

## Tuna-Led Sustainable Development in the Pacific

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# TUNA-LED SUSTAINABLE DEVELOPMENT IN THE PACIFIC

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**Abstract**

The paper reviews the importance of tuna fisheries in the western and central Pacific Island Countries (PICs) and examines whether current and proposed economically focussed institutional mechanisms, that underpin tuna management, are sufficient to promote appropriate and long term tuna-led development. Substantial potential gains are shown to exist from co-operation in terms of tuna management, but it seems highly unlikely such benefits will be realised in the short or medium term despite the formation in 2004 of the Western and Central Pacific Fisheries Commission. Even if gains from co-operation were to be realised, without substantial improvements in the institutional quality and capacity of many PICs the tuna fisheries might still fail to sustain the region's long-term development. The study's implications are that the twin development priorities in the region should be support for social infrastructure, especially capacity building to increase the effectiveness of the public sector, and the promotion of co-operative approaches to ensure the sustainability and profitable use of the region's shared fishery resources.

**Key words:** sustainable development, Pacific Island Countries (PICs), tuna, resource rents, governance

## 1. Introduction

The development challenges facing the countries of the southern central and western Pacific Ocean (collectively Melanesia, Polynesia and Micronesia – or Pacific Island Countries) are daunting despite substantial in flows of development assistance.<sup>1</sup> Commonly recognised problems include high rates of unemployment and underemployment, low levels of economic growth and, in some countries, social unrest and political instability (World Bank 2000a; Asian Development Bank 2004). In the forefront of the development agenda of many PICs is how to utilise the region's natural resources (fisheries, forests, tourist potential) to promote social and economic goals in a manner that is sustainable.

In this paper, we focus on the western and central Pacific region's highly prized fish stocks found in the exclusive economic zones (EEZs) of PICs, and in the high seas in between. Specifically, we evaluate some of the economic institutions of current tuna management practices to show how tuna resources might be used to improve development outcomes. In section two, we briefly sketch the importance of the tuna fisheries and the extent to which PICs have been successful in pursuing tuna led development. Section three highlights the major challenges to co-operatively managing the tuna resources to maximise the benefits to the island states. In particular, we examine whether the recent *Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean* (hereafter the 'Tuna Convention') can deliver the potential benefits of co-operation. In section four we examine other constraints, and in particular the quality and capacity of public institutions, that prevent PICs from making

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<sup>1</sup> Not including aid from France to New Caledonia and French Polynesia, total development assistance is a little less than \$100 per capita, although some countries receive substantially more than this amount.

the best use of the resource rents from their tuna fisheries. We conclude by proposing two approaches that PICs, with assistance from donor countries, may wish to consider to sustain the region's development.

## **2. Tuna-led Development in Pacific Island Countries**

Income levels in the Pacific region are low by world standards, although there is substantial variability among countries. Table one indicates that only one country, Palau, has an upper middle level of income, and all others fall in the lower half of the world's countries in terms of their Human Development Ranking (HDI)<sup>2</sup>. Some countries have also experienced negative economic growth in the recent past, and many PICs have the challenge of ensuring rising living standards in the face of rapid increases in population.

Although the 14 independent countries and the 8 dependent territories that constitute the region have very small populations (only Papua New Guinea has a population greater than one million) their exclusive economic zones (EEZs) extend 200 nautical miles from land and represent a huge area of the Pacific Ocean (see Figure 1). Not surprisingly, marine resources are critically important to the well being of some PICs, especially those with a large EEZ, a small population and a tiny land mass. In the case of the Federated States of Micronesia, Tuvalu and Kiribati, the value of fish caught in their EEZs exceeds their gross national income while in the Marshall Islands, Samoa and Solomon Islands it almost half of their national income. PICs, however, receive only a tiny fraction of the benefits from the fisheries found in their territories because about 90% of the fish caught in their EEZs is

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<sup>2</sup> HDI is an index of life expectancy at birth, educational achievement (adult literacy and combined gross primary, secondary and tertiary enrolment) and real per capita GDP.

harvested by Distant Water Fishing Nations (DWFNs), and these nations only pay approximately 3-4% of the landed value in access fees (Petersen 2005).

The failure to fully realise the potential benefits from their fishery resources is of major concern for PICs. Many thought that conferring of EEZs under the third United Nations Convention on the Law of the Sea (UNCLOS)<sup>3</sup> would provide an economic ‘bonanza’. It was hoped that fisheries would address two major challenges: one, reduce the risks of overexploitation of a common-pool resource and two, provide the PICs with a reliable source of income with which to finance economic development (Chand et al. 2003).

Whatever EEZs may have delivered to PICs, they have coincided with a substantial increase in fishing effort and harvests. For instance, Figure 2 shows that the total harvest of tuna has more than doubled since the 1980s, and the region now supplies about 40% of the world’s global catch of tuna. The latest data suggests that catches of some tuna in the region may have peaked, such as yellowfin tuna, and that some stocks, such as bigeye tuna, may even be overexploited (Langley et al. 2005). Another worrying trend has been a 70% decline in the catch per unit of effort of yellow-fin tuna in the western Pacific over the past 50 years, although the significance of this trend in terms of what it implies about declines in tuna populations is disputed (Hampton et al. 2005; Myers and Worm, 2005).

Most tuna in the region are caught by large purse seiner vessels worth up to several million dollars, and are almost exclusively owned and operated by DWFNs. Of the total landed value of fish in the Western and Central Pacific, worth some US\$ 2 billion, only about US\$60 million is paid in access fees to PICs (Gillett et al. 2001). These access fees are low

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<sup>3</sup> The United Nations Law of the Sea Convention is a universal legal framework designed to manage and conserve marine resources at the international level. It incorporates many different areas of marine and ocean governance of which the granting of exclusive economic zones to coastal states and the management of fisheries is just one part. It was finalised in 1982 and came into force in 1994.

by comparison to those paid in other parts of the world (Chand et al. 2003; Inhedru 1995). This, in part, is explained by the lack of bargaining power of PICs relative to DWFNs, provisions imposed on DWFNS, such as transshipment of fish (Duncan and Temu 1997) that reduce returns to fishing, the linking of development aid and assistance with access fees, and because it appears that fishing effort is at a level that exceeds that which would maximise the economic surplus (Bertignac et al. 2000).

### *2.1 Bargaining Power*

Initial attempts by the PICs to obtain reasonable access to resource rents accruing from their fisheries were hampered by their negotiation experiences with the Japanese, who in the early 1980s harvested about three-quarters of the tuna stocks. Moreover, early experiences of multilateralism in the 1970s in other areas, such as air transportation, which have been less than successful (Fry 2005) have made some PICs reluctant to collaborate and bargain as a group. This made it easier for the Japanese to manipulate negotiations through a ‘divide and conquer’ strategy — by refusing to negotiate with PICs collectively that wished to do so, and ensuring that at least one access arrangement to a EEZ was always in operation, they were able to keep PICs in competitive positions with respect to each other (Schurman 1998). This strategy was enhanced by the fact that the benefits and costs of implementing collective bargaining by PICs are likely to be unevenly distributed, thus lowering the incentive to form co-operative arrangements.

It appears that PICs have become more adept in bargaining with DWFNs over time and co-operation in discussions of access. For example, the formation of the Nauru, Palau and FSM Agreements represent successful efforts at coordinating behaviour, although these

agreements only explicitly cover licensing conditions. In addition, there is evidence that the Nauru Group that consists of seven PICs that have the most to gain from a better bargaining with DWFNs have improved access agreements and payoffs to Pacific states (Munro et al. 2004). Over time the relative importance of the Japanese has also diminished, (see Table 2) and increased access and competition by the Taiwanese, Korean, Chinese and US fleets has also forced the Japanese to concede to more reasonable access fees (Schurman 1998, Petersen 2005). Unfortunately, increased harvests from the new entrants appear to also have reduced overall returns and the ability of DWFNs to pay increased access fees.

## *2.2. Bundling of Aid and Fisheries Access*

It is common practice in the Pacific for donors to bundle in-kind or financial development assistance in the expectation that they will be favourably considered in negotiations over access to resources and fees. Schurman (1998) cites the example of the National Fisheries Corporation of the Federated States of Micronesia (FSM) receiving ‘gifts’ of training boats, while the Asian Development Bank (ADB) observes that almost half of the ‘access fees’ paid by US boats actually takes the form of development aid (ADB 1998). Given the secretive nature of the bilateral access arrangements it is difficult to determine the extent of this practice, but it does appear to have reduced the access fees paid to PICs.

## *2.3 Fostering a Domestic and Commercially Competitive Fishing Industry*

A major strategy pursued by PICs to achieve the desired economic benefits from their tuna fisheries has been ‘domestication’, or the process of developing and/or then

integrating domestically located harvesting and processing sectors to serve export markets. PICs have encouraged domestication through a two-pronged strategy of direct public finance of national industrial enterprises, designed to grow a domestic tuna industry, and by attaching industry development conditions on the licensing arrangements for DWFNs. Typically, this second approach has seen PICs requiring foreign vessels to utilise domestic infrastructure and/or nationals to crew boats, as well as maintaining and completing compliance procedures such as those set out in the FSM Agreement.<sup>4</sup> Unfortunately, these strategies have largely failed to bear fruit (Petersen 2002, 2005; Schurman 1998; Chand et al.; van Santen and Muller 2000; ADB 1998), but some benefits have been generated through direct and indirect employment in the tuna industry and also foreign currency earnings (Barclay and Yoshikazu 2000; Gillett et al. 2001).

In general, PICs have chosen to focus on the harvesting sector in terms of their public sector investment. Unfortunately, the harvesting of tuna generates highly variable revenues, requires large upfront sunk costs and substantial technical requirements. The high investment costs and the fickle nature of fishing has meant that mistakes have been made that are financially burdensome for some PICs (ADB 1998).<sup>5</sup> The lack of appropriate technical skills domestically has also meant that PICs have often had to rely on foreign investment partners to implement projects, or enter into partnerships with foreign firms — reducing the potential financial gains from projects. Van Santen and Muller (2000) summarise some of the investments made by three PICs (Federated States of Micronesia, Fiji and Marshall Islands) in tuna harvesting totalling over US\$70 million

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<sup>4</sup> One compliance mechanism is the requirement to participate in a vessel monitoring system (VMS) run by the Forum Fisheries Agency. The VMS allows FFA members to track the location, speed and direction of licensed boats operating in the EEZs of member countries (van Santen and Muller 2000).

<sup>5</sup> The Asian Development Bank cites the following reasons why port development has not been a successful strategy: fleet operators prefer to service vessels in the same ports where they service fish, the later usually lying outside the WCPO Region, volatile access policies by PIC Governments,

— a sum in excess of the region's annual access fees. In general, these investments have been made by the public sector and many have failed to yield a positive financial return (Petersen 2005).

Equally as important is whether PICs could receive a greater amount from access fees alone than a mix of access fees and an export-orientated domestic industry, assuming the investment by PICs generates a positive rate of return. The answer depends on the relative cost efficiency of DWFNs (Munro 1979). If DWFNs have lower harvesting costs, as seems likely given their ability to profitably harvest tuna resources and pay access fees, the potential economic surplus is *greater* than if PICs were to do the harvesting. This possibility is illustrated in Figure 3 where PICs are shown to receive an even greater return from only a 50% share of the resource rent at the economic optimum rate of exploitation undertaken by DWFNs than simply harvesting tuna themselves at their own economic optimum level of harvesting.

Another consideration for PICs, in terms of the domestication of their fishing industry, is the very substantial cost associated with fisheries management. In a number of countries outside of the region the costs of fisheries management exceed the potential benefits from the fisheries (Schrank et al. 2003). This suggests that a 'go-it-alone' strategy in terms of harvesting and managing tuna may be a costly exercise for PICs that may generate few, if any, net benefits. The question for advocates of 'domestication' is, therefore, what should be the nature of the partnerships between PICs and DWFNs that will maximise the payoffs to the Pacific states.

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variable and seasonal nature of resource making use of single ports impractical, poor port and other services and concerns about law and order in some ports (ADB 1998).

### **3. Institutional Innovation in the Western and Central Pacific Tuna Convention**

Although some cooperation between PICs has been successful, it may be possible that PICs could improve potential payoffs through further co-operation, particularly on economic issues. These potential benefits follow on from the problems identified above: one, better bargaining power in terms of access fees with DWFNs from the current mean level of about 40% of the total rent,<sup>6</sup> two, increased resource rent and greater population resilience from moving to lower rates of exploitation that could more than double the resource rent from the fisheries (Bertignac et al. 2000), three, higher returns from harvesting older age classes of fish and mitigating the ‘race to fish’ and, four, reduced management costs and increased monitoring from better co-ordination of enforcement and surveillance activities. Although potentially all countries, PICs and DWFNs, could be made better off with co-operation that reduces current harvesting and directs it to older age classes to raise the overall resource rent, obtaining such an agreement would require that every country be at least as well off with co-operation. Moreover, there would be significant transitional losses in moving to a lower harvest, but high fish stock environment, and these costs would be unevenly distributed among DWFNS and PICs. Thus to achieve an agreement some form of ‘side-payments’ in terms of harvest rights or monetary compensation would probably be required from the winners to the losers as well incentives for all countries to comply with a co-operative agreement. It would also require barriers to entry for new participants or countries that might also wish to benefit from increased returns from co-operation.

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<sup>6</sup> A ‘back of the envelope’ calculation of the proportion of the resource rent accruing to PICs is to take the estimated total access fees paid of around US\$60 million in 1999 (Gillett et al. 2001) and divide by the estimated resource rent in 1996 of some US\$160 million (Bertignac et al. 2000). Given the high

Chand et al. (2003) propose a possible way to achieve a co-operative agreement by the creation of a commission, composed of both PICs and DWFNs, that would allocate harvesting rights as a percentage of a total allowable catch denominated by species and area based on EEZs and historical fishing patterns. These harvesting rights would be transferable and divisible between vessels flagged by the countries that are signatories to the agreement. Other countries could enter the agreement, but would be required to buy or lease harvesting rights to legally catch tuna in the region. Population assessments and monitoring and enforcement would be paid for out of rentals based on the allocated rights, and because of economies of size and scope, could significantly reduce overall management costs. To give greater transparency as to the size of the resource rents in the fisheries, Chand et al. (2003) recommend that a small percentage of the total rights held by all countries would have to be tendered for sale every year and the prices for the rights made available to all parties.

The objective of the recently ratified *Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean* (hereafter the ‘Tuna Convention’) is to ensure, through management, the long term conservation and sustainable use of highly migratory tuna stocks (WCPF Convention 2004). While primarily a *conservation* oriented agreement, the opportunity to use the Convention as a forum for economic cooperation could assist the PICs in addressing the tuna development problems outlined in section two of this paper and also provide a critical incentive mechanism to ensure that PICs (and DWFNs) continue to participate, and enforce, the conservation aspects of this cooperative agreement.

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risks associated with tuna harvesting it would be surprising if PICs were able to obtain, on a long-term basis, more than half the available resource rent in the form of access fees.

With the important exception of catch limits and allocation, analysis of the text of the Convention suggests that the drafters have chosen not to pursue economic objectives. Rather it appears that the PICs view the Convention as a measure to ensure management compatibility between high seas and the management regimes already existing within their EEZs (Ram-Bidesi and Tsamenyi 2004).

The Tuna Convention's in-principle agreement to establish total allowable catches for tuna at the regional level is a significant break from previous practices of controlling catches through controlling fishing effort. Selection of an appropriate TAC could provide a powerful mechanism to help guard against economic and ecological overfishing and provide an institutional mechanism over which to focus regional cooperation and dialogue. However, the effectiveness of this component may be undermined by the process adopted for its implementation. Rather than establishing a process similar to the one outlined in Chand et al (2003) for determining TAC, the Convention has charged the secretariat body to the Convention (the Western and Central Pacific Fisheries Commission) with responsibility to coordinate a mechanism whereby TACs are set by consensus amongst signatories. In the list of factors the Tuna Convention has specified must be 'taken into account', the setting of TACs to maximise the economic yield or surplus from fishing is conspicuously absent. Predictably, this has already created fierce debate of competing models of fisheries allocation (Ram-Bidesi and Tsamenyi 2004) and any benefits from the Tuna Convention as a whole is limited until these debates are resolved. Aside from the TAC issue, an analysis of the Tuna Convention's text demonstrates that it is poorly equipped to deal with any other economic issues and there are significant institutional 'gaps' in the management framework proposed by the Tuna Convention.

Table 3 summarises key results of the Tuna Convention. A major deficiency is that it does little to help PICs work co-operatively to maximise resource rents at a sustainable level. Moreover, the Tuna Convention does not prevent the PICs from attaching conditions to access and licensing arrangements similar to those set out in the Nauru, Palau and FSM arrangements. Thus the Tuna Convention is a treaty about the *amount* of fish to be caught — rather than about helping PICs overcome their development issues through better use of their tuna resources.

Nevertheless, the Tuna Convention's entry into force as a body of international law represents an impressive development: it is a genuine multilateral regime that includes all PICs and allows for, and encourages, the membership by DWFNs.<sup>7</sup> It also explicitly recognises the importance of sustainability, ecosystem management and interdependencies of tuna management, something which was envisaged, but until now an unimplemented, component of the UN Fish Stocks Agreement.<sup>8</sup>

As with any international treaty, the effectiveness of the Tuna Convention and its supporting secretariat, the Fisheries Commission, is limited by the political will of the member countries and the economic resources that they make available to undertake its mandate. The Fisheries Commission will be another organisation, along with the

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<sup>7</sup> As of March 2005, the republic of Korea and Chinese Taipei are the only members that are distant water fishing nations.

<sup>8</sup> The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the "UN Fish Stocks Agreement") sets out principles for the conservation and management of highly migratory and straddling fish stocks existing in both international waters and EEZs. Key principles in this agreement include: a precautionary approach, cooperation amongst stakeholders and consistency in management across national/international boundaries. The Treaty envisaged that regional agreements would be established to act as the regional operational framework. The Western and Central Pacific Ocean Convention is the regional agreement corresponding to the UN Fish Stocks Agreement. (United Nations 2004).

Secretariat of the South Pacific Community (SPC) located in New Caledonia and the Forum Fisheries Agency (FFA) based in the Solomon Islands that will provide support for fisheries management. It is not clear to what responsibilities will be divided among the organisations, the level of co-ordination between the three organisations, and to what extent, if any, resources will be shared in terms of fisheries management. Thus although the FFA was recently awarded US\$ 11 million over five years from the Global Environment Facility to support fisheries management in the Pacific (Forum Fisheries Agency 2005), the allocated budget of less than US\$ 1 million for the 2005 operations of the Fisheries Commission is a matter of concern (Fisheries Commission 2004).

#### **4. Tuna and governance in Pacific Island Countries: the potential for a resource curse?**

The ADB identifies four key principles to good governance: accountability, participation, predictability and transparency (ADB 2004). The inability of PICs to promote and implement these principles is generally recognised as one of the key factors underscoring poor socio-economic performance across the Pacific (ADB 2004). Indeed, some observers argue that poor governance and poor institutional quality is the major barrier to the future development prospects for PICs.<sup>9</sup>

Root causes of poor governance lie in a complex mixture of socio-cultural and historical factors. In part, these arise from the interplay between western and traditional Pacific cultures and the colonial history of much of the region (Salandha 2002). Poor institutional performance is also linked to lack of suitably qualified people able — and

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<sup>9</sup> AusAid Country Programmes: Pacific <http://www.ausaid.gov.au/country/southpacific.cfm>.

willing — to address governance issues (ADB 2004). It is most strongly expressed in the poor quality of the national based public institutions — political instability, weak parliamentary systems, corruption, a politicised public service, and a failure to establish strong institutions of governance (such as auditors or ombudsman).

Figures 3 and 4 provide estimates of the ability of PICs to control corruption and a measure of government effectiveness in 2004. For comparison purposes, the estimated levels for Australia and New Zealand are also illustrated. Both figures place most PICs in the lower half of world rankings with some countries, such as the Solomon Islands and Papua New Guinea, listed in the lowest decile of countries.

While poor quality institutions and governance structures are critical factors in explaining the historically poor economic performance of tuna fisheries (Chand et al. 2003; Petersen 2002; Petersen 2005; ADB 1998; Schurman 1998; Hinds 2003), it is difficult to pinpoint any direct causal relationship, other than one of influence. Poor institutions and governance practices are pervasive rather than being specific to tuna management itself, and thus poor management in the fisheries is a symptom rather than a driver of poor economic performance. Moreover, the evidence relating to poor governance *as it directly affects tuna management* tends to be anecdotal — although it is possible to make some general observations.

First, the historical approach of setting access conditions and fees is both non-transparent and non-participatory. A secret agreement between national governments makes it extremely difficult for analysts, or the Pacific communities themselves, to identify whether these common-pool tuna resources are being used in the most efficient manner.

This is reinforced by the (explicit or implicit) bundling of donor assistance with access — although the provision of aid is of benefit to the PIC in question, it is impossible to determine whether the combination of fees and aid represents the *best* economic outcome that could be derived from scarce tuna resources (Petersen 2005). This tendency towards ‘bundling’ is reinforced by the traditional and governance cultures pervasive in the Pacific: the traditional familial links between politicians and their communities and the expectations that these connections deliver financial benefits.

Petersen (2002) also highlights the importance of governance in stimulating private sector participation in the tuna fisheries. Here again, poor governance and inappropriate economic policy settings appear to have failed to stimulate extensive private sector participation in the fisheries. Evidence of this is anecdotal for specific tuna fisheries across the region because the failure to develop a viable private sector is a general, rather than a tuna specific, issue. For example, Gillett et al. (2001) discuss the Papua New Guinea National Fisheries Authority, which, it is claimed, has insufficient internal and external controls applied, obscure licensing processes which are subject to manipulation, poor record keeping, mismanagement of trust accounts, and extensive use of influence rather than merit to determine management decisions.

#### *4.1 Potential for a resource Curse*

Over the longer term, even with the successful implementation of the Tuna Convention, tuna-led development represents more governance challenges to the PICs. If Pacific Island states are able to increase their access fees this has the potential, in the absence of strong institutions, to generate a ‘resource curse’ (Auty 2001; Sachs and Warner 2000) for

some countries. PICs require capital to promote their economic development, but in the absence of good governance these funds could contribute to political, economic and social problems — difficulties that have arisen elsewhere with resource rich developing countries.

The potential for a ‘resource curse’ phenomenon to become established due to a resource boom is real: both PNG and Nauru have experienced the resource boom-bust cycle to various degrees. However, until recently, the potential for a resource curse phenomenon from fisheries in the Pacific region, and its potential consequences, has been largely ignored.

Resource booms may have both positive and negative consequences on the socio-economic milieu of resource rich countries. The processes by which resource rents ultimately lead to negative consequences are often referred to as ‘transmission’ mechanisms, and usually include phenomena such as declines in the non-resource export sector, crowding out effects, poor decision making at the government level, and a decline in the quality of institutions. Unfortunately, it is possible to discern many of the typical ‘transmittal’ dynamics in existence in the Pacific. For example, corruption is key in spreading the impacts of the resource curse, and is also an unfortunate feature of some public institutions in the region.

Table 4 provides a comparison of institutional quality and the potential risk factors for PICs to develop a ‘resource curse’. The data set out in columns A and B provide some information about how each PIC government has formal structures in guarding against poor governance — namely accountability mechanisms and independence of the

judiciary. Column C shows another important mechanism of promoting good governance — whether communities are active in monitoring government performance in service delivery. Column D tracks whether PIC governments have put into place ‘anti-corruption’ strategies and column E records whether conflict, often seen as a long-term consequence of poor governance, has actually occurred in the PIC. Overall, columns A – E record information on the general health of governance in the PICs.

Columns F – I in Table 4 records the extent to which the fish caught in the EEZs of PICs might affect overall economic performance. Given the previous performance of government led investments, it is reasonable to argue that the greater the size of the government sector in the economy and the less diverse is the economy, the more vulnerable it is to a resource curse, *in the absence of good institutional quality*. As shown in column G, the size of the fisheries resource within the EEZs of some Pacific states is very large indeed. For example, in the case of Kiribati and Tuvalu the value of fish caught exceeds the countries’ GDP. The potential for the resource curse may be further reinforced, the greater the relative amount of aid that is received from DWFNs seeking licence arrangements with a PIC, as presented in column H. The final column, gross fishing revenues in a PIC’s EEZ, provides an indication of the absolute size of fishery resources. Although there is substantial variability among countries, Table 4 indicates a very real potential of a resource curse.

#### *4.2 Avoiding the Curse*

The overall indications are that PICs are at real risk of misusing both existing and future returns that they may accrue from their fisheries resources. This suggests that a major

development focus should be to improve the quality of institutions and governance in the western and central Pacific. In other words, simply ensuring sustainable and economically profitable tuna fisheries is unlikely to be sufficient to bring about sustained development.

A successful example of managing fisheries and their revenues is provided by the Falkland Islands Government (FIG) which suggests that very large fisheries revenues, if used wisely, can provide substantial social and economic benefits (Thomas 2002). For instance, the FIG has been able to extract substantial access fees while also ensuring the monitoring, data collection, surveys and analysis of catch and abundance data to sustainably manage the resources (Falkland Islands Government 2005).

In addition to supporting capacity and institutional development, PICs and donors could develop 'trust funds' which would be managed separately from other government revenues. The money in the trust funds would be independently managed and audited and any expenditure from the fund, beyond a pre-determined level, would be prohibited without an act of parliament or legislation. It would also be possible to specify the sort of expenditures (such as physical infrastructure) that would be permitted from the fund. Trust funds cannot substitute for good quality institutions, but can provide greater transparency in terms of both fishing revenues and expenditures. A trust fund could also provide a sustainable revenue stream for both present and future generations. The successful use of a trust fund by Kiribati for its phosphate royalties, which has generated returns long after mining ceased (Petersen 2005), suggests that similar funds should be seriously considered by PICs in terms of fishery access fees.

## **5. Conclusions**

The countries and the territories of the western and central Pacific face formidable challenges to promote their development. Their shared fisheries resources, and in particular tuna, provide the possibility for ‘tuna-led’ economic development for some states. The ability for the fishery resources to assist Pacific Island countries is, however, constrained by economic overfishing, the inability to deter new entrants and fishing effort, and failed strategies to develop a profitable domestic, but export-orientated, industry. The countries of the region also face problems with corruption and government effectiveness that pose real risks that fishing revenues will not generate a sustainable flow of income to sustain the region’s long-term development.

To address these problems, both Pacific Island countries and donor nations should consider a twin strategy to maximise the development potential of the region’s fishery resources. First, given the potential for co-operation to make every stake holder better off, including distant water fishing nations, greater efforts should be directed at devising and supporting multinational institutions that reduce harvests, increase the transparency of access fee arrangements, and allow for transferability of harvesting rights across countries and vessels. Second, to ensure the most effective use of funds generated from fishing resources, greater attention should be given to increasing capacity in the public sector, improving government effectiveness. This could include, but should not be limited to, developing innovative ways to reduce corruption and the possible misuse of public revenues by the creation of trust funds for fishing access fees. Both strategies, if successful, offer the real possibility to promote tuna-led sustainable development in the Pacific.

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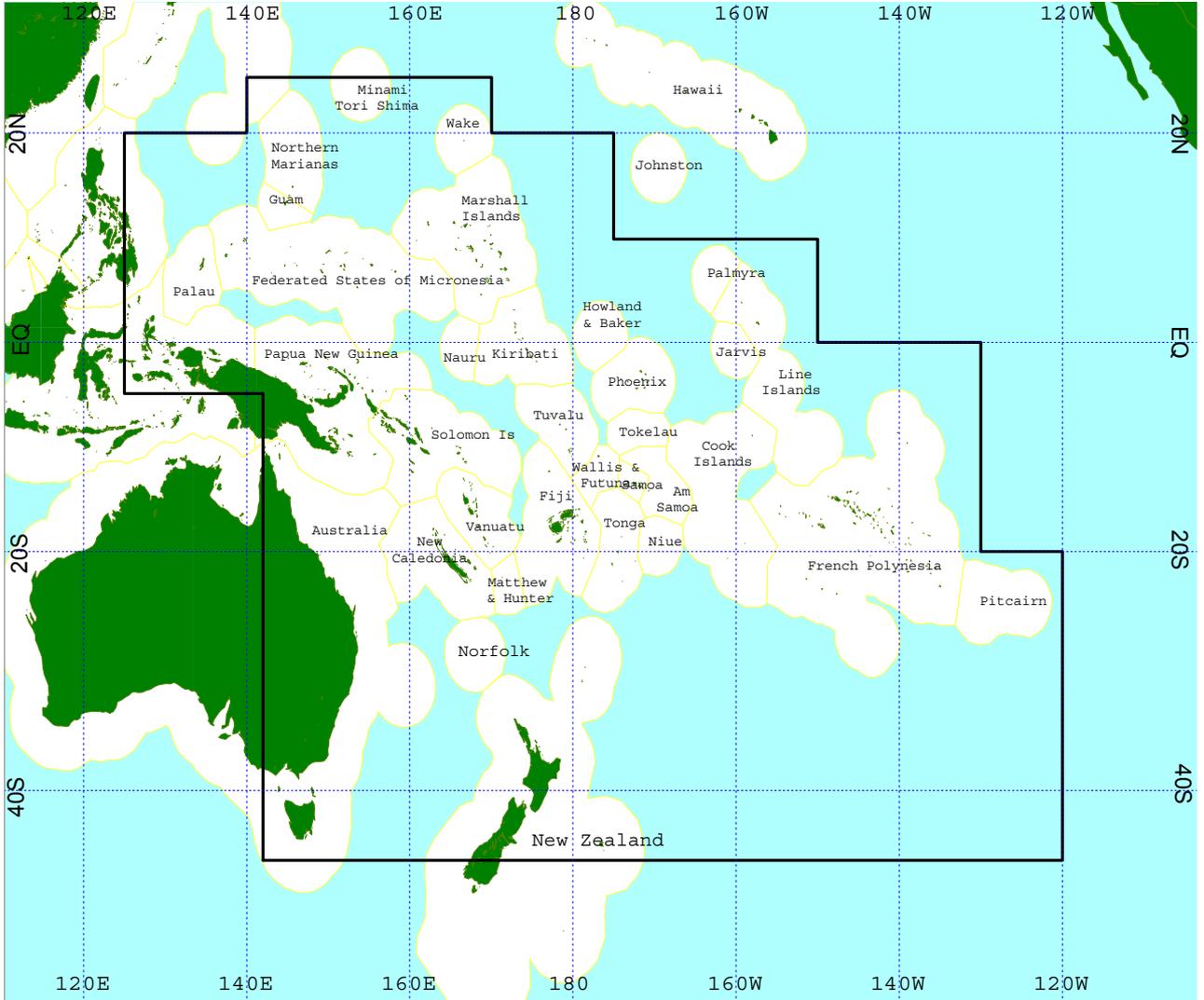
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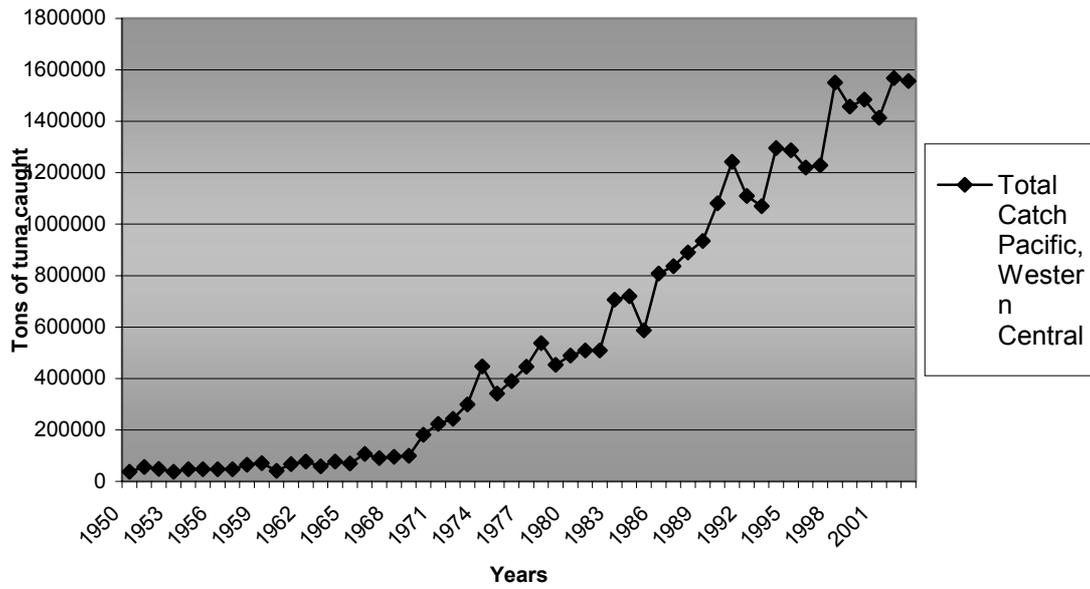
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**Figure One: Map of Western and Central Pacific Region**

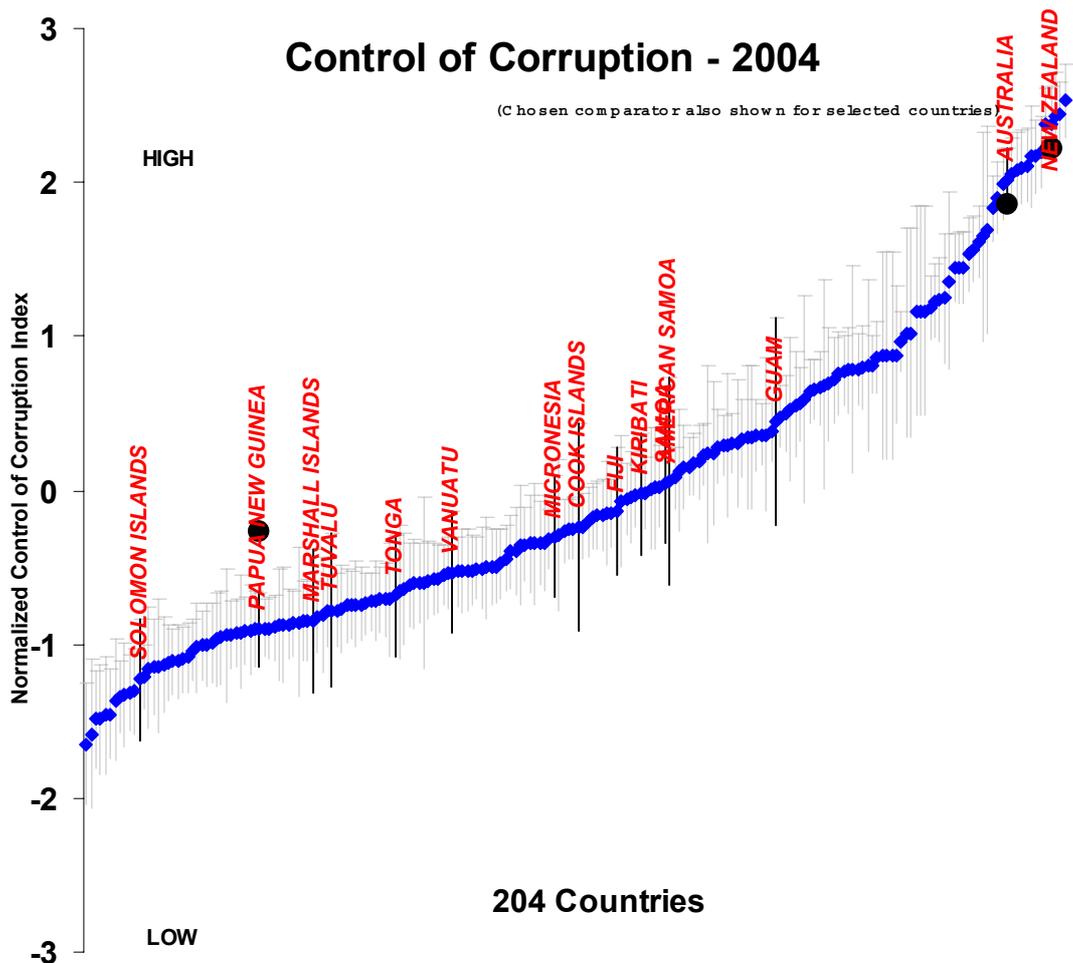
**Source:** Secretariat of the Pacific Community.



**Figure Two: The volume of tuna resources harvested in the Western and Central Pacific 1950-2003**

Source: FAO (2005).

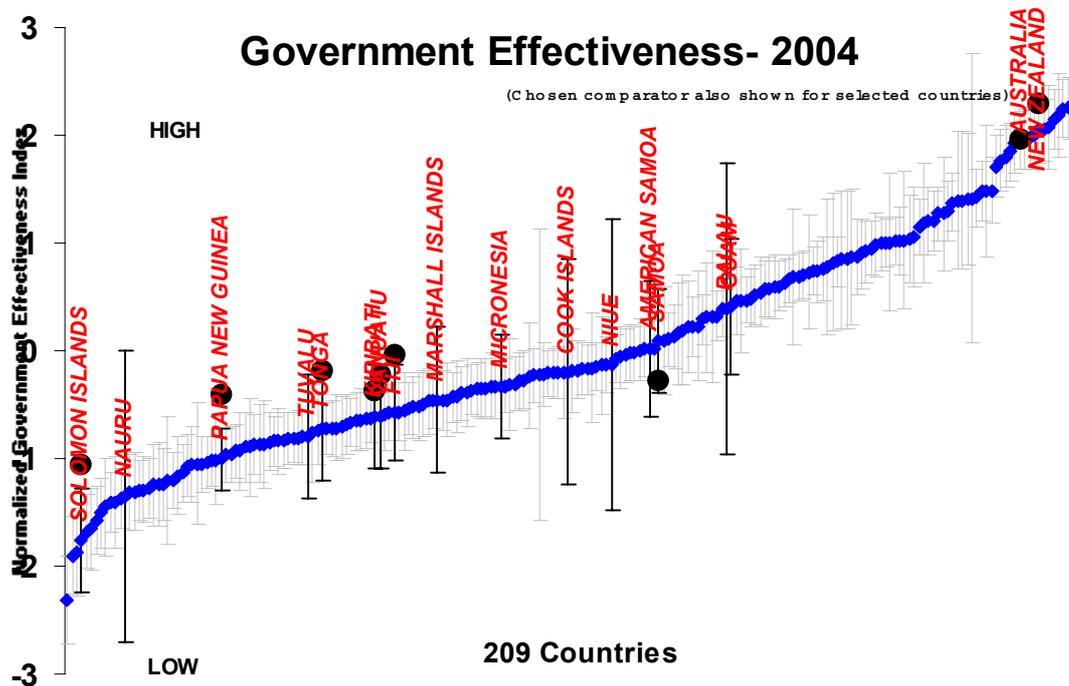




**Key:** Control of corruption measures perceptions of corruption in terms of using public power for private gain. Chosen comparator is the year 2000. All scores are normalised to be between -3 and 3.0 where a higher score indicates greater control of corruption. Confidence intervals are denoted by the upper and lower bars for each country.

**Figure 4: Measure of the Control of Corruption for Selected Pacific Island Countries.**

**Source:** Kaufmann et al. (2005) and authors' calculations.



**Key:** Government effectiveness combines measures of quality of public service, provision, quality of bureaucracy, competence and independence of the civil service and credibility of the government’s commitment to policies. Confidence intervals are denoted by the upper and lower bars for each country.

**Figure 5: Measure of Government Effectiveness for Selected Pacific Island Countries**

**Source:** Kaufmann et al. (2005) and authors’ calculations.

**Table One: Development and Fishery Statistics of Selected Pacific Island Countries**

Country	Population (2001 in thousands)	Annual Population Growth (1990-98)	GNI Per capita (US\$ 2001)	Mean Gross Fisheries Revenues 1993-98 as % GNI 2001	Adult Literacy	Life Expectancy at birth	Global HDI Rank
FSM	120	2.1	2,150	215%	71.3	65.7	120
Fiji	824	0.9	2,130	0%	92.9	66.6	101
Kiribati	93	2.1	830	503%	92.2	61.6	129
Marshall Islands	53	3.6	2,190	85%	74.4	65	121
Palau	20	2.4	6,730	5%	91.4	69	46
Tonga	101	0.3	1,530	0%	99.0	68	107
Samoa	171	1.2	1,520	6%	95.7	66.6	117
Solomon Islands	432	3.3	580	87%	30.3	64.7	147
Vanuatu	203	2.7	1,050	0%	33.5	65.8	140

Notes: 1. FSM = Federate States of Micronesia. 2. GNI = Gross National Income

**Source:** World Bank (2000a), World Bank (2003), Petersen (2005) and authors' calculations.

**Table 2: Average Annual Tuna Catches in the Western and Central Pacific Region for Selected Countries**

Country	Estimated Catch (average 2000-2003)
Japan	225,567
Taiwan	282,458
Korea	190,761
USA	97,422
Solomon Islands	19,063
Vanuatu	9,593
Papua New Guinea	112,098
Federated States of Micronesia	22,747
Australia	1,892
<b>Total</b>	<b>961,599</b>

**Source:** FAO (2005) and authors' calculations.

**Table 3 Selected Features of the Western and Central Pacific Ocean Tuna Convention with Comments**

<b>Desirable Features of a Convention</b>	<b>Features of the WCPO Tuna Convention</b>
Well defined property rights and system of and agreeing to and distributing 'entitlements' over common-pool resources	Rights exist at national level, but are not well defined at the fisher level.
Direct link between resource ownership/control and economic return	No
Clear mechanisms for dispute resolution between Convention members and between members and non-members/other convention areas.	No — some procedures are set out covering potential disputes with non-parties to the Convention, but these are weak and rely on diplomatic pressure.
Mechanisms to prevent further entry into the fisheries	No
Mechanisms to prevent economic overfishing	Not a management objective or criteria for setting TACs.
Mechanisms to address social and environmental externalities	In theory, yes, as environmental and social externalities form part of the list of issues 'taken into account' in managing and conserving fish stocks. However, exact mechanisms to account for these issues are not defined.
Clear decision making procedures established. Decision making processes are transparent and open to scrutiny by third parties	Yes — decisions made in the first place by consensus. If not achieved, then decisions made by voting. Voting parties divided into two 'chambers' – those who are members of the FFA and those who are not. Article 21 allows for participation of third parties where appropriate, as a mechanism to promote transparency.
Mechanisms to ensure compliance with Convention goals and targets	Enforcement of provisions of convention on fishing vessels lie with flag state. Sanctions may be used to enforce compliance by flag states in the event of vessel non-compliance. Convention also establishes a regional observer programme to promote compliance. No provisions to enforce member states to translate provisions in Convention into national laws.
Convention supports develops the capacity of member countries to implement Convention goals	In theory, yes, – article 30 recognises the 'special needs' of developing country members and provides for financial, technical and other assistance as appropriate. Current budget, however, precludes such capacity development.
Secretariat is adequately resourced	No. The Fisheries Commission is under resourced by several orders of magnitude (< \$US 1 million in 2005).

**Table 4 Measures of Institutional Quality and Potential for Misuse of Fisheries Revenues in the Western and Central Pacific**

	A	B	C	D	E	F	G		H	I
	Existence of external accountability mechanism for government <sup>i</sup>	Independence of judiciary <sup>ii</sup>	Existence of active citizens groups? <sup>iii</sup>	Existence and implementation of an 'anti-corruption' strategy? <sup>iv</sup>	Existence of conflict or other law and order problems in the last 10 years <sup>v</sup>	Government expenditure as a percentage of GDP (average 1990-2002) <sup>vi</sup>	Ratio of value of fish harvested to overall economic performance <sup>vii</sup>		Amount of development assistance received from top four DWFNs <sup>viii</sup>	Gross Fisheries Revenues (\$US million, average 1993-1999)
							Exports	GDP		
<b>Cook Islands</b>	Independent audit office – but under resourced. Ombudsman exists	Independent	Yes – large focus on corruption activities by government	Cook Islands Anti-Corruption Action Plan adopted by Cabinet in 2001	No	44%	0.08 (0.05-0.11)	<0.01 (0.0 – 0.01)	0.15	0.6
<b>Fiji Islands</b>	Independent audit office. Ombudsperson exists and is independent	Independent			Yes – military coups occurred in 1987 and 2000	29%	0.01 (<0.01-0.01)	<0.01 (<0.01)	22.6	9.1
<b>Kiribati</b>	Auditor independent, but poorly resourced and poor follow up. No ombudsman.	Independent	No, but members of parliament can and often raises issues about service delivery on behalf of their constituents.	No	No	117%	N/A	2.29 (1.62 – 3.2)	7.2	392.4
<b>Marshall Islands</b>	Independent auditor but under resourced. No ombudsman	Independent	No – but local governments active in this area.	Not explicitly. Some measures have been implemented but with no timetable for completion.	No	91%	5.81 (4.11-8.14)	0.47 (0.33-0.66)	52.61	98.5



<b>Tonga</b>	In legislation – however, auditor reports to PM and is inadequately resourced. Ombudsman exists but has little profile.	Independent	Not really – some groups act as lobby groups for particular areas.	No strategy, but has developed an Economic and Public Sector Reform Programme in 2002 to address some of the relevant issues.	No	34%	0.04 (0.03-0.06)	<0.1 (<0.01)		0.9
<b>Tuvalu</b>	Independent auditor but under-resourced. No ombudsman	Independent	No	No, but is examining related issues in the context of developing a ‘leadership code’.	No	117%	N/A	4.05 (2.87 – 5.67)	5.36	120.1
<b>Vanuatu</b>	Independent audit office but under resourced. Ombudsman exists and is independent.	Independent at higher levels. Some concern about suitability of appointments and effectiveness in lower level courts.	No	A Comprehensive Reform Programme was established 1997 to address these issues.	No recent civil conflict, but some political instability	28%	0.01 (<0.01 – 0.01)	<0.01 (<0.01)	3.6	0.3

<sup>i</sup> Transparency International (2004) various country reports.

<sup>ii</sup> Transparency International (2004) various country reports.

<sup>iii</sup> Transparency International (2004) National Integrity Reports, various countries. Information here summarises answer to question in the Report: Are their citizen’s groups actively monitoring government’s performance in areas of service delivery?

<sup>iv</sup> Transparency International (2004) National Integrity Reports, various countries. Information here summarises answer to question in the Report: Has the government announced an anti-corruption strategy and a timetable for implementation?

<sup>v</sup> Source: Australian Government Department of Foreign Affairs and Trade *Country, economy and regional information* website: <http://www.dfat.gov.au/geo/> accessed: 26 May 2005.

<sup>vi</sup> Source: Asian Development Bank (2004). <http://www.adb.org/statistics> accessed 6 June 2005.

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<sup>vii</sup> Source: Authors own calculations determined as follows. Data for quantity of total fish harvested in each EEZ was multiplied by a weighted average estimate of price per tonne (\$US) to estimate total value of fish harvested by all fleets operating within that EEZ. The total value was then compared to the value of exports and the value of GNP. Variations in price (US\$990 and US\$1960) were also calculated to illustrate a range of possible outcomes. These outcomes are reflected as a range in brackets. Harvest data from Gillett et al (1999) for the year 1999. Price data for the year 2000 from van Santen and Muller (2000). Export and GNP data (for 1999) from ADB (2001).

<sup>viii</sup> These DWFNs are: Japan, Korea, Taiwan and United States. Development assistance only recorded if donor is within the top 10 of donors to the recipient country. Source: Source: OECD (2005) *Aid statistics, Aid recipient Charts* <http://www.oecd.org/dac/stats/recipientcharts> accessed: 26 May 2005.