

The role of the tuna fishery in the economy of Federated States of Micronesia

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The Federated States of Micronesia (FSM) inherited an environmentally fragile and somewhat arbitrary base for nationhood that bears little resemblance to its inhabitants' usual spheres of interaction during millennia of occupation of the region. FSM has a small population scattered across a myriad of islands whose land area is far smaller than the tuna-rich area of ocean encompassed within its territorial waters. It is perhaps not surprising then that FSM's fisheries have been seen by many as the main hope for its economic future. This issue has become all the more urgent in recent years with the signing of a new agreement that will see funding by the United States gradually diminish until 2023. The search for viable alternatives to its past and current reliance on US funding has now become the central issue in FSM.

While fisheries are an important asset for FSM, other economic options offer perhaps greater promise, while the modification of existing Carolinian institutions offers a more effective and possibly less disruptive means of achieving economic independence and modernity and a sustainable fishery than other solutions,

which seek to 'fast-track' the process by grafting modern western institutions onto islander societies. These problems and proposed solutions are not limited to FSM, but have wider applicability across much of Oceania.

FSM today

FSM is oceanic in nature and outlook. It stretches 2,900 kilometres from east to west and embraces an exclusive economic zone of 2,978,000 square kilometres, yet its 607 islands amount to only 702 square kilometres of land. Most of the islands are small, low lying and uninhabited. The population was estimated at 108,000 in 2005, living on 65 islands spread across four states: Yap, Chuuk (formerly Truk), Pohnpei and Kosrae. Approximately 53,500 people live in Chuuk State, 34,600 in Pohnpei, 11,200 in Yap and 7,880 in Kosrae. The literacy rate is estimated at 89 per cent, while life expectancy is 68 years for men and 71 years for women. The population is predominantly Christian, roughly evenly divided between Protestants and Catholics. English is widely, but not

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universally, spoken to greater or lesser degrees, alongside local Carolinian languages (Australia 2006; New Zealand 2006; Lal and Fortune 2000; Crocombe 2001).

FSM has an independent, constitutional government in free association with its former colonial administrator, the United States. This status came about when it entered into a Compact of Free Association with the United States in 1986. The FSM government is structured on an American-style constitution that divides power between an executive branch, a legislative branch and a judicial branch. As is perhaps appropriate for such a scattered population, the government is effectively a federation of states with power divided between a single-chamber federal legislature based in Palikir, Pohnpei, and the four state legislatures. All five legislatures consist of elected representatives and each state has its own constitution and governor. State governments retain considerable power and influence, particularly over budgetary matters (Australia 2006; New Zealand 2006; Lal and Fortune 2000; Crocombe 2001).

The unicameral federal legislature is known as the National Congress and consists of 14 members. Each state elects one senator to the National Congress for a four-year term, while the remaining 10 members represent single-member districts and serve two-year terms. The latter are population-based districts covering approximately 10,000 people each so that five are in Chuuk, three in Pohnpei and one each in Yap and Kosrae. The 14 members of congress elect a president and vice-president, who must come from different states. Cabinet is nominated by the president, subject to congressional approval. Spreading representation across this vast fragmented electorate does have its disadvantages: there is a relatively high ratio of politicians to electors and the diffusion of power between legislatures and the lack of national political parties makes the rapid implementation of

important policy problematic. Yet, any consolidation would leave outer islanders, in particular, under-represented or possibly even unrepresented (Australia 2006; New Zealand Ministry 2006; Lal and Fortune 2000; Crocombe 2001).

Environmental and economic fragility are major concerns. The majority of the world's typhoons pass through the territory of FSM along a corridor known as 'typhoon alley'. The low-lying atolls that make up the majority of FSM's islands are particularly vulnerable, but even large high islands such as Pohnpei can suffer significant damage from powerful winds and storm waves and salt-water inundation of crops (Lobban and Schefter 1996; Alkire 1978). The alignment of the islands of FSM means that many can be affected by the same typhoon. When Typhoon Owen crossed Chuuk and Yap States in November and December 1990, the atolls of the Hall Islands, Namonuito, Pulap, Satawal, Lamotrek, Elato, Ifalik and Woleai lost more than 90 per cent of their dwellings and food crops, while Faraulep, Ulithi and Chuuk had up to 30 per cent of the human infrastructure destroyed (Lobban and Schefter 1996).

The provision of transport and services to such a scattered population is expensive and the very real danger of storm damage must be a consideration for those in charge of developing infrastructure on low coral islands. It is worth noting in this regard that super-typhoon Pongsona, which struck Guam in 2002, caused more than US\$226 million worth of damage. Rebuilding and compensation was enabled only by the United States government agreeing to cover 90 per cent of the cost (Marsh-Kautz 2004).

The post-World War II economy of the region has been heavily dependent on American funding. In 1947, the United States became the administering authority of most of formerly Japanese-controlled Micronesia under a trusteeship with the United Nations

Security Council. In 1979, Pohnpei, Chuuk, Yap and Kosrae ratified a new constitution to become the Federated States of Micronesia. FSM signed a Compact of Free Association with the United States in November 1986, signalling its transition to an independent nation. Under the terms of the compact, FSM controlled all domestic and foreign policy with the exception of defence and security, which remained under United States control. The Compact included provision for substantial direct financial assistance for development for its duration, from 1986 to 2001. This amounted to just less than US\$100 million a year when combined with other US aid, and formed the bulk of the nation's income (Australia 2006; New Zealand 2006; Lal and Fortune 2000).

A new Compact came into force in 2004 after extensive negotiations between FSM and the United States. Under the new terms, annual grants from the United States would gradually decrease in size until they end in 2023. The United States has undertaken to provide the equivalent of US\$1.8 billion to FSM during this period. Compact funds are to be disbursed as grants to six sectors: education, health, infrastructure, public sector capacity building, private sector development and the environment. A trust fund has also been established to provide a continuing source of revenue after Compact funding expires in 2023. The FSM government contributed US\$30 million to the trust fund in 2004. After 2007, the US contribution will consist increasingly of contributions to the fund as its direct grants diminish accordingly. A joint US-FSM committee, consisting of three United States and two FSM members, will oversee and monitor the use of the grants and trust funds (Federated States of Micronesia 2003).

Funding arrangements to date, combined with FSM's fundamental problems of smallness of scale, remoteness from markets and a scattered population, have

created a dual economy. One part is urban and dominated by the government sector, with little private sector development. Government employs more than half of the workforce despite a campaign of public sector rationalisation in the 1990s, and government salaries account for more than half of GDP. The other part is a rural and largely subsistence economy.

Fishing and tourism are generally seen as the best options for generating income to make up the shortfall arising from the reduction in United States funding. FSM exported a little over US\$18 million worth of copra, fish, bananas, black pepper and garments in 2004, with fish exports making up 80 per cent of total exports. FSM also earns about US\$20 million a year in fishing licence fees for foreign vessels from Taiwan, Japan, South Korea and the United States to fish in its exclusive economic zone. Tourist attractions such as World War II wrecks for divers to explore and the ancient stone settlement of Nan Madol on Pohnpei attract about 15,000 visitors a year, mainly from East Asia. Limited hotel rooms and other tourist infrastructure on top of poor air services pose real barriers to expanding tourism income. These potential large revenue earners must not only fill the shortfall created by the reduction of American funding, they must make up the difference between imports and exports if current patterns continue. Imports were almost 10 times the value of exports in 2004 (Australia 2006; New Zealand 2006; United States 2006).

Future directions

The stated aim of the United States in the new compact is to promote 'the economic advancement and budgetary self-reliance of the Federated States of Micronesia' (Federated States of Micronesia 2003:Preamble). Article II outlines sector-

specific priorities that the United States considers to be the most effective way to achieve these ends. Education and health are seen as priorities. A quality basic education covering primary through to tertiary education is advocated, but one that is appropriate for FSM's needs. Attempts should be made to make education relevant to the needs of the economy, including vocational training. The health sector should focus on preventative, curative and environmental health, emphasising community-based care, with hospitals as a secondary back-up. Attention is to be given to improving the training of staff in the health and education sectors.

Emphasis should also be placed on developing a private sector by removing barriers to external foreign investment and promoting indigenous enterprises, particularly in fisheries, tourism and agriculture. The primary means for promoting these goals are seen to be legal provisions, privatising government activities, developing citizens' entrepreneurial skills and utilising new telecommunications technology. Those elements of government not privatised should become more transparent and accountable, and greater attention needs to be paid to the enforcement of laws and regulations.

Curbing terrestrial and aquatic environmental degradation through effective legal and planning regimes is also highlighted, with FSM governments encouraged to work alongside non-governmental organisations, FSM citizens and traditional chiefs. The last of the six priorities, infrastructure, is designed primarily to assist the effective development of health, education and private sector initiatives. Infrastructure supporting educational and health facilities is given priority, including clean water supplies and safe waste disposal. Facilities seen as particularly beneficial for economic development include airport and harbour

facilities, roads, sea walls and renewable energy options. Inter-island air and sea transport are not mentioned specifically.

In June 2006, the United States Government Accountability Office released a report on the prospects for success of the Compacts with the FSM and the Republic of the Marshall Islands as it is required to do under the terms of the Compacts. Although acknowledging that the new Compacts were still in their early days, the report found major governance problems acting as barriers to the achievement of the above aims, particularly a lack of government consensus and communication. The US Government Accountability Office saw only limited potential for self-reliance and long-term advancement, with few economic policy reforms implemented and about two-thirds of public sector expenditure still funded by external grants (United States 2006). It was felt that private sector investment was being deterred by overly complex and confusing tax regulations and administration, and by the complexities of traditional land tenure systems for investors wanting to gain access to land for business purposes (United States 2006).

A few months later, in a meeting in Honolulu, David Cohen, deputy assistant secretary for the US Department of the Interior's Office of Insular Affairs, urged FSM officials to pursue sustained economic growth for their long-term economic viability. Cohen stated that there was only one option to achieve this.

First and foremost, sustained economic growth means sustained private sector economic growth. The public sector-dominated economies of the RMI and the FSM are heavily dependent upon foreign aid... Only the private sector can create new wealth and therefore, only the private sector can provide the engine necessary for sustainable economic growth (Casas 2006:1).

The lessons of history

Unfortunately, practical experiences in FSM and elsewhere in the Pacific suggest that the seemingly sound economic principles espoused above will not succeed, and might even cause more harm than good. They are more principles to aim towards in the long-term than practical, immediately applicable methods that will allow their advocates' aims to be achieved in the near future by under-prepared and under-financed Carolinians.

The tuna fishery industry is usually celebrated as FSM's best chance of creating a viable domestic income stream worth potentially hundreds of millions of dollars. The FSM government embraced this opportunity enthusiastically when Compact funds became available and financed a number of domestic fishing ventures. Eleven government-financed fishing ventures were established in the 1990s at a cost of US\$65 million. Yet, they collectively made a profit in only one year of just US\$20,000, and ran up more than US\$27 million in losses. Reflecting on this experience, Hezel and Lightfoot (2005) note that FSM authorities are perhaps best to focus on the lower-return but less risky strategy of relying on licence fees and trans-shipment profits rather than direct participation. They point out that

[t]he fishing ventures in FSM were subject to the vicissitudes of the market and the influence of many factors that could not be seen clearly at the time. We recognise more clearly now that tuna is an international commodity and that the fishing industry is highly competitive and high-risk. It operates on small margins of profit and requires large economies of scale; the fishing fleets must be flexible and mobile, always ready to move when circumstances demand. Furthermore, we can not assume that island people will be willing to serve on fishing boats

inasmuch as fishermen are poorly paid, subject to cramped and even squalid conditions on the boat, and expected to spend nearly all their time fishing even if this means neglecting other social and cultural obligations (Hezel and Lightfoot 2005:8).

Private sector involvement should therefore be encouraged, particularly by those willing to be based wholly or partly in the FSM and willing to bear the financial risks involved. While attempts to establish a domestic tuna fleet in the 1990s were costly, they created a solid core of local businessmen and fishers experienced in the ways of the modern tuna industry, which might serve as a foundation for future enterprises.

The record for tourism in the FSM also appears discouraging. Despite a number of attempts to boost tourism, visitor numbers have remained relatively constant for the past 20 years at about 15,000 to 20,000 a year. New hotels, airport improvements, visitor bureaus and tourism web sites have all been attempted, with only limited success. Distance from markets, poor international access and a general lack of readily accessible white sandy beaches like those of Guam and Saipan continue to deter visitors (Hezel and Lightfoot 2005:9–10). It makes little sense for FSM to develop poor copies of the tourist facilities available in Saipan or Guam. Economies of scale mean that these places are better equipped than FSM to ride the highs and lows of tourist demand. The Commonwealth of the Northern Mariana Islands (CNMI) and Guam have suffered enormous drops in income as a result of slumps in tourist numbers in recent years (Marsh-Kautz 2004; Eugenio 2006).

The fact that Palau generally receives up to 100,000 tourists a year, the CNMI hosts more than 500,000 visitors a year and Guam more than a million does offer the possibility of piggy backing on these attractions by niche marketing FSM's distinct features, such as

Nan Madol, or the fact that it is relatively undeveloped and off the beaten track. Hezel et al. (1997) caution against relying on ecotourism, pointing out that it works only with low visitor numbers. It offers a supplementary income for certain local communities rather than a viable substitute for FSM to replace United States contributions. In this way, the relatively low returns do not require high initial costs to develop infrastructure and money goes directly to a community in what amounts to a significant cash dividend for those specific communities. In contrast, the United States Government Accountability Office report suggests there is a market for a few expensive resorts catering to high-end tourists drawn by the relatively untapped nature of much of FSM (United States 2006:25).

Reform of government is another concern to be addressed. The main themes promoted have been curbing corruption through greater accountability and transparency in government operations (Larmour and Barcham 2005; Hill 2004; Hezel 2004), and cutting the public sector to reduce the large share of public sector salaries in the budget. President Urusemal has made transparent and accountable governance the priority of his administration. Much of FSM's corruption has centered on Chuuk State, which is bankrupt and heavily in debt through mismanagement. There are already encouraging signs that the epicentre of the problem is being reformed. The FSM Executive Branch charged then-Speaker Jack Fritz with abuse of funds, and he resigned soon afterwards. President Urusemal has expressed optimism that Chuuk might reform its ways with the recent election of Governor Wesley Simina (Johnson 2005). Government cutbacks are another issue. Presumably, those public servants laid off by governments can be

absorbed within the robust private sector that the compact seeks to develop. Otherwise, they will have to rely on the support of kin or re-enter the economy of their home communities.

A sea less travelled: combining the old and the new

Ironically, perhaps the best medium for modernising FSM is one of the oldest and most enduring institutions: geographically extended kin groups, which combine highly localised affinities with regional worldviews. The view that traditional institutions are barriers to progress pervades much development literature. They can be, but are not intrinsically so. Alternative strategies, patterns and practices used elsewhere in Oceania offer viable options that modify the conventional economic model brought into question above and play to the strengths of Micronesian societies that have worked since the dawn of time, which continue to work and which offer the best hope for future self-sufficiency and relative prosperity.

In his 1994 article 'Our sea of islands', Tongan scholar Epeli Hau'ofa made a passionate and articulate islander-centred response to the 'basket case' MIRAB stereotype used to describe many of the smaller nations of contemporary Oceania. MIRAB refers to the main funding sources of these economies: migration, remittances, aid and bureaucracy. The MIRAB image is one of tiny, non-viable economies forever condemned to dependency on aid from former colonial powers (Bertram and Watters 1985). This rather gloomy prognosis pervades many of the prescriptions for economic advancement in Oceania just reviewed.

Hau'ofa argues that these 'basket cases' were the result of barriers created by colonial

boundaries and policies that imposed an artificial sense of isolation and separation on islanders. Islanders must now decolonise their minds and recast their sense of identity by rediscovering the vision of their ancestors, for whom the Pacific was a boundless sea of possibilities and opportunities. Hau'ofa asserts that

[t]he world of our ancestors was a large sea full of places to explore, to make their homes in, to breed generations of seafarers like themselves... Theirs was a large world in which peoples and cultures moved and mingled, unhindered by boundaries of the kind erected much later by imperial powers (Hau'ofa 1994:153–4).

While many scholars have expressed admiration for this image, few have seen that it carries any practical implications for resolving problems faced by modern Pacific island nations. They are wrong. Hau'ofa's image of the pre-colonial Pacific is especially true for the island communities now contained within FSM's borders, and the cultural and historical patterns of interaction and organisation are highly compatible with the stated goals of development specialists and offer proven, enduring frameworks to help bring about these goals. Carolinians have successfully adapted to one of the most challenging environments on the planet by creating flexible cultural institutions that have seen them through typhoons, tsunami, Western epidemics and world war—far greater challenges than those they currently face.

Before colonial rule, islanders travelled regularly between islands for economic, political and social reasons. Goods were exchanged on a regular basis. These exchanges were as much about forging and reinforcing social and political relations as they were about supply and demand. The process mattered as much as the goods

exchanged. The social ties forged by such relationships could be called on in times of need, such as drought or the aftermath of storms (Alkire 1978). It is worth recalling that most of typhoon alley lies within the boundaries of FSM. It is therefore not surprising that many clans had members on a number of islands, on whom kin could call in times of need. Although colonial rule imposed problematic boundaries and restricted travel, it did not destroy these links. In my lifetime, anthropologist William Lessa recorded that the Mongolfach clan still had members on 10 atolls from Ulithi to Puluwat, and beyond to the high islands of Chuuk Lagoon (Lessa 1980; Alkire 1965; Alkire 1977). Then, as now, blood links mattered as much as territorial residence.

These clans form a solid social base that has weathered centuries of tough environmental conditions and multiple colonial rulers. They have centuries of experience of dealing with having significant numbers of their group off-island and are therefore perhaps ideally suited to adapt once more to the increasing trend of large-scale out-migration from FSM. Those heading to Guam follow in the footsteps of their ancestors, who made annual trade visits to Guam along Mutau-uol, a 756km seaway, or settled on the high island of Saipan to escape typhoons and tsunami (Alkire 1965; Barratt 1988; Farrell 1991).

Despite the generous access to US territory provided by the new Compact, Carolinians still face prejudice and institutional barriers in taking their first step to access the US job market. The governments of Guam and the CNMI have complained about the added burden they carry in being the first port of call for Micronesian migrants, and CNMI authorities went as far as trying to formally restrict entry for other Micronesians in the late 1990s, even though they are entitled to enter under the terms of the Compact. The United States provides

monetary compensation to both governments in recognition that they bear a disproportionate cost to other parts of the United States in catering for these new arrivals seeking access to superior health, education and job opportunities (Crocombe 2001).

When they first arrive, many Carolinians tap into support networks of resident kin. The recent United States Government Accountability Office report on FSM notes that the number of migrants is unknown, as is the amount of remittances sent back to kin in the FSM. The report did, however, caution that 2003 United States census data revealed that 45 per cent of the 17,286 FSM migrants recorded in Hawai'i, Guam and the CNMI were living below the poverty line, arguably limiting the amount of discretionary income available to be sent home. Forty-seven per cent, however, were employed and only 21 per cent were unemployed (United States 2006). The recent announcement that the US military presence on Guam will be increased substantially means more employment opportunities will soon be forthcoming (*Pacific Daily News* 2006).

Official figures, however, underestimate the extent of overseas migration and the contribution of remittances and extended opportunities to the FSM economy. Drawing on official and unofficial information gathered during decades of living in FSM, Hezel and Lightfoot estimate that about 30,000 FSM citizens now live overseas. This represents 25 per cent of the population. Only about 60 new paid positions are created each year in FSM due to cuts to government funding and the failure of the private sector to take off.

A 1998 survey of migrants to Hawai'i found that 30 per cent of new migrants found work. Applying this figure to the 2,000 FSM citizens who migrate annually equates to 600 new positions going to FSM migrants each year. In other words, for every job created for

an FSM citizen within the FSM, its citizens are finding 10 others outside the country (Hezel and Lightfoot 2005). This substantially reduces the number of unpaid relatives per individual employed kin within the FSM who might need to call on kin links for support. Working on the figure of 30 per cent of FSM migrants being employed, Hezel and Lightfoot note that if each of the 8,000 sent home just US\$1,500 each year to family and kin, this would equate to US\$12 million. This is about the same amount that FSM currently obtains from fishing licences (Hezel and Lightfoot 2005). Other data suggest that this is a conservative figure. Remittances make up 25–45 per cent of Western Polynesian nations' GDP, and the United States Government Accountability Office employment figures for FSM migrants in Guam cited above are well above Hezel and Lightfoot's 30 per cent figure. Even taking these factors into account, current annual remittances are still probably well short of the amount received from the United States through the Compact.

The FSM government can help realise the full potential of remittances by ensuring FSM citizens overseas do not lose voting and land rights back home, thus reinforcing their links with kin, homelands, home seas and ancestors. They should also alter their educational priorities to take these patterns into account. The new Compact's emphasis on vocational training, while well intentioned and necessary to a certain degree, is perhaps inappropriate for the 50 per cent of high school graduates who leave FSM for opportunities overseas in economies that have moved beyond primary production to service-related industries as part of a global trend. Interestingly, the best-educated FSM citizens tend to return home eventually, spurred on by the fact that they can obtain good jobs in FSM (Hezel and Lightfoot 2005). Every skilled worker who returns adds momentum to the FSM economy along the

lines that the new Compact seeks to encourage. Once critical mass is reached, the desired goal of a robust private sector might emerge. Such a modern private sector need not be divorced from the subsistence economy of many of today's FSM citizens. There is a more seamless transition between traditional ways and modernity already taking place elsewhere in Oceania, which is worth considering for the FSM.

Kin groups have much to recommend them as financial and modernising units. Direct payments to them or into kin-based trust funds would put money directly in the hands of the local communities they target. Such groups are a vibrant, coherent and enduring element of civil society, which has great potential but which is often overlooked. Larmour and Barcham (2005) recommend the use of non government organisations and civil society groups to promote government accountability and to extol the virtues of small entities as units working against corruption because of the intimate familiarity of those within the group and the shame connected with stealing from relatives. This reallocation of funds would also mean that there is less in government coffers to tempt corrupt officials. It is easier to detect loss in a smaller amount of funds and there is less money to skim off beyond that needed to fulfil minimum requirements. Political parties are also seen as good mechanisms for accountability (Larmour and Barcham 2005).

In the absence of national political parties in the FSM, extended kin groups whose collective interests extend beyond state issues have an important role to play in this regard. Based on an affluent subsistence economy centred on a booming but underestimated agricultural sector (Hezel and Lightfoot 2005; Hezel et al. 1997) and control of inshore fisheries, kin groups reach beyond state and national borders, linking internal and external migrants in the modern private sector back to kin and localities

organised around a combination of subsistence activities and cash crops.

Pacific island societies are communal and competitive by nature. Examples abound throughout colonial and modern history of indigenous groups drawing on the strengths of traditional ways to adjust to new circumstances and successfully competing against external 'market forces'. The example of the New Zealand/Aotearoa *iwi* (tribe) Ngai Tahu is particularly germane. There are 41,496 Polynesian New Zealanders who classify themselves as Ngai Tahu. They have been recognised as an '*iwi* authority' by government and must be consulted by government over resource management matters in their legally defined *rohe* (tribal territory). Tribal members are spread across most of New Zealand and beyond, and encompass rural and urban communities. Ngai Tahu is a legally recognised charitable trust for the purposes of governance and administration of its financial matters, balancing traditional concerns with modern business practices. Thus, the board consists of representatives from each of the 18 traditional regional sub-groups comprising Ngai Tahu, but is headed by a progressive and dynamic CEO, Tahu Potiki, and also employs a chief financial officer. Important decisions are made only after extensive consultation, and much of the *iwi's* financial status and policy debates are carried on its web site to increase access and transparency (<http://www.ngaitahu.iwi.nz>; Te Puni Kokere 2006). New Zealand's Minister of Finance Dr Michael Cullen, has labelled Ngai Tahu's approach to their economic development and social advancement 'social entrepreneurialism' (Cullen 2006).

In the late 1990s, Ngai Tahu appointed a highly representative Vision Focus Group to create a vision of where the *iwi* might be in 25 years so they could start thinking about developing priorities and strategies to achieve these goals. The web site carries the

vision and invites feedback so that the document is transparent and constantly evolving, as is the *iwi* and the conditions it faces. Given that the new Compact will also end about this time and that it has established a trust fund to replace United States grants, it is worth noting that *Ngai Tahu 2025* contains a section on investment planning. This section details how Ngai Tahu started with a NZ\$30 million Crown Settlement in 1998 and has increased its tribal equity substantially since then, largely through astute financial management and sound investments. It will be recalled that the FSM had to contribute US\$30 million to the establishment of its trust fund.

Kin groups are also a potential force with which to entrust conservation and exploitation of FSM coastal fisheries. The *Pacific 2020* background paper on fisheries recommends improving coastal fisheries management through community involvement (Clark 2006). As well as monetary benefits, local participation in inshore harvesting provides protein sources, import substitution for costly processed foods and local management of marine areas. Kiribati is developing a variety of initiatives to expand its near-shore resource base, which FSM might wish to emulate. These include tapping into the specialist aquarium-fish market, seaweed and pearl farming (Thomas 2003). Grafton et al. (2006) are more specific, pointing out that such schemes are particularly effective if local communities have the incentive to manage the resource effectively through uncontested ownership and by receiving benefits from the harvest of the resource. Management is most effective when there are group rights that lead to collective community action (Grafton et al. 2006; Hviding and Baines 1992).

The FSM is particularly well equipped to undertake such a strategy through having in place detailed traditional maritime tenure regimes. Resource tenure was based on

corporate control by kin groups, which held sections of the land, lagoon and reef. These sections were then allocated to households. Ulithi in the Western Carolines has probably the most thoroughly studied system of atoll sea tenure. Postwar studies by Lessa and Sudo (Lessa 1966; Sudo 1984) found that Ulithi's lagoon was divided into large district blocks, with the most powerful lineage in the district controlling access to all resources within it. The lagoon was divided into 14 lagoon sections and 18 reef sections. Maps of marine tenure on Ulithi and most other atolls show marine divisions as straight-edged blocks of territory incorporating the whole lagoon. Japanese ethnographer Ken-ichi Sudo's survey of sea tenure principles in Micronesia revealed a remarkably consistent pattern (Sudo 1984:226–7). Groups hold access rights by virtue of their membership of social groups, although ownership is vested in groups ranging from families up to the community as a whole. The smaller the basic tenure group, the more subdivided the inshore fisheries.

Few claims of traditional tenure are recorded in areas out of sight of land or the range of shore-based sea birds. The most detailed studies for Oceania come from the western half of FSM, where the sea is crowded with fishing banks, reefs and smaller, uninhabited atolls between inhabited atolls (Wiens 1962). There are 20 shoals and banks between 5 degrees and 10 degrees North latitude in this region. Some cover large areas. Mogami and Gray Feather Banks, for example, are 48 kilometres and 80 kilometres in diameter. They are only 1.6 kilometres apart and combine to form a large sea marker 80 kilometres west of Namonuito Atoll. Such conditions promoted offshore sailing and fishing. Gladwin (1970), for example, mentions that the inhabitants of Puluwat Atoll used to place huge fish traps on Uranie Bank, a broad reef that extends 32 kilometres to the east of the atoll. Each canoe house

placed its own fish traps in the area of the reef reserved for it.

Such offshore tenure means that a strong case for a stake in tuna proceeds can be made, particularly by outer islanders. Rather than create privileged access for outer islanders only, however, a more equitable and workable solution is that practised in New Zealand, where all kin groups are given a share of fishery access (Webster 2002). Outer-island sea tenure creates a strong case for the disbursement to kin units of at least some of the funds generated from tuna sales. Tuna trust funds such as those advocated recently by Parris and Grafton (2006) are perhaps a good option. In this way, recipients become stakeholders in the preservation of the tuna fishery and associate part of their financial well-being with the health of this fishery rather than merely as part of a larger undifferentiated hand-out from government.

Perhaps the greatest benefit of the kin corporation model is psychological rather than economic. A politically and economically independent people is still the ultimate objective, but here it is achieved by acknowledging what is good and admirable in Pacific cultures rather than seeking to remove perceived barriers and introduce new governance structures. Change comes from within and more on the terms of islanders themselves. By acknowledging what is strong and enduring in Pacific cultures and seeking to work within proven mechanisms, we accept that enduring change only ever comes voluntarily from within. I am optimistic that Carolinians and other islanders will rise and adapt to this challenge. Thousands of years of Pacific history permit no other conclusion.

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