



# **Resource Management in Asia-Pacific**

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## **Economic policy, institutions and fisheries development in the Pacific<sup>†</sup>**

**Elizabeth Petersen**

Research Fellow,  
Resource Management in Asia-Pacific Program,  
Australian National University

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<sup>†</sup> The research was completed while the author was a Postdoctoral Fellow at the National Centre for Development Studies, the Australian National University. She is grateful to Ron Duncan who provided many helpful comments, and AusAID for their generous financial support.

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# **Resource Management in Asia-Pacific**

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Resource Management in Asia-Pacific Program  
Research School of Pacific and Asian Studies  
The Australian National University  
Canberra ACT 0200  
Tel: +61 2 6215 9978  
Fax: +61 2 6215 4896  
Email: [rmap@coombs.anu.edu.au](mailto:rmap@coombs.anu.edu.au)

# **Economic policy, institutions and fisheries development in the Pacific**

## **Abstract**

The South Pacific is home to the world's largest and most valuable tuna fishery. Despite this, the Pacific island countries have found it tremendously difficult to capture significant economic rents from the resource. It is argued in this paper that poor economic policy partly explains this. However, poor policies are preventing the implementation of strong, cost-effective institutions for the governance of the fishery which, coupled with strong institutions for broad social and economic governance, are required for development of the industry. Opportunities for policy reform that is likely to lead to significant gains from the fishery are highlighted.

## **Introduction**

The negotiation of the United Nations Convention on the Law of the Sea in 1982 (which was not ratified until 1994) substantially increased the responsibility of resource-adjacent governments to manage and conserve fish stocks within their exclusive economic zone, the ocean area within 200 miles of their coastline (United Nations 1994). This increased responsibility is no more extreme than for the Pacific island countries, whose waters are home to the world's largest and most valuable tuna fishery, and where ocean area of jurisdiction exceeds landmass by an average factor of 300 to 1 (World Bank 2000) (see Figure 1). The Pacific island countries, and indeed most developing countries, have found it tremendously difficult to convert these tenured rights into concrete economic gains.

It is widely understood that, unless controls are placed on fishing effort, the fishery is susceptible to the problems associated with open-access arrangements: over-exploitation and over-capitalisation (Gordon 1954). At this level of use, only normal profits are made since greater than normal profits would encourage greater resource exploitation, and no resource rents are derived from the fishery. Hence, control must be placed on fishing effort. Determining the most cost-effective institutional framework (the framework of humanly devised constraints that structure political, economic and social interaction (North 1991)) for exercising this control is hotly debated amongst economists and other social scientists. In the governance of fishery resources and indeed the governance of all natural resources, it is helpful to consider institutions of three types: property rights (the nature of an entity holding rights of decision-making within the hierarchy of resource management), entitlement systems (the basis for defining shares or parts of the fishery belonging to the right holder, e.g., input versus output controls), and mechanisms for allocating and adjusting resource entitlements (procedures of allocating and adjusting entitlements can be either market- or administratively-based).

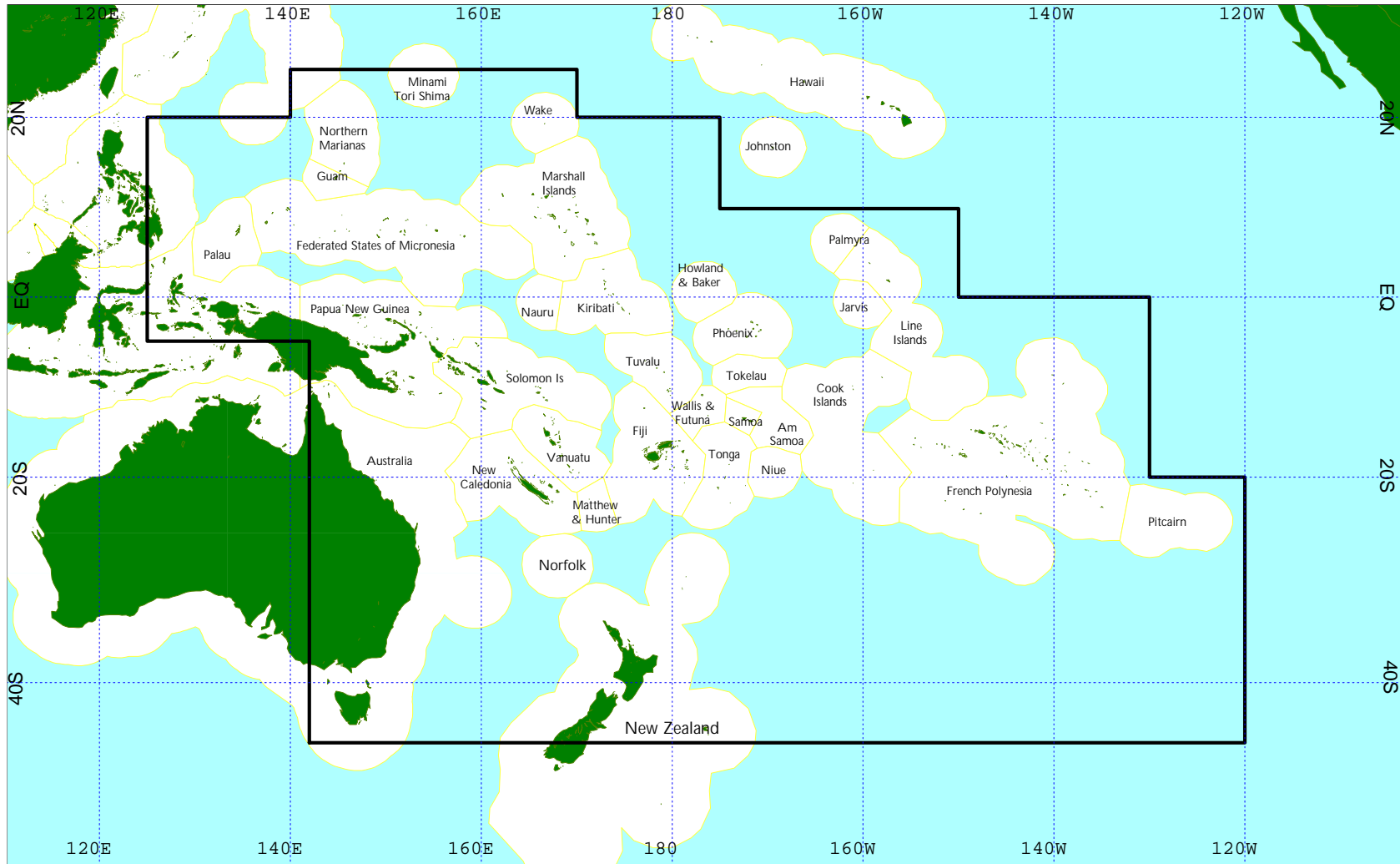


Figure 1 The South Pacific region: exclusive economic zones  
 (Source: Secretariat of the Pacific Community)

The past couple of decades has been a period of intense learning for policy analysts, both within governments and within multinational organisations that have made loans contingent upon particular reforms being enacted. This learning has revealed the importance of open trade, macroeconomic balance, flexible labour markets, a limited role of government in production of goods and services, and an expanding role for the private sector in many activities long thought to be the province of government. More recently, there has developed an appreciation that without the institutions essential to the operation of the private sector, these policy objectives will not be achieved (Duncan et al. 1999). Historically, policies of Pacific island governments have been characterised by heavy protection against imports, inflexible labour markets, large public sectors and poorly developed institutional arrangements to support private sector activities. However, this picture is changing with greater experience and an understanding of the benefits of 'market-friendly' institutions and policies.

This improved climate for investment within the Pacific island countries provides a strengthened foundation for fisheries development in the region. However, determining optimal fisheries policies and institutional structures for governance of a fishery is notoriously difficult due to the dynamics of the biology of the fishery and fish prices, and the large and long-term nature of investments. Governance of the South Pacific tuna fishery is particularly difficult due to the multiple species of tuna, the migration of tuna stocks across 22 states and other political divisions, the migration of tuna beyond the Pacific island nations' exclusive economic zones into wide stretches of the open seas, and the different gear types in use. Despite the complexity of the fishery, governance should still be founded on sound economic principles.

The primary aim of this paper is to draw attention to areas of poor fisheries policy in Pacific island countries, to highlight the flaws in arguments resulting in these poor policies, and to show how these poor policy objectives have led to sub-optimal institutions for governance of the resource. A secondary aim of this paper is to show that a sound policy environment alone is unlikely to lead to sustainable economic development of the South Pacific tuna fishery. Sound economic policy must be coupled with strong institutions for broader social and economic coordination: security of property and contractual rights, an honest and competent bureaucracy and a reliable and independent judiciary. The paper proceeds in Section 2 with a discussion of fisheries policy in the South Pacific, highlighting principles of economic theory that are largely misunderstood or ignored. Section 2 also includes an exposition on sound policy reform. Section 3 explores the necessity of sound policy for the adoption of appropriate institutions for governance of a natural resource, using the South Pacific tuna fishery as an example. Section 4 stresses the overwhelming importance of strong institutions for broader economic governance without which individual sectors in an economy (including the fisheries sector of Pacific island economies) will not fully develop.

### **Fisheries policy in the South Pacific**

The Pacific island countries have long sought to increase their share of economic rents from the South Pacific tuna fishery. Their struggle started towards the end of the 1970s when they first attempted to extract access fees from Japan, and continued into the 1980s when United States fleets entered the fishery. It wasn't until the end of the 1980s when some Pacific island countries started establishing access arrangements with Soviet fishing companies did the Pacific island countries have sufficient weight to charge these fees (Schurman 1998). Later, the heightened presence of Korean and Taiwanese fleets (along with other minor fleets) increased competition for access, giving the Pacific island countries the ability to increase access fees.

Now, 10 distant water fishing nations (and nine Pacific island nations) fish in the South Pacific, harvesting approximately 86 percent of catch (mainly Japan, the Taiwanese province of China, South Korea and the United States of America) (SPC 2000). Pacific island countries negotiate access fees in the order of four percent of gross revenue for the right to fish in their exclusive

economic zones, although the percentage varies across distant water fishing nations (Table 1). It is evident from a number of studies that higher access fees could be generated in a competitive environment, although there are large discrepancies between estimates. Bertignac et al. (2001) argue that the fishery rent is around 13 percent of gross revenue at 1996 levels of effort, and if effort level and the fleet structure of the fishery were optimised it could be close to 40 percent. Gillett, Preston and Associates (2000a) estimate fishery rents for the Papua New Guinean tuna fishery to be between 10 and 22 percent for purse-seine vessels and between 17 and 31 percent for longline vessels, depending on the specific vessel technology. It seems that the most appropriate form of access fee is the resource-rent tax, a tax related to the above normal profits which are earned (or expected to be earned) from the fishery. It measures the difference between the value of the catch and the economic cost of the fishing effort. It is very difficult to estimate the cost of fishing effort, so it is difficult to know whether the access fees charged by Pacific island countries in any way approximate the true resource rents.

Table 1  
Access fees paid by major distant water fishing nation, 1993

Distant water fishing nation	Access fee (percent of gross revenue)
United States of America	10
Japan	5.0
Taiwanese Province of China	3.7
Republic of Korea	2.2

Source: World Bank (1996)

In reaction to the meager returns from access fees, Pacific island governments adopted a new strategy in the 1990s of trying to force domestication of the industry in the belief that they could duplicate distant water fishing nation activities to yield greater benefits from the fishery. This domestication came in a range of forms varying from large-scale public investments in fishing vessels, to public investment in aeroplanes, port infrastructure and bases from which tuna can be processed for shipping. Many of the region's governments have invested many millions of dollars of aid funds and public revenues into this domestication. These investments were made with government as sole owner and operator, or in joint ventures with foreign countries (predominantly Japan and the United States).<sup>1</sup> Unfortunately, all the investments that have been operating for more than two years, with only a few minor exceptions, have failed financially, some repeatedly. Due to the pressing need for employment and foreign exchange, some public sector investments have been sustained despite their financial losses, receiving massive injections of additional public funds.

The government of the Federated States of Micronesia has made the greatest effort toward domestication, investing over US\$120 million<sup>2</sup> by 1995 through state-owned fishing enterprises (The National Fisheries Corporation, The Caroline Fishing Corporation, the Yap Fishing Corporation and Wespac). All enterprises have been operating at a loss (Schurman 1998). Other examples of unsuccessful public operations include Solomon Taiyo Limited in the Solomon Islands, Te Mautari Ltd in Kiribati and two purse-seiner joint ventures between the Marshall Islands and the United States of America (the latter requiring US\$15 million from the government of the Marshall Islands).

Private investment in tuna ventures has been minor compared with public investment. However, most have proved successful. Private ventures in Fiji, the Cook Islands and Tonga show promise. Improved economic conditions in Samoa resulting from reforms aimed at encouraging private sector development, amongst other things, have led to the growth of domestically-owned fishing companies. This is evidence that fishing activities can develop without government support providing there exists a secure investment environment.

## ***The theory of comparative advantage***

Duncan et al. (1999) argue that while the theory of comparative advantage is one of a few economic theories that can be proven to be true and nontrivial, it is frequently misunderstood by policy-makers. The theory of comparative advantage states that any economy will be most productive when it specialises in production of those goods and services that it does relatively “best”. While a country may have absolute advantage in production of all goods and services (it can produce at an absolutely lower cost than other countries), no country has comparative advantage in all goods due to the differences in the relative costs of production. Hence, even the smallest and poorest countries stand to benefit from specialisation and trade. Unfortunately, there are no techniques for directly measuring a country’s comparative advantage, as it requires the knowledge of pre-trade relative prices that are unobservable. The literature focuses on indirect techniques of measurement, of which the most common is ‘revealed’ comparative advantage where trade patterns are used to reveal comparative advantage (Balassa 1965).

It is a natural inclination to try to directly determine the industries in which a country has comparative advantage. However, Duncan et al. (1999) note that comparative advantage is too fluid and too complex for governments to impose a decree in favour of the development of certain industries. While it is not appropriate for governments to try to select industries in which their country has comparative advantage, government has an overwhelming responsibility to create an environment where private agents can use information efficiently to search out areas of comparative advantage. This process involves providing the economic policies and institutional framework needed for efficiently functioning markets.

Pacific island country governments have been assuming their country has comparative advantage in the fisheries sector by investing substantial public funds in the industry, with generally disastrous results. It is tempting to assume that due to the vastness of the resource, the close proximity to fishing grounds (and hence, lower freight costs), the low cost of labour and the lack of other natural resources in the region, development of the fishing sector must produce greater benefits than other sectors in the economy. However, the tuna industry is characterised by extremely high risk, costs and skill requirements. It is not conceivable that Pacific island countries can determine comparative advantage in this industry. Further, McCoy and Gillett (1997) note that at 1997 fish prices, only the Japanese and United States foreign purse seine operators in the South Pacific were profitable; the Taiwanese Province of China was just breaking even, and the Republic of Korea was incurring net losses in their operations.

The Asian Development Bank (1997) advances the following determinants of the public investment failures in fisheries projects in the South Pacific: inadequate management, weak direction at the board level (usually composed of civil servants), inappropriate government operating procedures, low labour productivity, deteriorating prices, shortages of fish, and comparatively high-cost operations. The first four determinants are typical problems associated with government involvement in business activities. There is no reason for this kind of government involvement as may be necessary in land-based business activities in the region where property rights to land are insecure and, hence, where government backing of some kind is required. The United Nations Convention on the Law of the Sea allocated strong state property rights to resource use for the ocean area within 200 miles of a country’s coastline. Governments can allocate resource entitlements to resource use in the exclusive economic zones knowing that there can be no future claim for compensation by right-holders. Maintaining public investment in the tuna industry is likely to result in continued financial losses at the expense of forgone opportunities for the private sector. Grynberg (1997) notes that the opportunity cost to the Solomon Islands of the poor performance of Solomon Taiyo Limited (STL) (a tuna harvesting and canning joint venture created in 1973 between the government of the Solomon Islands and a Japanese firm Taiyo Gyogyo Kabushiki Kaisha (TGKK), now renamed Maruha) is in effect the development potential of the Solomon Island’s main natural resource.<sup>3</sup>



## ***The Tinbergen Principle***

While the theory of comparative advantage is one principle of economics that is often misunderstood or ignored, the Tinbergen Principle is another. Jan Tinbergen, who won the Nobel Prize in economics in 1969, developed the principle that the number of policy instruments should match the number of policy objectives (Tinbergen 1952). If one policy instrument is used to achieve more than one policy objective, none of the objectives will be achieved efficiently. Many Pacific island countries are trying to achieve the two policy objectives of maximising economic rents and establishing domestic-based industry through the one policy instrument of directly encouraging foreign direct investment to base locally. Such poor policy-making achieves neither goal well. The amount of the effective public subsidy paid out in the form of low-cost access and in exemptions from taxes is unknown. As only a few local activities have been financial successes, experience has shown that these public subsidies have been dissipated to create a few, likely short-term, jobs. For example, public subsidies have been given to several longlining companies by the Marshall Islands' government to use the Island's port facility. Although some local income has been generated, Schurman (1998) notes that the multiplier effects have been few. Some employment has been created in the on-shore processing facility, however, the Chinese boats rely exclusively on their own fishing crews. As profits are minimal, little is spent on local consumption goods and services and most is sent home to help their families.

Gillett, Preston and Associates (2000a) analysed the benefits that flow to the economy from domestication of the industry. They note that "both Yap and Pohnpei (States of the Federated States of Micronesia) have lost millions of dollars through their attempts to establish viable purse-seine operations. ... With the benefit of hindsight it is possible to see that both States would have been better off if they had adopted the lower risk strategy of collecting access fees from distant water fishing fleets. To date most attempts to establish purse-seine fisheries have been government-run or sponsored, and nearly all have failed. Gillett, Preston and Associates (2000a) continue by saying that "quite often high access fees paid by foreign fishing fleets deliver a higher level of domestic value added at less risk to an economy than costly attempts to establish a local fleet."

The Tinbergen Principle was also violated when the Forum Fishery Agency member countries banned transshipment at sea in June 1993 in a bid to increase port activity, and monitor fish mortality. While the latter reason is admirable, compulsory port transshipment is a very high-cost way of encouraging local economic activity generally leading to only a limited domestication of activities. Furthermore, the willingness-to-pay for licence fees by distant water fishing nations will decrease to cover these transaction costs. Duncan and Temu (1997) note that effectively the Pacific island countries themselves are paying for transshipment through a reduction in access fees. From figures presented in Gillett et al. (2001) access fees received by the region decreased from four percent to three percent of gross revenue. This decrease could be attributable to the transshipment costs. The merits and costs of transshipment should be analysed solely on its role in harvest monitoring. If its benefits from harvest monitoring do not outweigh this loss of access fees, the ban should be lifted.

## ***Policy reform – where to now?***

In support of earlier statements that many policy analysts do not understand the theory of comparative advantage, many foreign consultants, advisors and aid donors are encouraging Pacific island countries to pursue their current policy of forcing domestication of the industry through concentrating on the transshipment and servicing end of the industry where profits seem most likely<sup>4</sup>, through encouraging the development of the domestic longline industry (which is less cost intensive than the purse-seine industry) and through encouraging domestic-based investment in tuna processing. However, experience and economic theory show us that this is simply poor policy advice. The amount of effective public subsidies is unknown, and are likely to be dissipated with limited domestication of activities and likely financial failure.

A far less risky policy option is for Pacific island governments to focus on maximising resource rents derived from access fees from both distant water fishing nations and local fishing nations, and re-orienting government spending of the revenue into indirect support of the domestic market. The Asian Development Bank (1997) argues that the lack of private investment in tuna ventures is due to the protected and internationally un-competitive nature of Pacific island countries, evidence of consistent government failures in the industry and the comparatively high-cost, high-risk, high-skill requirements of the industry. By removing itself from direct investment in the industry and instead directing public funds into governance, institutional strengthening, broad policy change and in investment in education, an overall economic environment conducive to private investment will be created. Such an environment will help private agents to use information efficiently to search out areas of comparative advantage. If any Pacific island country has comparative advantage in the tuna industry, private tuna ventures will develop without direct government support.

This advice is widely criticised by fishery managers in the Pacific islands region for a number of reasons. First, Pacific island countries depend heavily on bilateral aid provided by distant water fishing nations in exchange for cheap access. Fisheries ministers gain much public support when announcing aid packages (i.e., the funding of infrastructure or hospitals) that have been negotiated as part of the access agreements. Much of this aid has been used in direct support of the domestic fishing industry, in many cases with poor results. For example, Japan donated a transshipment port to Majuro in the Marshall Islands which was empty for close to a decade due to a lack of a domestic fleet and foreign boats to service (Schurman 1998). Because the true value of the resource rent is unknown, the value of the public subsidy (in the form of forgone access fees) in exchange for this overseas assistance is not known. There is a lack of political will to resist accepting these side payments in exchange for cheap access, which is understandable given the dependence of the Pacific island countries on the aid and access fees. Moreover, introducing new and transparent policies and institutions that will maximise the access fees and improve the economic environment for private investment risks some distant water fishing nations boycotting the fishery or the restricting of imports of canned tuna by boycotting nations. In response to this criticism, competition for access to the fishery is increasing with the European Union and other distant water fishing nations seeking entry to the South Pacific tuna fishery as over-capacity in other international fisheries increases. It is likely that boycotting countries would re-enter the fishery and lift restrictions on imports of canned tuna in time. This change in policy would require strong political will but is likely to result in significant economic benefits in time. The pace of domestication should not be forced. Enhancing capabilities in the fishing sector will take time.

A second criticism of this advice stems from the pressing need in Pacific island countries for job creation. This need leads to the exchange of cheap (or free) access in the exchange for domestic-based activities. However, it was argued earlier that often these subsidies are dissipated with only limited domestic job creation.

A third criticism of this policy advice relates to this need for strong economic and social governance. While economic benefits from the fishery should be invested productively, they are often dissipated through wasteful consumption expenditure and poor quality investments. This causes frustration within members of the fishing industry and the wider community as the benefits from access fees are strongly dependent on the decisions government makes. This 'resource curse' is widely discussed in the literature (e.g. Auty 1993). With poor use of fishing revenue comes the temptation to require that a proportion of access fees be invested back into the fishery, a temptation enhanced by the need to generate foreign exchange to pay for imports. Weak governance and the high cost to society of unemployment should not be used as excuses for subsidising domestically-based industry. Such problems need to be addressed at their roots (i.e., improved transparency). Using them as excuses for subsidising domestic industry only increases the risk of another failed public fishing investment in the Pacific.

## Economic policy and institutions for sector development

A sound policy environment is fundamental for determining the most cost-effective institutions for governance of individual sectors in an economy. The recent policy objective of directly encouraging domestication of the fishing industry has led to the development of sub-optimal institutions for governance of the Pacific islands' fisheries.<sup>5</sup> Consider first the institution of property rights. Some of the Pacific island governments have chosen to allocate private-property rights for their longline fishery to local fishers only, with the objective of forcing domestication of the industry. In Papua New Guinea, little fresh investment has resulted and the catching capacity of the current domestic fleets remains far below what the fishery can sustain. This banning of foreign vessels is simply a public subsidy, the size of which is unknown but substantial. Gillett, Preston and Associates (2000b) suggest that the investment that has occurred was encouraged through other policy improvements such as currency devaluation and a change in fiscal policy to reduce taxes in the sector.

Moreover, many of these countries are not charging access fees to the domestic fleets. Gillett, Preston and Associates (2000b) argue that a resource rent tax is simply a transfer payment from the resource user to the government and provided the money is spent in the country, the economic benefit may be little different if the transfer is not made. However, as the fishery resource is a public good, any company exploiting these resources should pay the state for that right. Hence, by not charging domestic vessels for access, the government is in essence assuming fishers rather than the government can best spend this public money. To this end, the government is effectively ignoring the theory of comparative advantage. Local fishing companies have had ample time to develop. For long-term investment and growth of the industry it is important that these fisheries are opened to foreign firms, and that access fees are charged to foreign and local investors.

Consider now the institution of entitlement allocation. The current allocation institution is administrative allocation through international treaty. Duncan and Temu (1997) and Petersen (2002) note that these treaties are not transparent give incentives to under-report, and do not ensure the most efficient fishers are allocated the access rights. They have recommended the auctioning of fishing entitlement for a time period (say 5 – 10 years) on a number of grounds:

- Auctions tax fishers the full resource rent without having to know its true value (only limited knowledge is required to set a reserve price);
- Auctions transfer risk from Pacific island countries to fishing companies and therefore improve fiscal stability;
- Auctions increase transparency through reducing opportunities for direct dealing with individuals;
- Auctions increase competition by reducing the transaction costs of entry;
- Auctions encourage self-enforcement and self-monitoring; and
- Auctions eliminate incentives for under-reporting.

Because the two policy objectives of encouraging domestication and maximising economic rents from the fishery are trying to be achieved through the one policy instrument of directly encouraging foreign direct investment to base locally (in violation of the Tinbergen Principle), sub-optimal institutions aimed at achieving these objectives have been implemented. Institutions aimed at achieving the policy of maximising resource rents from the fishery (for example, the auctioning of fishing rights) cannot be implemented as these countries are encouraging foreign direct investment to base locally with the incentive of cheaper access. If it is considered worthy to subsidise domestic activities, subsidies should be transparent, not hidden as is currently the case with cheap access arrangements.

## **The over-whelming importance of strong institutions for broad economic governance**

Good economic policy and strong institutions for the governance of a fishery are two factors necessary for fisheries development. The cod fishery is an example of where the absence of these two factors led to the collapse of the fishery (Grafton et al. 2000). However, these factors are not sufficient and alone are unlikely to lead to sustainable fisheries development in the Pacific. The strengthening of economic policies and institutions for governance of the South Pacific tuna fishery must be coupled with the broader strengthening of economic policies and institutions for social and economic governance.

Since Matthews' presidential speech in 1986 (Matthews 1986), economists and other social scientists have become increasingly aware of the importance of institutions for economic growth. Olson (1996) emphasised this importance in his Distinguished Lecture on Economics in Government. He argues that the only plausible explanation for the great differences in the wealth of nations is the difference in the quality of their institutions and economic policies. Olson suggests that "big bills" can only be picked up through coordinated individual actions that require a prudent structure of incentives.

Toatu (2001) compared three explanations of the poor performance of the Kiribati economy during the 1980s and 1990s: the neoclassical approach, the policy approach and the institutional approach. He found that the lack of economic growth had little to do with the lack of natural or capital resources, nor did it have much to do with poor policies. Rather the lack of incentives to accumulate and acquire those resources, and to formulate good policies was the important factor. This brings to bear the importance of institutions in providing these incentives.

Figure 2 illustrates the nexus between economic policy, institutions and economic and social outcomes. Institutions provide the incentive structure which, together with the transaction costs of the institutions and the general functioning of the state, determine the social and economic performance of the economy. Institutions are of two types: informal norms and traditions that are determined by culture; and formal rules and laws that are imposed by the state for social and economic coordination. State-endorsed institutions are designed to achieve state-endorsed policy. The formal institutions function on a number of levels. For simplicity, these institutions are presented in Figure 2 on two levels: broad institutions for economic and social governance, and specific institutions for sector governance. The literature generally cites broad institutions for social and economic governance as the security of property and contractual rights, a competent and honest bureaucracy, and a reliable and independent judiciary. In the absence of these institutions, the full potential of natural and capital resources cannot be realised and private investors do not have the security to invest and apply their skills and technology.

A great advantage of the off-shore fishing industry is that the property rights structure for the exclusive economic zones has been well defined. Hence, the property rights are not subject to compensation claims, a rapidly growing business in other sectors in Melanesia (Chand 2001). Moreover, foreign direct investment does not need to be made in joint ventures with the state. Hence, market institutions which allow voluntary exchange and specialisation need not be impeded by poorly defined property rights, which is the major concern for so many developing countries. However, the contractual rights for local and distant water fishing nations must be secured by government and protected and enforced by the judiciary.

Bureaucrats require appropriate incentives for them to carry out their required tasks efficiently, effectively, responsively, with clear strategic focus and appropriate participation. A lack of, or inappropriate, incentives are likely to lead to corruption, dishonesty and incompetence. This is especially important in the Pacific islands region (and indeed many developing countries) where the public sector is relatively large compared with the private sector. Gillett, Preston and Associates (2000b) in commenting on Papua New Guinea's National Fisheries Authority say that there are insufficient internal and external controls applied; the licensing process is obscure,

subject to manipulation and internal delays; record keeping is problematic; trust accounts are mismanaged; and influence rather than merit determine management decisions. Such lack of governance capacity not only leads to poor policy-making but also leads to substantially higher transaction costs for investment, discouraging both domestic and foreign investment. If the bureaucratic institutions are strong and effective, it is likely that the performance of the bureaucrats will be strong and effective, and vice versa.

The reliability and independence of the application of law is as important as the law itself (Toatu 2001). Moreover, a judiciary can only be reliable and independent if the rules and policies governing its operation are credible and if the resources allocated to it are adequate and efficient. Without a strong and consistent judiciary, the whole system of law collapses. A number of studies have highlighted the importance of law and order on economic performance in the Pacific (i.e., Chand and Levantis (1998) and Levantis (2000)).

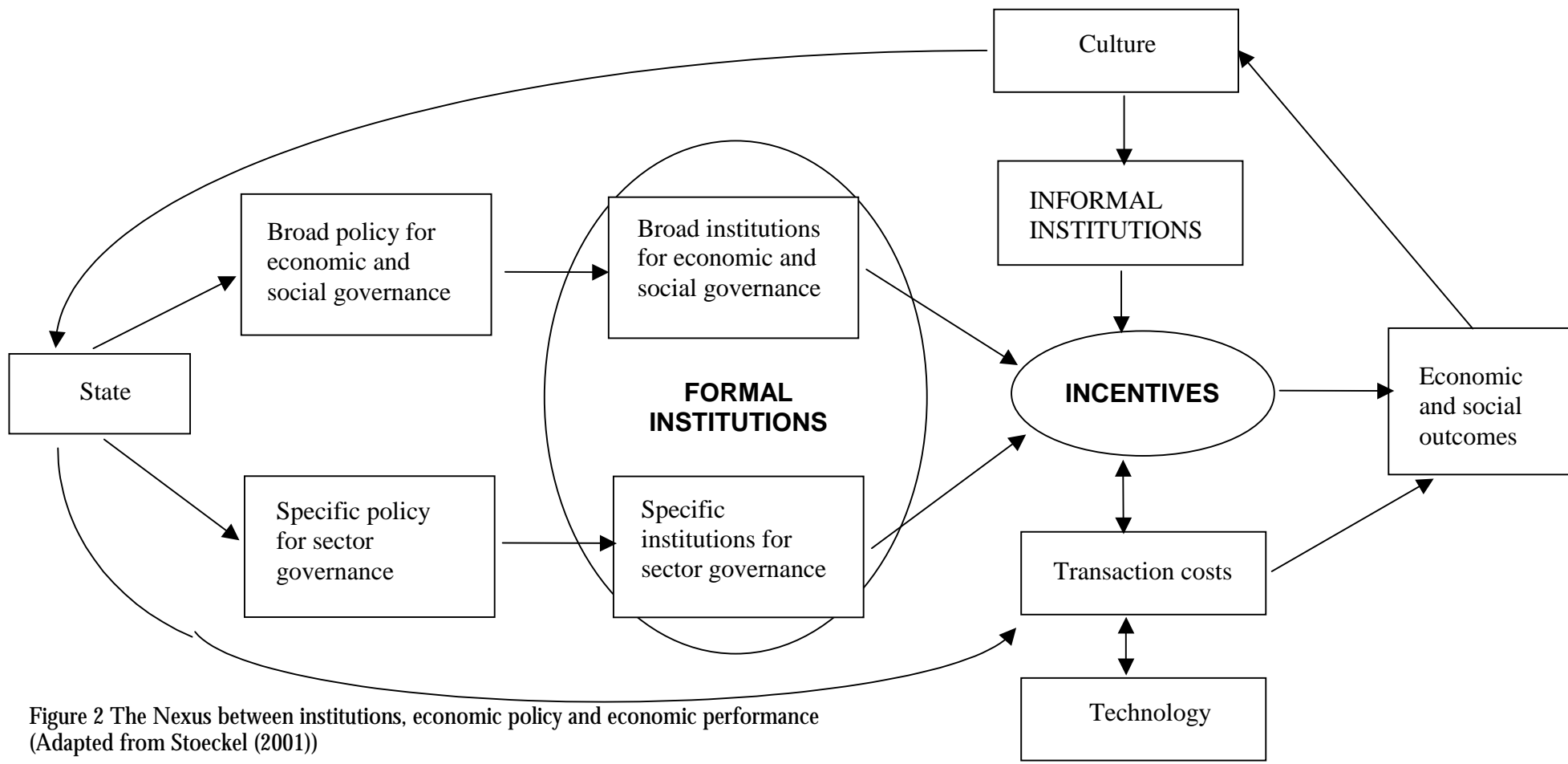


Figure 2 The Nexus between institutions, economic policy and economic performance (Adapted from Stoeckel (2001))

These broad institutions for social and economic governance are critical for the economic performance of an economy. When they are weak, the effectiveness of the informal institutions and specific institutions for sectoral governance is significantly retarded. Informal and sector-specific institutions depend on the broader institutions for the provision of well functioning markets, low transactions costs for investment, and, hence, the capacity for development.

## **Conclusions**

The Pacific island countries' struggle to maximise economic benefits from the valuable tuna stocks that migrate through ocean areas in their jurisdiction started in the 1970s when they first attempted to extract access fees from Japanese fishing fleets. Since that time, Korea, the Taiwanese Province of China, the United States and other distant water fishing nations have commenced fishing in the region, increasing competition for access. Now the Pacific island nations charge distant water fishing nations an average of four percent of net revenues for access to their waters. In reaction to such meager returns, the Pacific island countries adopted a new strategy in the 1990s of forcing domestication in the industry in an effort to duplicate distant water fishing nation activities. This domestication has taken on a number of forms such as investing in fishing vessels, building infrastructure for tuna processing, and transshipment. Many millions of dollars of public funds have been channeled into domestication. All but a very few ventures have failed, some repeatedly.

This forced domestication of fishing activities is poor policy-making. It ignores the non-trivial economic principles of comparative advantage and the Tinbergen Principle. Although the Pacific island countries have close proximity to the valuable resource and low labour costs, the industry is characterised by large investment costs, specific skill requirements and high volatility in fish stocks and prices. It cannot be assumed that the Pacific island countries have comparative advantage in this industry. Governments should not favour the tuna industry over other activities, as it has by investing public funds so heavily in tuna ventures. Rather, public funds should be invested in supporting the private sector, by building infrastructure, establishing essential institutions for private sector activities, and enabling them to efficiently use information to independently seek out industries with comparative advantage. These poor policies are preventing the implementation of cost-effective institutions for the governance of the fishery. Institutions designed to maximise access fees (e.g., the auctioning of fishing rights) are being ignored due to policy designed to encourage locally-based foreign direct investment through cheap access and the offer of side payments (i.e., bilateral aid) to resource managers.

While the importance of sound policy-making and the implementation of institutions for the governance of the fishery are necessary, they are not sufficient for fisheries development. Development of any sector in an economy needs to be coupled with strong institutions for broader economic and social governance: security of property and contractual rights, a competent and honest bureaucracy, and a reliable and independent judiciary. Without a strengthening of these broader institutions in the Pacific, individual sectors in an economy will be unable to fully develop. The full potential of the South Pacific tuna fishery (and indeed any of the Pacific's natural and capital resources) will remain unrealised as private investors, local or foreign, will not have the security to invest and apply their skills and technology.

## References

- Asian Development Bank, *The Pacific's Tuna: The Challenge of Investing in Growth*, Office of Pacific Operations, Manila, 1997.
- R M Auty, *Sustaining Development in Resource Economies: the Resource Curse Thesis*, Routledge, London, 1993.
- B Balassa, 'Trade liberalisation and "revealed" comparative advantage', *The Manchester School of Economic and Social Studies*, Vol XXXIII, No 2, 1965, pp 99-123.
- K Barclay and W Yoshikazu, 'Solomon Taiyo Ltd - tuna dreams realised?', *Pacific Economic Bulletin*, Vol 15, No 1, 2000, pp 34-47.
- M Bertignac, H F Campbell, J Hampton and A J Hand, 'Maximizing resource rent from the Western and Central Pacific tuna fisheries', *Marine Resource Economics*, forthcoming.
- S Chand, 'Lessons for development from Pacific island countries', In *East Timor: Development Challenges for the World's Newest Nation*, H Hill and J M Saldanha (Eds), Asia Pacific Press, Canberra, 2001.
- S Chand and T Levantis, 'The nexus between crime and productivity in Papua New Guinea', In *Productivity Performance in the South Pacific*, S Chand (Ed), Asia Pacific Press, Canberra, 1998.
- R Duncan, S Cuthbertson and M Bosworth, *Pursuing Economic Reform in the Pacific*, Asian Development Bank, Manila, 1999.
- R Duncan and I Temu, 'Trade, investment and sustainable development of natural resources in the Pacific: the case of fish and timber', In *Enhancing cooperation in trade and investment between Pacific island countries and economies of East and South-East Asia*, United Nations, Economic and Social Commission for Asia and the Pacific. New York, 1997, pp 175-211.
- Gillett, Preston and Associates, *A Financial and Economic Review of the PNG Tuna Fishery*, Fisheries Development Project ADB Loan No: 1656-PNG, 2000a.
- Gillett, Preston and Associates, *A Review of PNG Fishery Policy*, Fisheries Development Project ADB Loan No: 1656-PNG, 2000b.
- R Gillett, M McCoy, L Rodwell and J Tamate, *Tuna: A Key Economic Resource in the Pacific*, Asian Development Bank, Manila, 2001.
- H S Gordon, 'The economic theory of a common-property resource: the fishery', *The Journal of Political Economy*, Vol 62, No 2, 1954, pp 124-142.
- Q R Grafton, L K Sandal and S I Steinshamn, 'How to improve the management of renewable resources: the case of Canada's northern cod fishery', *American Journal of Agricultural Economics*, Vol 82, No 3, 2000, pp 570-580.
- R Grynberg, *Handicapped infants and delinquent parents: Lomé convention rules of origin and the Solomon Islands Tuna Industry*, European Centre for Development Policy Management, Maastricht, 1997.
- T Levantis, *Papua New Guinea: employment wages and economic development*, Asia Pacific Press, Canberra, 2000.
- R C O Matthews, 'The economics of institutions and the sources of economic growth', *Economic Journal*, Vol 96, No 386, 1986, pp 903-918.
- M A McCoy and R Gillett, *Foreign Tuna Purse Seining in the Pacific Islands: The Current Situation and Business Opportunities*, Report for the Forum Fisheries Agency, Honiara, 1997.
- D C North, 'Institutions', *The Journal of Economic Perspectives*, Vol 5, No 1, 1991, pp 97-112.
- M Olson, 'Distinguished lecture on economics in government: big bills left on the sidewalk: why some nations are rich, and others poor', *The Journal of Economic Perspectives*, Vol 10, No 2, 1996, pp 3-24.
- E H Petersen, 'Institutional structures of fishery management: The fortuna in the South Pacific', In *Resource Management in Asia Pacific Developing Countries* Asia Pacific Press, Canberra, 2002.
- R A Schurman, 'Tuna dreams: resource nationalism and the Pacific Islands' tuna industry', *Development and Change*, Vol 29, No 4, 1998, pp 107-136.
- SPC, *Tuna Fishery Yearbook*, Secretariat of the Pacific Community, Noumea, 2000.
- A Stoeckel, *What drives Australia's prosperity*, Centre for International Economics, Sydney, 2001.
- J Tinbergen, *On the Theory of Economic Policy*, Elsevier, North Holland, 1952.



- T Toatu, 'Unravelling the 'Pacific Paradox' - the case of Kiribati', *Pacific Economic Bulletin*, Vol 16, No 1, 2001, pp 109-122.
- United Nations, *United Nations Convention on the Law of the Sea*, 1994, Available from the United Nations website: <http://www.un.org/depts/los/index.htm>
- World Bank, *Pacific Island Economies: Building a Resilient Economic Base for the Twenty-first Century*, The World Bank, Washington, D.C., 1996.
- World Bank, *Cities, Seas, and Storms: Managing Change in Pacific Island Economies*, The World Bank, Washington, D.C., 2000.

## Footnotes

- 1 No government has entered into a major joint venture with its own private sector (ADB 1997).
- 2 For perspective, the Federated States of Micronesia GDP in 1995 was US\$206 million.
- 3 The poor performance of STL has seen a steady decrease in penetration of canned tuna into the European Union market to the benefit of countries such as Thailand and the Philippines who do not possess advantages of abundant stocks of tuna in relatively close proximity or a 24 percent margin of preference under the Lomé Convention and Contonou Agreement. This trade preference has helped support a non-profitable industry. Global and regional trends (such as a decrease in preference to the European Union, low tuna prices and social unrest in 2000) and a diminishing reliance on Maruha and the Solomon Islands government for protection during lean periods has caused Maruha to leave the joint venture, offering a redundancy package to the small remaining active workforce (170) and the inactive workforce (1730). The company is now 51 percent owned by the national government through the Investment Corporation of the Solomon Islands and 49 percent owned by the Western Province government. The future of the company is still uncertain. It is argued that privatisation of the company will allow the development of a more productive and hence profitable company if comparative advantage in the industry exists.
- 4 For a transshipment facility to be profitable, Schurman (1998) notes that it requires a large number of boats to support it, approximately 15 to 20. However, foreign boats are highly mobile which causes the Pacific Island countries to invest in their own longline fleets to decrease their risk of being left with an expensive servicing facility and no boats to service.
- 5 For a review of institutional structures for fishery management see Petersen (2002).