghies are also used, although they are an inefficient mackerel fishing unit.

POTENTIAL EXPANSION

Fisheries are a renewable resource and sustainability is dependent on managing the basic stock so that it is not depleted (Arthur 1990, 1991c; Mulrennan et al. 1993). To maintain this sustainability the catches in key fisheries are monitored and expansion controlled by fisheries authorities. The prawn fishery cannot be readily expanded; even with a TAC set as the catch of the fishery, the catch appears to have peaked in 1992 (Table 3). In other cases the present catch is less than the TAC. Lobster, mackerel, trochus and live pearl shell are not fully exploited and bêche-de-mer collection is only recently re-emerging.⁸ The data suggest that the lobster fishery alone could be more than tripled to 500 tonnes although marginal productivity (that is, additional dollar returns per unit of effort) in the fishery would obviously decline as more lobster was harvested. At 1992 prices, if this fishery were fully exploited, the gross value

of production could increase to \$14.2 million. If other fisheries were fully exploited, then the whole commercial sector could be expanded by at least \$13.3 million dollars, an increase of over 60 per cent.

It should be noted that, as a primary product largely oriented to export markets, the price structure of the various principal commercial species of the Torres Strait region are subject to marked fluctuation over time. This will variously encourage or inhibit indigenous participation in the different fisheries. However, the absence of accurate long-term data on indigenous fishing effort means that it is unclear if effort is increased or decreased when prices increase. If, for example, indigenous fishers merely fish to supplement cash income from other sources, like wages paid under the CDEP scheme, then there is a possibility of a backward-bending supply curve for labour which is counter to the usual response to market signals (Moses 1962). In other words, with increased price per kilo, fishing-effort-associated total catch may decline. Similarly, it is unclear if Islanders readily switch from one fishery to another, or from fishing for monetary gain versus fishing for subsistence need. An associated policy issue is that the imputed economic significance of unmarketed customary fishing effort for subsistence is not generally quantified (Altman and Allen 1992).

There are insufficient data to assess the potential for the exploitation or expansion of many species. For instance, there is no information on the stocks of shark, though traders from the Australian mainland approached the ICC in 1989 with a view to setting up a shark fishery in the TSRA. The only exploitation of this species to date has been illegally by fishers from Indonesia and Taiwan who were regularly apprehended in the northern waters of the TSPZ in the late 1980s (Arthur 1990: 123) and as recently as 1993. There is similarly very little data on both trochus and bêche-de-mer fisheries.

ISLANDER PARTICIPATION IN THE COMMERCIAL FISHERY

To date, the primary interest of the relevant fisheries authorities has been management of the fish stock and curtailing the expansion of the non-indigenous commercial sector, rather than proactively seeking to increase Islander participation in the industry (TSPZJA 1993: 15-16). The Aboriginal and Torres Strait Islander Commission (ATSIC), and the ICC who are responsible for indigenous development, do not monitor indigenous fishing effort; neither did the former Aboriginal Development Commission (ADC) or Department of Aboriginal Affairs (DAA). Although there are some mechanisms in place that attempt to monitor total (indigenous and non-indigenous) catch, at the present time these data are far from complete and are not analysed. The TSPZJA does fund research, but to date none has been specifically on indigenous involvement and development in the commercial sector. The TSPZJA has funded the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to undertake detailed research on the traditional and island-based catch of the Protected Zone (see Harris et al. 1994; Dews et al. 1993) and a system for monitoring the dugong and turtle catch is now operating in all Torres Strait schools (Williams 1994: 43). Overall, there is no system in place to monitor Islander involvement in the commercial fishing industry, making it impossible to accurately describe the present situation and assess whether indigenous involvement is increasing, or decreasing, over time.

Table 5. Estimated current productive involvement in major Torres Strait commercial fisheries.

Species	Percentage share of catch	
	Islander ^a	Non-Islander
TSPZJA Fisheries		
Prawn	0	100
Lobster	70	30
Mackerel	3	97
Live pearl shell	100	0
QFMA Fisheries		
Trochus shell	100	0
Bêche-de-mer	100	0
Cultured pearls	0	100

a. These figures include the contribution of some families long-established on Thursday Island who are of mixed ancestry and who may not be classified, in some contexts, as Torres Strait Islanders.

Source: Discussions with AFMA, QFMA, Bureau of Resource Sciences, Torres Strait Fishermen's Association, Queensland Department of Primary Industries and Master Pearlers Association.

Table 5 provides some estimates, based largely on discussions with fisheries authorities, on the extent to which indigenous fishers participate in each of the Torres Strait fisheries. They do not participate at all, as either owners or crew, in prawning (the largest fishery in dollar value terms), nor in pearl aquaculture, although they do collect most live pearl shell.⁹ Hence it can be safely assumed that both these sectors have only non-Islander participants. Islanders are not involved at all in species that represented 78 per cent of the Torres Strait commercial fisheries by value in 1992 (see Table 3). Islanders on the other hand are estimated to contribute 100 per cent of the trochus shell and meat fishery, 70 per cent of the lobster fishery and 3 per cent of the mackerel fishery.

This variable involvement across species raises the question of whether there are barriers to indigenous participation resulting from social factors and the structural features of the industry. Indigenous people, for example, may decide that it is not worthwhile to participate in some fisheries while income can be derived more easily from another fishery, from government-funded programs like the CDEP scheme or from fishing for import-substituting subsistence.

BARRIERS AND INCENTIVES TO INDIGENOUS PARTICIPATION

Previous research has indicated that access is a crucial factor in Islander participation in commercial fisheries, whether in terms of physical access or human and capital resources; variations in these can affect the relative ease or difficulty of participation in each fishery (Arthur 1991c). Some issues that influence variability in commercial fisheries participation are discussed below; they include current

licensing arrangements, uneven distribution of population and fisheries resources across the Torres Strait, infrastructure requirements, skill requirements, collateral and capital needs, and the unattractiveness of lower profit commercial fisheries.

The current licensing arrangements are designed to increase Islander options for involvement in commercial fisheries. Indigenous people can fish commercially under an arrangement called 'community fishing' where normal licence requirements are waived. Further, three prawning licences have been reserved for indigenous people and, as the average current market value of a prawn licence to a non-indigenous fisher is \$70,000, this represents a significant potential concession to enter the fishery.¹⁰ However, these licences have not been utilised, due in large part to the major financial commitment required to operate a prawn trawler. It has also been observed that the demands of employment in the commercial prawn fishery do not make this fishery attractive for Islanders owing to the need to work long continuous shifts for several months at a time (Arthur 1990: 117).

Both the Islander population and the fisheries are unevenly distributed across Torres Strait. As most indigenous people only have small aluminium dinghies with limited range there is variable access to marine resources that favours those inhabited islands closest to each species. The western islands have proximity to the best lobster reefs, the central islands have reasonable access to lobster and good access to trochus, the eastern islands have less access to lobster and trochus, while the northern islands have almost no access to any of these species (for further details see maps in Arthur 1990: 44-5). This unevenness is reflected in income derived from commercial fishing. In 1990 people in the western islands had a fishing income of \$1,166 per head per year, people of the central islands had \$953 per head per year, people of the eastern islands had \$554 per head per year, and people of the northern islands had no income from commercial fishing (Arthur 1991c: 11).¹¹

Participation by indigenous people in the commercial fishing industry is also influenced by the level of infrastructure required. In particular, freezer units are an essential part of a successful operation in Torres Strait. Access to freezer units on islands has been difficult, especially as indigenous people are relatively unskilled at maintaining freezer plants.

Not all Islanders are skilled commercial fishers; they may know the waters of the Strait but are not necessarily skilled in all aspects of the fisheries. They do not, for example, have the skills necessary to operate and maintain prawning trawlers and the critical refrigeration equipment required; or knowledge of how to handle mackerel for market; and they may not have successfully passed on the skills they had in the past for processing *bêche-de-mer*. It is interesting to note that trochus and pearl shell collection, both areas in which indigenous producers are dominant, are also areas where they have long-standing involvement and expertise.

The issue of capital accumulation looms large as a major barrier to entry into commercial fisheries like the prawn fishery. Few Islanders have the financial resources to independently purchase a prawn trawler or a lobster freezer boat. Commercial loans are an option and banking facilities exist on Thursday Island. Indeed, a commercial bank is used by many Islanders for loans to purchase dinghies and motors and repayment rates are very high. However, few, if any, indigenous entrepreneurs would have an adequate

deposit and/or individually-owned collateral to raise a loan to purchase a prawn boat. This remains, to some extent, a hypothetical barrier, because there is no evidence that any individual Islanders are seeking to enter the commercial fishery sector at this level.

Some fisheries, such as lobster, have an extremely high profit margin, with fishers able to make considerable sums quickly. For example, at present, export quality lobster tail fetches \$35-40 per kilo. Under such circumstances, fishers are reluctant to expand into other lower profit fisheries, such as bêche-de-mer and mackerel. It also appears that many people mix fishing with part-time work in the CDEP scheme which provides a base income. There is a possibility that such an income option operates as a disincentive to increasing fishing effort. Alternatively, the need to participate in the CDEP scheme two or three days a week may hamper participation in commercial fishing precisely when tides are ideal (Arthur 1991b). In the absence of any longitudinal data it is difficult to assess the impact of the CDEP scheme on fishing effort.

Finally, it has been suggested in the past that issues of access to, and development of, commercial fisheries for Islanders could be addressed by a development agency (Arthur 1990; Lea et al. 1990). At present there is no one agency established to facilitate the development of Islander commercial fisheries.

OPTIONS FOR CREATING ISLANDER PROPERTY RIGHTS IN COMMERCIAL FISHERIES

Islander ownership of the sea and its marine resources, so-called sea rights, have not yet been recognised in either common law or statutory law anywhere in Australia. Indeed, even under existing statutory land rights regimes that have existed in parts of Australia for decades, indigenous property rights in resources have rarely been legally recognised. In the Northern Territory, de facto property rights in minerals are recognised when mining occurs on Aboriginal land, while in New South Wales some limited de jure property rights in minerals are recognised. There are States and Territories where customary rights to harvest renewable resources are recognised or where non-indigenous commercial fishing interests may be restricted (Altman et al. 1993). However, such rights have already been largely provided to Torres Strait Islanders under provisions of the Torres Strait Treaty.

The options for transferring full property rights in marine resources in Torres Strait to Islander interests, represented by a statutory body like the TSRA, appear limited to four broad options: assertion of sovereignty; utilisation of potentially conflicting Treaty articles as leverage; appeal for Crown compensation; and active participation. These options are briefly examined.

Assertion of sovereignty

In the late 1980s, the Torres Strait Islander leadership of the ICC, a statutory body established by the Queensland *Community Services (Torres Strait) Act 1984-86* and representing an estimated 60 per cent of the Torres Strait indigenous population, articulated a full sovereignty claim over the land, sea and air in Torres Strait. In a statement issued in 1987, the ICC made a claim that it must have the right to

raise revenue in the same manner as a State or Territory and the right to issue all fishing licences (see Scott 1990: 406); this is tantamount to full property rights in marine resources. Smyth (1993: 140) notes that there is still Islander concern, articulated at meetings convened under the auspices of the Resource Assessment Commission (RAC) Coastal Zone Inquiry, that there are insufficient financial and other rewards for Torres Strait Islanders from the commercial exploitation of the marine resources of their region.

Such a perspective is understandable and has analogies with the sovereign claims of Aboriginal interests in the Northern Territory that they should be vested with de jure property rights in minerals extracted from land held under inalienable freehold title, a view supported by the Industry Commission (1991).¹² While a radical sovereignty claim would provide a means to establish full Islander property rights in marine resources, such calls have been tempered considerably in recent years, with the Islander political leadership pursuing instead the more moderate and gradualist goal of regional self-government via the statutory TSRA option (see Sanders 1994). This more moderate option is not necessarily inconsistent with recognition of Islander property rights in marine resources.

Treaty leverage

The Torres Strait Treaty provides in-principle recognition of Islander prior interest in customary fisheries. It may be useful to note developments in New Zealand, where Maori interests have utilised leverage provided by Article 2 of the Treaty of Waitangi of 1840, that provided Crown guarantee of Maori access to resources, to negotiate for significant property rights in a growing number of commercial fisheries (Treaty of Waitangi Fisheries Commission 1994). The Torres Strait Treaty could similarly provide some leverage to facilitate negotiation between the TSRA and the Commonwealth for earmarking a proportion of Torres Strait commercial fisheries to Islanders. There is also an Islander view, presented to the RAC, that some activities of commercial prawn fishers impact adversely on customary fisheries (Smyth 1993: 140). This view is not, however, unchallenged. CSIRO research indicates that the prawning by-catch does not include the largely reef species utilised in customary fisheries. Williams (1994: 67-9) notes that there is also evidence that prawning has a detrimental affect on some species. Islanders have expressed interest in a three-mile exclusion zone around each island in Torres Strait (Smyth 1993: 64). Such a zone will mainly protect customary reef fisheries, although some Islands have significant commercial lobster resources within a three-mile exclusion zone.

While Islanders were not signatories to the Torres Strait Treaty, the Commonwealth was nevertheless charged with representing their interests as citizens. It is noteworthy, however, that the Treaty both protects customary fisheries and makes a commitment to optimally utilise commercial fisheries. The Treaty provides the TSRA with a possible avenue to negotiate with the Commonwealth, but it is likely that prior commercial interests, especially in the prawn industry, will continue to be recognised. This is partly because, as shown above, Islanders do not participate in this fishery. The established non-Islander commercial interests in the prawn fishery, the most significant sector of the Torres Strait commercial fishery generating an estimated 78 per cent of gross value of production in 1992, makes its potential transfer to Islander ownership difficult. Additionally, the commercial success of the prawn fishery in

the Protected Zone is interlinked with the eastern and, for some boats, the northern prawn fisheries: annual fluctuations in all three make a degree of interdependence desirable and probably essential.¹³ It is interesting to note that while the stated management arrangements of the TSPZJA seek to enhance Islander participation in lobster, Spanish mackerel and pearl shell fisheries, it has no such stated objective for the prawn fishery. However, up to three prawn licences with a potential maximum value of \$420,000 (\$500 per day, as discussed in footnote 10, times a maximum possible 280 days per season) are available for Islanders.¹⁴

Compensation: the buy-back option

A more likely avenue for enhanced Islander property rights in commercial fisheries might occur through a broad compensatory economic development package that involves the buy-back of licences and their transfer to Islander ownership. Such a buy-back option has probably been enhanced following the radical restructuring of the prawn fishery in recent years (Reid et al. 1993). At June 1993, only 102 vessels were licensed to fish for a total of 13,300 fishing days in the Torres Strait. This can be contrasted with the 420 vessels that were endorsed for the fishery prior to reform in 1988 (Reid et al. 1993: 31).

The existence of such a large prawning fleet in the Strait is likely to make a total buy-back proposal prohibitively expensive; the cost of a buy-back for prawn fisheries could be in the region of a minimum \$30 million for fleet and licences. The multiple endorsement of all boats operating in the Strait further complicates such a possibility as transfer of licences to trawl in the Strait to Islander interests could adversely affect prawn fisheries effort (and potential export earnings) beyond the Strait. One option here might be for a mandatory leasing requirement. A buy-back option for rock lobster licences, where there are far fewer non-indigenous operators, would be more financially manageable. It should be noted though that buy-backs occur in fisheries when there is a need to reduce effort for biological or economic reasons. Normal practice is for boats remaining in a fishery to buy others out, sometimes with financial assistance from government. Given that neither prawn or lobster have a biological or economic reason to reduce effort, it could be questioned whether government will use taxpayer dollars to reduce effort (and exports) for political imperatives.

Active participation

It could be readily argued that the most effective and strategic means to establish Islander property rights in commercial fisheries is via active participation. This is, in part, because there is a growing tendency in resource management schemes to allocate individual quota on the basis of past effort. This is already evident in the allocation of daily prawning quota at the individual vessel level. There is a current practice evident in the policies of both the TSPZJA and the Queensland Department of Primary Industries to provide de facto property rights in fisheries to Islander interests via exclusive commercial access in some fisheries. For example, expansion in all Protected Zone fisheries is effectively reserved for Islanders (TSPZJA 1994: 8-14). Similarly, permits issued under s.58 of the Queensland *Torres Strait Fisheries Act 1984* restrict fishing for trochus and bêche-de-mer in the Protected Zone to Torres Strait Islanders, although currently the bêche-de-mer industry is embryonic.¹⁵

Policy implications

The options outlined above can be broadly divided into passive and active strategies: passive strategies could see Islanders operating as rentiers realising a limited resource rental from non-Islander utilisation of regional marine resources, whereas active strategies require Islander participation as commercial fishers, but with associated commercial risk. There are, of course, social implications emanating from these two options: the former involves no necessity for employment, whereas the latter will have both pecuniary and non-pecuniary benefits.

These strategies generate a number of general policy implications. Associated with a passive strategy is the issue of the distribution of property rights. Active strategies, involving increased Islander participation in the commercial fisheries, raise the issues of strategic fisheries planning, and the monitoring of Islander fishing effort and catch and the need for further research.

Distribution of property rights

As noted above there are persuasive moral grounds for providing property rights in resources to Torres Strait Islanders.¹⁶ There are precedents for such an approach: for example, the royalty rights accruing when mining occurs on Aboriginal land. Similarly, in New Zealand, Maori property rights in commercial fisheries have been vested with the Treaty of Waitangi Fisheries Commission following the *Maori Fisheries Act 1989*; at September 1993 these property rights had been converted to assets valued at NZ\$350 million (Treaty of Waitangi Fisheries Commission 1994). However, it must be recognised that such transfer of property rights in resources invariably raises very complex policy issues about the basis to distribute such rights. In New Zealand, tensions have been very evident as the Treaty of Waitangi Fisheries Commission attempts to devise a formula to distribute tradeable fishing quota between sixty tribes. Some tribes argue that as commercial fishing quota derive from Article 2 of the Treaty of Waitangi (dealing with customary property rights) they should be distributed on the basis of traditional ownership of coastline. Other tribes argue that the quota derive from Article 3 of the Treaty, which deals with Maori citizenship entitlements, and that they should be equitably distributed in accordance with tribal populations.

A similar issue has been evident in Australia in the conflict about the division of mining royalty equivalents and agreement moneys between traditional owners of the land affected by resource development and residents of such affected areas (Altman and Smith 1994). In Torres Strait, it is similarly likely that any transfer of property rights in commercial fisheries to a body like the TSRA will raise issues associated with distributional equity, especially given spatial imbalance in physical access to species: will potential property rights in marine resources be distributed on the basis of customary or statutory sea ownership, species origin, customary utilisation of species or modern commercial fisheries effort? There are indications from elsewhere in Australia, especially in the interrelationship between miners and Aboriginal interests, that active participation with indigenous interests as major stakeholders in regional economic development provides a more effective means to both reap economic return from, and to maintain control of, renewable or non-renewable resource exploitation (Altman 1994).

Strategic fisheries planning

As the TSRA develops the Torres Strait Development Plan, it would be useful to consider strategic options for greater Islander active participation in commercial fisheries. The need for such a strategic fishery plan was recommended by Arthur (1990) in a regional economic development study undertaken for the ICC in the aftermath of the 1987 full sovereignty claim, but such a plan has not been developed in the past five years.

There are a range of issues that could be addressed in such a strategic plan, including whether enhanced Islander participation should be targeted at particular fisheries (perhaps those where Islanders have a competitive advantage rather than just a concessionary advantage); what extension services and commercial structures need to be established for individual and Island-based fisheries; and the links between government programs, especially the CDEP scheme, and the potential for increased effort in commercial fisheries. One important barrier that remains is an antipathy towards joint ventures evident, for example, in the reservation of three prawning licences for vessels wholly crewed by Torres Strait Islanders.¹⁷ Given the identified barriers, like limited expertise and the capital and infrastructure reliability outlined above, it seems that joint ventures might provide an ideal avenue in the short- to medium-term to facilitate greater Islander participation in commercial fisheries especially via active buy-in. A final strategic and tactical issue of political import is whether a TSRA representative can become a member of the intergovernmental TSPZJA.

Monitoring Islander effort and catch

A major deficiency that our research has highlighted is the absence of any data sets on the significance of Islander involvement in commercial fisheries.¹⁸ This is a problem that is increasingly being recognised by the TSPZJA, AFMA and QFMA. A major part of the problem is that effort is only monitored comprehensively in the prawn fishery and the main part of the mackerel fishery which is non-Islander. The annual reports of the TSPZJA provide data on licences issued, but do not differentiate Islander from non-Islander vessels (TSPZJA 1993: 9). Such a task is further complicated by the existence of alternative community fishing arrangements that operate without fee by registering with community councils. Islanders are not required to complete catch logbooks and most Islanders who hold licences issued by the TSPZJA do not complete logs. Data on total fisheries catch are generally collected from non-indigenous operators of freezers and carrier boats and aircraft. Problems with monitoring catch and especially effort and associated resource management issues are increasingly being recognised by both Commonwealth and Queensland fisheries authorities and there are moves to rationalise all resource management under the auspices of TSPZJA. Consideration is also being given to introducing individual licensing for all community fishing activity.

There is an urgent need for more transparent data sets on the extent of Islander involvement in commercial fisheries in terms of effort and contribution to total regional gross value of fisheries production. It is only with the availability of such data that a baseline can be established against which future fisheries effort and catch can be assessed.

In recent years there has been considerable research undertaken in Torres Strait under the auspices of the Marine Strategy for Torres Strait and Ocean 2000 Rescue (Mulrennan and Hanssen 1994; Mulrennan et al. 1993). Little of this research has focused quantitatively on the extent of indigenous participation in commercial fisheries. Other issues that require further research include market research on options for expansion of under-exploited and unexploited fisheries and ongoing research on the interrelationships, in terms of effort and available marine resources, between commercial and customary fisheries. Such research is not cheap and it already appears that the cost of fisheries management in Torres Strait takes up a high proportion of the gross value of production of the commercial fishery. The expenditure of the TSPZJA alone is currently \$3.5 million per annum. A strategic issue that the TSRA needs to address is how its particular research needs in this area can be met from existing resources.

CONCLUSION

As the TSRA moves to produce a Torres Strait Development Plan from 1995, it is imperative that longer-term research is undertaken, initially to create a quantitative baseline of indigenous involvement in commercial fisheries, and then to gauge indigenous performance and participation over time. There is evidence that opportunities exist in Torres Strait for both expansion of commercial fisheries and for greater Islander participation in both existing and potentially expanding fisheries. There is an urgent need for commercial structures to be established for Islanders to take advantage of these economic opportunities. One option is for a significant Islander buy-in into particular sectors of commercial fisheries. Such a buy-in could be financed via the TSRA Land and Natural Resources Fund, a statutory mechanism established under s.144W of the *Aboriginal and Torres Strait Islander Commission Amendment Act (No. 3) 1993*. In particular, there may be options for commercial joint ventures, possibly with ATSIC's Commercial Development Corporation, in the prawn and rock lobster fisheries that may or may not require active local participation.

Concessionary entry to commercial fisheries is available to Islanders; utilisation of such opportunities could generate increased regional income and additional employment for Islanders. In this way, the stated TSRA goals of enhanced indigenous participation in commercial fisheries and greater regional economic self-sufficiency for Torres Strait could be facilitated (TSRA 1994).

NOTES

1. Throughout this paper the terms indigenous Australians and Islanders (referring to Torres Strait Islanders) are used interchangeably. In the 1991 Census 96 per cent of the indigenous population in the TSRA area (5,614 persons) was Torres Strait Islander, with the balance being Aboriginal. Torres Strait Islanders comprised 75 per cent of the total indigenous and non-indigenous population of the TSRA area in 1991.
2. Sustainability is defined as annual production being less than, or equal, to annual recruitment.
3. In general we make the simplifying assumption that for analytical purposes commercial and customary fisheries can be separated, whereas in fact these two sectors are interdependent in terms of both equipment and effort.
4. The new Fisheries Bill 1994 is before the Queensland State Parliament. When passed it will incorporate the *Torres Strait Fisheries Act 1984*.
5. Following the declaration of an economic zone in the eastern islands of Torres Strait last year, the Committee on Fishing in the Eastern Islands of Torres Strait was established to report to the TSPZJA Ministers. The report is not yet available; however the report acknowledges Torres Strait Islander concerns about current consultation processes and recommends some structural reform (correspondence from Angela Winston-Gregson, Office of Indigenous Affairs, Department of Prime Minister and Cabinet, 17 October 1994).
6. A community licence is available to traditional inhabitants of Torres Strait operating vessels under 6 metres.
7. The customary sector was valued at \$1.6 million in 1990 (Arthur 1990: 31, 131) and there are presently no estimates of the value of the recreational sector. For further discussion of the size of the customary sector see Dews et al. (1993) and Johannes and MacFarlane (1991).
8. The bêche-de-mer industry had not been flourishing in the 1980s (Arthur 1990: 119). However there has been a resurgence in demand during the period 1992-94 (Noel Taylor-Moore, Queensland Department of Primary Industries, pers. comm.). Bêche-de-mer catch records are not maintained.
9. Indigenous people sometimes work as labourers on some of the Strait's six pearl farms. The total employment in the industry in 1986 was 100 people (Williams 1994: 75-6).
10. Calculated as 13,300 days shared among a current (1994) 94 licence holders at \$500 per day (Geoff Williams, pers. comm.). While licence holders and fisheries authorities currently estimate the value of licences at \$1,000 per day there is no record of sale at this price.
11. Richard Davis, an ANU-based doctoral student who resided on Saibai in 1993, has reported that some commercial fishing did take place from Saibai, a northern island, in that year. This reflects the dynamism in commercial fishing effort within the region over time.
12. A version of this sovereignty claim has recently resurfaced in policy debate about Australia's three-mine uranium policy: the Director of the Northern Land Council has articulated a view that if traditional owners of the Jabiluka prospect wish mining to proceed this should occur irrespective of Commonwealth Government policy.
13. Torres Strait endorsements are interlinked with east coast prawn endorsements (100 per cent) and northern prawn endorsements (31 per cent).
14. This estimate is a hypothetical maximum assuming maximum prawning effort. It is therefore higher than the average figure for non-indigenous fishers noted above.
15. The TAC for trochus is 150 tonnes for the Strait, while the bêche-de-mer TAC is a State-wide 500 tonnes.
16. There is also scope for native title to be claimed over marine resources under the *Native Title Act 1993* or at common law. The existence of such rights would need to be determined in a court judgment. However, it is likely that any surviving rights would be rights of use only, and not exclusive property rights to customary and commercial fisheries.

17. Fisheries authorities are concerned that it will be difficult to distinguish between a genuine joint venture and outsiders exploiting this option to gain entry to Torres Strait prawn fishery. There are potential monitoring and enforcement issues to be resolved here that should not be underestimated.
18. Data are available on catch and effort by Islanders in the Protected Zone, though the data only refer to the Outer Islands. However this scientific research does not clearly differentiate commercial from customary fisheries and is primarily focused on the sustainability of marine species in the Protected Zone.

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