

FISHING FOR SUCCESS

LESSONS IN PACIFIC REGIONALISM



Transform Aqorau



FISHING FOR SUCCESS

LESSONS IN PACIFIC REGIONALISM

Transform Aqorau

edited by
Kathryn Skorkiewicz

Department of Pacific Affairs
The Australian National University
Canberra

© Transform Aqorau 2019

Front cover: Kiribati — Controlling transshipments in port; source: Francisco Blaha.

Inside covers: Tuna; source: David Itano.

Back cover: Solomon Islands — Kids in an old canoe getting 'leakage' tuna from a local purse seiner;
source: Francisco Blaha.

A NOTE FROM THE AUTHOR

I grew up with the pole and line industry in Solomon Islands. This is a fishery that is now well over 40 years old, and although it has declined in size, at one stage it was the largest in the south west Pacific. Indeed, the industry is located on my tribal land... each morning at 4 to 5am, I am awakened by the noise of the bus taking the workers down to the cannery and the port which is situated about 30 minutes' drive from where I live. The importance of tuna and the tuna industry is brought home to me every day because I have cousins, aunties, uncles, nieces and nephews who work in the cannery and the port at Noro, the tuna capital of Solomon Islands...

I have seen the ripples on the surface of the ocean when there is a large school of tuna, and how the birds flock above the water signalling that there is tuna around somewhere...

The various shades and ramifications of what we [have done] here is brought home to me every day when I am back home.

Transform Aqorau

(Extract of statement to the Independent Adjudicator, New York, 2018. See Annexure 5)



© Francisco Blaha



Top: Kiritimati Island

Source: Francisco Blaha

Bottom: Kiritimati Island

Source: Francisco Blaha

CONTENTS

A NOTE FROM THE AUTHOR	i
BOXES	v
FIGURES	vi
TABLES	vi
ABBREVIATIONS	vii
GLOSSARY OF TERMS	ix
FOREWORD	xiii
PREFACE	xv
ACKNOWLEDGEMENTS	xvii
INTRODUCTION	i
CHAPTER 1: THE CONFLUENCE OF INTERESTS, PERSONALITIES, AND SHARED VISION	7
CHAPTER 2: FUNDING, ADMINISTRATION AND INSTITUTIONAL CHALLENGES	21
CHAPTER 3: THE EARLY FOOTPRINTS AND BECOMING <i>ISLAND BUSINESS</i> MAGAZINE'S ORGANISATION OF THE YEAR 2010	35
CHAPTER 4: MARINE STEWARDSHIP COUNCIL (MSC) ECO-LABEL, PACIFICAL AND THE PNA OBSERVER AGENCY	47
Raising the Standards, the Marine Stewardship Council (MSC) Certification and the Development of Pacifical	47
The MSC Certification Process and the Political Ramblings	55
The Establishment of the Pacifical Joint Venture and its Global Aims	60
The Pacifical Co-brand	62
The Development of the PNA Observer Agency (POA)	65
CHAPTER 5: THE VESSEL DAY SCHEME (VDS) — TRADING AND ADDING VALUE	73
The Historical Development of the Palau Arrangement and Capacity Limits	73
The VDS, Its Efficacy and Challenges	80
Getting the Mechanics Right!	92
The Regional Trading of Days	96
The 'Regional Day' Concept — PNA Office Trading	97
The Longline VDS	103
The Raison d'Être for the Longline VDS	104
Operationalising the Longline VDS	109
CHAPTER 6: DEVELOPING THE PNA'S FISHERIES INFORMATION MANAGEMENT SYSTEM (FIMS)	113
Developing a Separate Fisheries Management System	113
Achieving Greater Integration through the PNA FIMS	123
CHAPTER 7 CONCLUSION	127
ANNEXURE 1: THE SIZE OF THE WCPO TUNA FISHERY	135
ANNEXURE 2: LIST OF INTERNATIONAL FISHERIES LAWS, ARRANGEMENTS AND AGREEMENTS	137

ANNEXURE 3: FIRST EMAIL TO PNA MEMBER STATES AT THE ESTABLISHMENT OF THE NEW OFFICE	140
ANNEXURE 4: CONDITIONS OF THE PNA'S MSC CERTIFICATION	142
ANNEXURE 5: STATEMENT TO THE INDEPENDENT ADJUDICATOR, NEW YORK, 2018	144
ANNEXURE 6: EMAIL TO STAN CROTHERS, DEPUTY CEO OF THE NZ MINISTRY OF FISHERIES ON THE VDS	146
ANNEXURE 7: EXCERPT FROM PROFESSOR RAGNAR ARANSON'S REVIEW OF THE VDS	147
ANNEXURE 8: COMPARISON OF LONGLINE MANAGEMENT CONTROLS (CAPACITY, EFFORT & CATCH) AGAINST PNA OBJECTIVES	148
ANNEXURE 9: EMAIL TO CHAIR OF THE PNA ON THE PURCHASE OF THE IP OF FIMS AND IFIMS	149
REFERENCES	151
ABOUT THE AUTHOR	153

BOXES

Box 1: The Need for New Controls over the Pacific Tuna Fishery	16
Box 2: Setting up the New PNA Office	23
Box 3: Convincing the PNA Members	28
Box 4: The Introduction of the Conservation Levy	30
Box 5: It's a Matter of Empowerment	34
Box 6: Establishing the PNA Against the Odds	38
Box 7: Throw the Old Models Out the Window	43
Box 8: The 2010 Presidential Leaders' Summit in Palau	45
Box 9: The PNA's MSC Certification	52
Box 10: The MSC Certification Process	57
Box 11: Establishing Pacifical	62
Box 12: The Rewards of Pacifical	65
Box 13: The Overhaul of Observer Programs	66
Box 14: The Vessel Day Scheme	74
Box 15: The Precursor to the VDS: The Palau Arrangement	77
Box 16: The Problems with the Palau Arrangement	80
Box 17: Empowering the Right Holders through the Vessel Day Scheme	85
Box 18: Steps in Implementing the VDS	88
Box 19: Early Difficulties in the VDS	90
Box 20: Getting the Mechanics Right	94
Box 21: The 'Regional Day' Concept	99
Box 22: Doubling the Value of the Fishery	100
Box 23: The Longline VDS	108
Box 24: More on the Longline VDS	110
Box 25: A Background to the PNA's Fisheries Information Management System	114
Box 26: Developing FIMS	117
Box 27: How FIMS Makes a Difference	124

FIGURES

Figure 1: PNA Share of the WCPO in 2001	3
Figure 2: Purse Seine Effort during La Niña and El Niño	4
Figure 3: PNA Logo	10
Figure 4: Myself, Maurice and Anton Posing in the Office a Few Days After I Arrived, February 2010	24
Figure 5: Share of Benefits for PNA Member States from the Sale of a Can of Tuna	37
Figure 6: Proportion of PNA Share of Global Tuna Canning Material	40
Figure 7: Share of PNA Benefits and Catch	41
Figure 8: Fish Aggregating Devices (FADs) Being Pulled from the Sea and on Deck	51
Figure 9: The Pacifical Logo	63
Figure 10: Canned Tuna with the MSC and Pacifical Logo	64
Figure 11: Longline PAE Utilisation, 2017	112
Figure 12: General Schematic Flow of the PNA FIMS	119
Figure 13: Vessel Tracks Showing Entry and Fishing Activities	122
Figure 14: Revenue from the VDS from 2010 to 2018	129

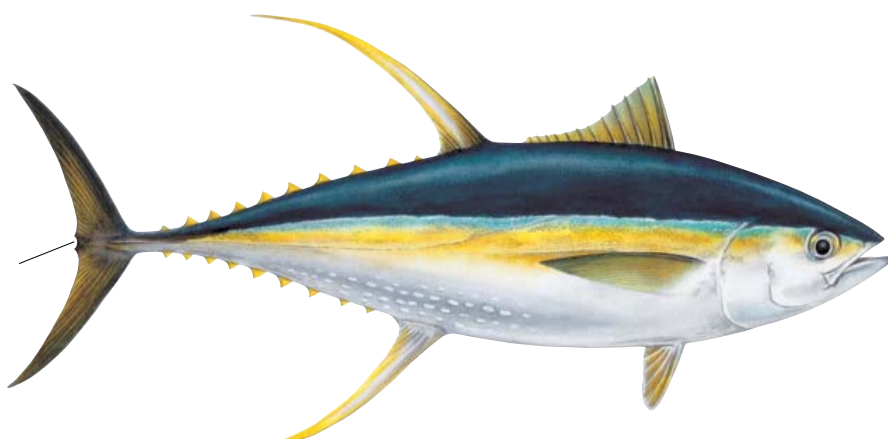
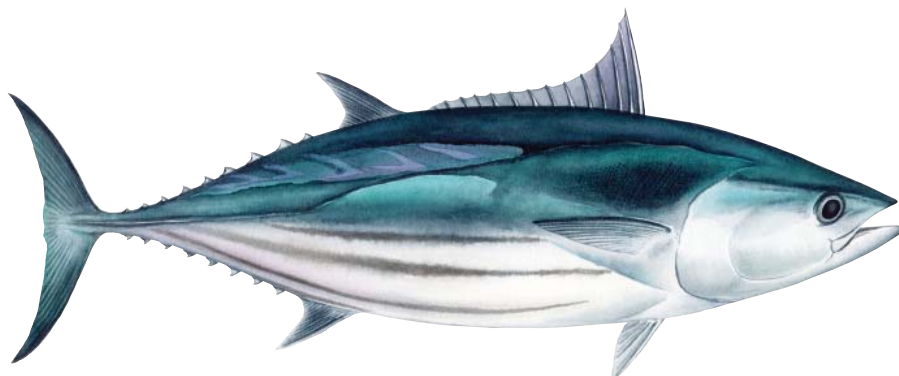
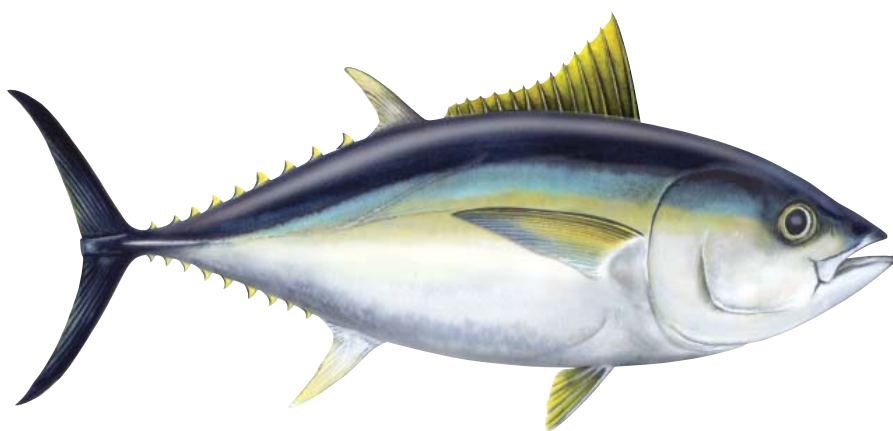
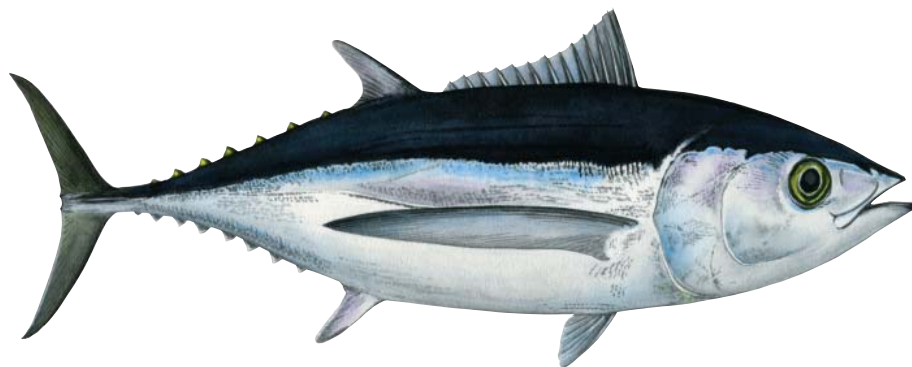
TABLES

Table 1: Allocation of Fishing Days in 1994 Highlighting More Recent Marked Increases	79
Table 2: Proposed TAE for 2019 and Proposed Provisional TAE for 2020 and 2021	87
Table 3: Allocation of PAEs from 2010 to 2016 and Traded Days	89
Table 4: WCPFC Longline Bigeye Catch Limits	105
Table 5: Annual Longline Catches by Zone	106
Table 6: Longline VDS PAEs and TAE for 2019–21	109
Table 7: PAEs and Days Monitored in FIMS in 2017	111

ABBREVIATIONS

IIA	First Implementing Arrangement	NFA	National Fisheries Authority (of PNG)
2IA	Second Implementing Arrangement	OPEC	Organization of the Petroleum Exporting Countries
3IA	Third Implementing Arrangement	OTEC	Organisation of Tuna Exporting Countries
ADB	Asian Development Bank	PAE	party allowable effort
ANU	Australian National University	PIF	Pacific Islands Forum
AusAID	Australian Aid	PII	Pacific International Inc.
CEO	chief executive officer	PIRTC	Pacific Islands Region Tuna Corporation
CMM	conservation and management measures	PNA	Parties to the Nauru Agreement
CoC	chain of custody	PNAO	PNA Office
DWFN	distant water fishing nation	PNG	Papua New Guinea
EEZ	exclusive economic zone	POA	PNA Observer Agency
EPA	Economic Partnership Agreement	QAC	Quick Access Computing Pty Ltd
EU	European Union	RFMO	regional fisheries management organisation
FAD	fish aggregating device	RMI	Republic of Marshall Islands
FAO	Food and Agriculture Organisation (of the United Nations)	RPNGC	Royal Papua New Guinea Constabulary
FFA	Forum Fisheries Agency	RPOA	Regional Plan of Action
FFC	Forum Fisheries Committee	SHP	Southern Highlands Province
FIMS	Fisheries Information Management Systems	SIDS	small island developing states
FSM	Federated States of Micronesia	SPC	Secretariat for the Pacific Community
IFC	International Finance Corporation	SPREP	South Pacific Regional Environment Programme
iFIMS	Industry portal of FIMS	TAE	total allowable effort
IMS	Integrated Management System	TCC	Technical and Compliance Committee
IPNLF	International Pole and Line Foundation	TWG	technical working group
ISO	International Standards Organisation	UN	United Nations
ISSF	International Seafood Sustainability Foundation	UNSFA	UN Fish Stocks Agreement
ITQ	individual transferable quotas	US	United States
IUU	illegal, unregulated and unreported fishing	USP	University of the South Pacific
MIMRA	Marshall Islands Marine Resources Authority	VDS	Vessel Day Scheme
MoU	Memorandum of Understanding	VMS	Vessel Monitoring System
MRAG	Marine Resources Assessment Group	WCPFC	Western and Central Pacific Fisheries Commission
MSC	Marine Stewardship Council	WCPO	Western and Central Pacific Ocean
MSY	maximum sustainable yield	WWF	World Wildlife Fund

Types of Tuna Referred to in this Book: Albacore, Bigeye, Skipjack, Yellowfin



Source: Reproduced by the kind permission of the Secretariat of the Pacific Community; illustrations by Les Hata

GLOSSARY OF TERMS

Albacore tuna: is sometimes referred to as the 'chicken of the sea' because of its feature as a long fin tuna. It is not a large tuna, and may grow up to reach about 120 cm, but generally they are less than a metre in length. Albacore may be identified by the top part of the body, which is often blue and with the bottom part silver/white. Its distinctive feature from other tuna is its long fins which are the ones growing from near the head, spanning past its midsection almost three quarters of the length of its body, resembling wings. Albacore is caught mainly by longline fishing boats.

Bigeye tuna: an adult bigeye tuna is generally characterised by its large eyes and fairly robust and rounded body. It has a distinctive metallic blue colour shade along the top half of its body with a whitish lower half. They grow very big and are round. They have a torpedo-shaped body, but are distinguishable from the other species of tuna by their robust and round shape around the middle, growing thinner towards the tail. They can sometimes weigh up to 180 kg. The adult bigeye tuna is caught using longlines, while juvenile bigeye tends to be caught by purse seiners.

Chain of Custody (CoC): refers to the system of traceability developed by the PNA Office to verify free school caught skipjack tuna to qualify as MSC certified.

Distant water fishing nations (DWFNs): are generally understood to mean the United States, countries of the European Union, Japan, Taiwan, Korea, China and the Philippines, whose flag vessels are licensed to fish by the PNA members. Their vessels fish beyond the waters of their countries. Increasingly, there are PNA members' own flagged vessels that also fish beyond their national waters, but these are not considered as DWFNs as they are from within the region.

Fish aggregating device (FAD): is a floating object which can be naturally occurring, such as a drifting log, or an artificially created object specifically designed for the purpose, that is deployed at sea by fishing vessels to attract tuna and other fish species. Sometimes a satellite buoy is attached to these devices so that they may be tracked and the density of the fish underneath them can be monitored.

Flag state responsibility: refers to the duty of states whose vessels fly their flags to ensure that their vessels comply with all the laws and regulations of the coastal states in whose waters their vessels fish. This includes the duty to take legal action against their flag vessels when they contravene the fisheries regulations of the coastal states.

Free school fishery: refers to a school of fish targeted by purse seine vessels. The school swims up to the surface, an action not associated with a FAD. Usually, a free school of tuna can be identified by the presence of a flock of birds around the school of fish, which can cover a wide area of the sea.

Harvest control rules: are pre-agreed rules that define what to do to avoid a fishery reaching a threshold whereby it might be threatened by overfishing. It entails agreeing on limit reference points, which is the zone where you do not want the fishery to be fished to, and the risk levels at which action must be taken to avoid fishing the stock down to the limit reference points.

Longline fishing: is a method of fishing that involves the deployment of a longline which can extend to up 40 miles, having branch lines with bait attached to them that drop to depths of 100 metres. This method generally catches the deeper-swimming adult bigeye, yellowfin and albacore tuna.

Marine Stewardship Council (MSC): is a London based non-government organisation that sets out principles for a sustainably managed fishery for their MSC eco-label which is attached to fish products that are sold in supermarkets. A fishery is assessed against the MSC principles by independent auditors who decide whether it meets the MSC standards and qualify to carry the MSC logo in their products. The MSC itself does not assess a fishery.

Nauru Agreement: signed in Nauru in 1982 by members of the PNA, member countries were seeking to increase the economic returns from the tuna resources, and to coordinate their efforts against the DWFNs through the development of subsidiary arrangements, setting out minimum terms and conditions of access by foreign fishing vessels. See Annexure 2 for a list of agreements and arrangements pertaining to fisheries.

Officials: PNA member state government officials charged with liaising with the PNA Office. These are generally the respective heads of the fisheries departments of the PNA members.

Pacific Tuna Forums: is a biannual gathering of representatives from the tuna industry, governments and research institutions who meet to discuss a range of issues impacting on the tuna fishery in the Western and Central Pacific Ocean (WCPO), from the status of the stocks, markets trends, and the economics of the fishery. The Pacific Tuna Forum is organised by the National Fisheries Authority (NFA) of Papua New Guinea and INFOFISH International, a Malaysian-based, inter-government organisation that provides marketing information and technical advisory services to the fishing industry in the Asia-Pacific region.

Party allowable effort (PAE): is the respective share of days that is allocated to the participants of the VDS. This is what each respective participant sells to fishing vessels and trades with the other participants.

PNA Observer Agency (POA): was established by PNA members' fisheries ministers in 2011 to manage and administer the deployment of fisheries observers on fishing vessels operating under the Federated States of Micronesia (FSM) Regional Access Arrangement, which is a multilateral fishing access agreement between the PNA members. The POA contracts observers from the PNA members when they are deployed on a fishing trip. The POA is responsible for all the logistics involving the deployment of the observer to repatriation, including managing the data workbooks, which are sent to the Secretariat for the Pacific Community (SPC) for analysis.

Parties to the Nauru Agreement (PNA): Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea (PNG), Solomon Islands and Nauru (hereinafter the PNA members or member states). Originally secretariat support was provided under the auspices of the Pacific Islands Forum Fisheries Agency (FFA), the PNA established its own secretariat in 2010 when the independent PNA Office was created (sometimes called the PNAO).

Pole and line fishing: is a method of fishing using a line attached to bamboo rods that the crew hold on the edge of the boat catch the tuna. Sardines are thrown on the side of the boat which leads to a feeding frenzy by the tuna. The crew then throw the lines over the side and hook the fish up to the boat by flicking the bamboo pole up. It is a labour-intensive method of fishing which is found in the Maldives, Indonesia, Japan and Solomon Islands. Japan has a long distant pole-and-line fleet that fishes down to the Marshall Islands and the Federated States of Micronesia.

Processors: refers to companies that own plants where tuna is landed and then converted into tuna loins or put in cans and then sold locally or exported to Europe, United States and Japan.

Purse seine fishing: involves the deployment of a purse seine net, which is usually attached to a small boat known as a skiff, around a school of tuna or a FAD and encircled. The purse seine net, which has weights attached to the bottom, is then pursed and pulled in by a large power block at the back of the boat. The purse seine net is pulled to the side of the boat and stacked and the tuna is then brought on to the boat by a brail, which is a smaller net attached to metal ring that can lift about 10 tonnes of tuna. The brail is winched into the net and the tuna is drawn out and unloaded to a chute that takes the tuna to the fish hold at the bottom of the boat. The process can take 3 to 4 hours from the deployment to the retrieval of the purse seine net.

Set: is when a purse seine boat deploys the purse seine net into the water. This is referred to as a set. Thus, a set can be made on free school tuna or on a FAD. Depending on the availability of tuna, a purse seine vessel can make more than one set in day.

Skipjack tuna: is not a large tuna, and can be identified by its torpedo shaped, purple-brown colour with three to five stripes along the stomach area from the pectoral region to the caudal tail region. Skipjack reaches to 70–80 cm and is a shallow water feeder, hence not many are caught by longliners, but are mainly caught by purse seiners.

Total allowable effort (TAE): refers to the total number of days that is set as the overall cap under the VDS, which the VDS participants are obliged to keep fishing effort within. It represents 'the total

value of the pie', which is then divided up between the respective participants. The respective share of the TAE is known as the PAE.

Vessel Day Scheme (VDS): is a cap and trade scheme in which a set number of days are agreed to which is the maximum limit of days that can be fished in a year. The participants are obliged to keep within the cap which is the TAE. The VDS is administered by the PNA Office.

Vessel Day Scheme (VDS) Register: is a register of all the purse seine vessels that are licensed by the PNA members that fish under the VDS. All purse seine vessels are required to be on the VDS Register as a precondition of licence. The VDS Register is administered by the PNA Office.

Vessel Monitoring System (VMS): is a satellite-based system administered by the FFA that provides information from fishing vessels on their global positioning in near-real time. Each fishing vessel has to have a device that automatically transmits its vessel position to the system. The respective PNA members have access to the positional data and can monitor the fishing vessels in their waters.

Yellowfin tuna: can be identified by its distinctive yellow colour on its side and upper fins. It grows large, but not as big as bigeye tuna. They are torpedo-shaped with distinctly yellow fins and long lower fins. The side of the body is bright yellow giving it this unique feature. Its body shape is narrow towards the tail. They are caught by longline, pole and line and purse seine vessels.



Top: Yellowfin caught by local fishers in Kiribati

Source: Secretariat of the Pacific Community

Bottom: Bigeye tuna tagged by the SPC tuna tagging team

Source: Secretariat of the Pacific Community

FOREWORD

This book articulates the remarkable journey of commercial innovation and ingenuity, transformation of power structures against the odds, and how a group of eight countries, considered to be small, vulnerable and dependent on others, managed to establish the most sustainable and profitable tuna venture in the world.

At its core, the Parties to the Nauru Agreement (PNA) emerged from a shared vision for self-determination through an unwavering commitment by ‘the right set’ of personalities who had a clear understanding of the regional environment and its culture to ensure that this collective fishing initiative not only took hold, but thrived.

The success of the PNA is a stellar example of the unswerving commitment by resource owners to take control of their fishery rights on their own terms and conditions. Since its establishment, the agreement has grown from strength to strength — testament to the political strength and ownership behind this industry shown by the eight PNA states. The fact that they have transformed the value of economic returns from the tuna fishery from US\$60 million in 2010 to around US\$500 million in 2019 is no mean feat, especially when it relates to small island developing states.

This book has triggered much reflection on my own part. In my capacity as Secretary General to the Pacific Islands Forum, I have the unenviable task of being the custodian of Pacific regionalism. I have oft been asked about how best to maintain or ensure the solidarity of the collective in regional and international discussions. I think this book has aptly captured, and humorously so, how regionalism discussions operate in the Pacific — *‘these would have been done while socialising after the meetings where the issues, the futility of the discussion’s secretariat papers, and specific incidents the previous day or at previous meetings would have been discussed more informally. This is how many of the ideas are discussed, debated, argued and laughed over’* — the essence of ‘business as usual’ and brokering consensus in the Pacific.

I congratulate Dr Transform Aqorau on documenting the history of this profound sub-regional grouping that has pushed boundaries with its innovative and out-of-the-box mechanisms. This has been one of the distinguishing features of the commercial success of the PNA and I commend the willingness of the PNA members to continuously push the boundaries on the effective exercise of their sovereign rights over the tuna resources, and realising the collectivisation of those rights to achieve a scale of commercial viability that is not possible individually.

The PNA story has, from the very beginning, made self-reliance and economic autonomy a fundamental principle. In telling this story, Transform inspires us to *‘think big, and don’t be apologetic about our size and vulnerability, but instead, look at the single largest geographic feature that surrounds the islands — the ocean’*. In fact, the PNA story provides a living example of how the Pacific can make the most of what it has in order to overcome its vulnerabilities and dependencies.

In considering our current geopolitical context, I am only too aware of the challenges that lie ahead for Pacific regionalism, particularly at this time, where the value of multilateralism is continually questioned and multilateral processes are failing us in the Pacific. Is there value in continuing to pursue collective interests in the Pacific region? I firmly believe this to be the case, and this story of the PNA is evidence of the value and relevance of collective action in this day and age.

At their meeting in Tuvalu in August 2019, under the theme ‘Securing our future in the Pacific’, Pacific Island Forum Leaders called for the development of a 2050 Strategy for the Blue Pacific Continent. The struggle to secure the sovereign rights of Pacific countries over their ocean continent is driven by the threat of sea level rise due to climate change, as well as intensifying geostrategic competition and geopolitical engagement in our region. Like the PNA, we are faced with questions on how we can secure our rights to the Pacific Ocean and its resources; and what innovative opportunities exist to leverage the value of our Blue Pacific as a pathway to our development.

I would offer that the Blue Pacific narrative, endorsed by Forum Leaders in 2017, remains the cornerstone of the collective efforts of Pacific leaders to shape and influence the future of our region. The PNA story provides not only the inspiration, but the tools that can guide us in prosecuting genuinely transformative regionalism for securing a viable future for our Blue Pacific continent.

In reflecting on this book, it is clear that the establishment of the Parties to the Nauru Agreement was the result of a fortuitous combination of the right set of people — with perseverance and a reinvigorated political appetite and drive — coming together at the right time and in the right context. I commend the visionary thinking, commitment and follow-through of the personalities behind the creation of the PNA. I commend the ministers who applied their political will and support to this initiative and above all, I commend the political leadership for having the foresight to champion such an arrangement.

I also acknowledge the contributions of the Pacific Islands Forum Fisheries Agency and the Pacific Community, both of which supported the early policy and technical work of the PNA and which continue to support the regulatory and conservation and management measures of the fishery sector and the scientific analysis required to maintain healthy fish stock.

Again, my sincere congratulations to Transform on this compilation. To the reader, I trust you will extract from this book nuggets of wisdom in your quest for knowledge. To the people of the Blue Pacific, I hope this book inspires you to be courageous on issues relating to securing our future.

Meg Taylor, DBE

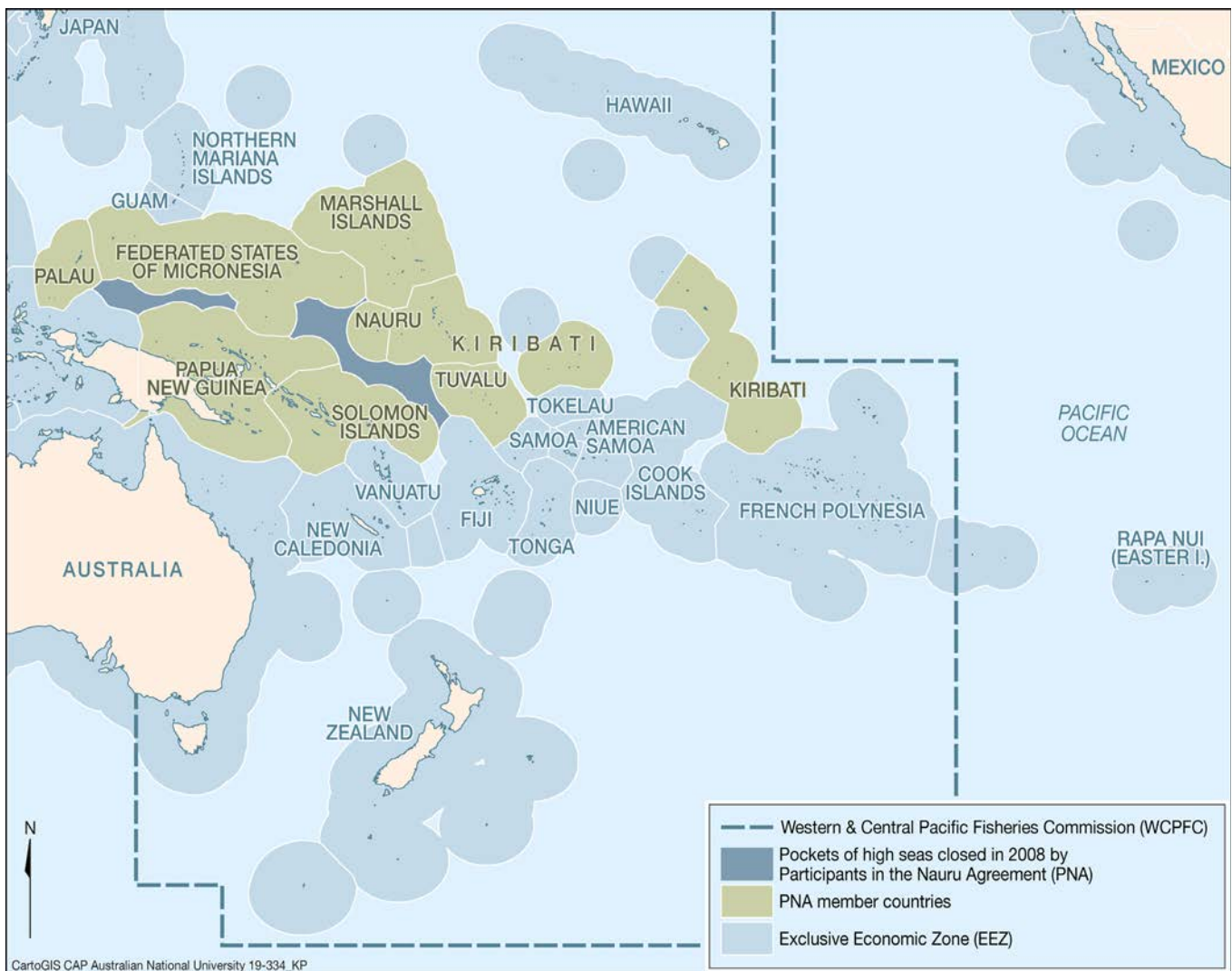
Secretary General to the Pacific Islands Forum

PREFACE

The story of the Parties to the Nauru Agreement (PNA) and the increase in economic returns through the Vessel Day Scheme (VDS) developed by them is one that has to be told to an audience that perhaps has been grappling with the struggle of the Pacific Island states to get more economic benefits from their tuna resources. The issue is of interest to development specialists as well as commentators on the evolution of Pacific Islands cooperative regional politics. Regional cooperation in the context of the Pacific Islands takes on a number of important ramifications, but Pacific Island states are still very traditional in their approach and guard their sovereignty closely. Attempts at getting closer integration, even in the tuna fisheries, have not been very successful. I want to tell the story of the PNA because it is unique and has been one of the most successful stories of regionalism in the Pacific Islands. I first suggested to James Batley and Greg Fry over kava in June 2018 in Canberra that I wanted to complete the book I was working on to document the PNA story. I am grateful to the ANU Department of Pacific Affairs for providing me with a fellowship, funded by the Australian Government's Department of Foreign Affairs and Trade through the Pacific Research Program, that allowed me the freedom to write.

Transform Aqorau

EEZ Map Showing Closed Off Areas of High Seas in the Pacific Ocean



Source: ANU CartoGIS.

ACKNOWLEDGEMENTS

I am grateful to my former colleague Maurice Brownjohn who provided me with valuable comments and corrections on the various chapters. I also wish to thank Dr Anouk Ride, my former work mate at the FFA and PNA media consultant who was responsible for the PNA communication strategy when we established the PNA Office. She helped edit my work and provided valuable comments. I wish to thank Mike McCoy who commented on some of the historical developments of the PNA and its establishment in 1982. The Solomon Islands community in Canberra and the Pacific Islands postgraduate student community at ANU, including William Sokimi (Jnr), Glen Finau, Mesake Semainaliwa, Derek Gwali Futaiasi, and Lincy Pende, provided me with good support. I wish to thank my family in Canberra and Solomon Islands for their support. My thanks also go to Francisco Blaha, a long-time friend and fisheries colleague and David Itano for providing me with the photos I have used in the book. They were very helpful in making available photos from their work in the region for use in the book. My colleagues and friends at the PNA and the FFA provided the environment for us to think about what we can do, but it is the peoples of the Pacific Islands in the rural areas who have given me the greatest inspiration to strive hard for their development. I must give credit to them and take responsibility for any flaws and mistakes, which are mine and mine alone.



Kiritimati Island – Subsistence fisherman back from an afternoon fishing

Source: Francisco Blaha

INTRODUCTION

... stewardship of these tuna resources is not a matter of bread and butter, dollars and cents, but life and death. For whereas these tuna resources may represent for some, simply rewards on their balance sheet, their profit and loss accounts and their share of the shelf space in supermarkets, for us in the Pacific, they have a far deeper meaning and significance that transcend the broad commercial narrative ... Tuna is not only a source of food security for us in the Pacific Islands that has sustained us from time immemorial, it provides often the only safety net through which important services are provided that allow us to live decent lives as global citizens. The salaries of our teachers and nurses and others, who provide vital services that human beings need, are increasingly being met from the revenues that we generate through the careful management of our tuna resources.

It would be impetuous of us, as peoples whose survival and livelihoods are dependent overwhelmingly on the sustainability and good health of our tuna resources, to choose an irresponsible path to its management.

(Author's statement to Independent Adjudicator, New York, 2018. See Annexure 5)

This is a story about a small group of island nations of the Pacific known as the PNA, an acronym for the parties to the Nauru Agreement. It is about how a group of countries, friends and colleagues — through their friendship, alliance, shared vision and desire to control their fisheries, so that they get a bigger and fairer share of their resources — put their heads together and created the largest capitalised tuna fishery in the world. It is a story about how in 2010 they embarked on a journey that has seen the transformation of the value of the economic returns from the tuna fishery from US\$60 million in 2010 to around US\$500 million by 2019; something that donors, regional organisations and political leaders have been trying to do for years, but could not. How is it that a group of Pacific Islanders was able to achieve something that so-called experts failed to do? Is it something about development aid, the role of donors, and the lack of confidence that Pacific Islanders have in these institutions, or is it testament to the adage that when you do something for yourself you are more likely to succeed?

We are often told that you can achieve your goals, if you want something badly enough, if you believe in yourself, if you are committed and disciplined. You can read about these virtues in books on leadership, management, and in the Bible. This is not about disparaging the approach of donors and traditional organisations, because they have had a big role in the PNA story; it is merely asking why and how this small group of countries, with a small office in Marshall Islands, achieved something that no one else did. What lessons are there to be learnt from this experience for development planning? What can be learnt from this experience for regional cooperation? What can those interested in the economic development of small island developing states learn from the PNA story? I do not have the answers. However, I would like to share my personal experience. I was part of the journey, and therefore can shed light on how it was done. It would be for development specialists to subsequently work out what it means in terms of development theory.

This is the story of Pacific Islanders as much as it is mine. My journey in the tuna fishery can be traced to growing up with Okinawa fishers when they established the tuna processing plant at Noro in Solomon Islands in the mid-1970s. The pole and line fishery in Solomon Islands at one stage was the largest in the south-west Pacific, with 30 boats catching approximately 30,000 metric tonnes of skipjack which they processed into canned tuna and katsuobushi, which is smoked tuna that the Japanese make into shaved chips and use in soup. Okinawa fishers stayed in the villages and set out at night in their boats to catch sardines to be used by the pole and line boats. I used to watch the Okinawa fishers return from their nightly trips and was curious about the industry. That is how I developed an interest in the fishery, because I grew up with it and saw how important it was economically to the community. In January 1988, I joined the Solomon Islands Ministry of Foreign Affairs as its legal officer. Two weeks after joining the ministry, I attended a three-week training program in Vanuatu on oceans resources management. This training gave me an

insight to the importance of managing our tuna resources responsibly. Indeed, most of the international negotiations I was involved in at the Ministry of Foreign Affairs revolved around fishing access negotiations. This was when I began to understand the multiple dimensions of the tuna fisheries. I decided then to specialise in international fisheries because I could see that we were dependent on the oceans. It made logical sense. The largest single geographic feature of Solomon Islands was the ocean. In my pursuit to know more about international fisheries, I undertook a masters of law at the University of British Columbia (UBC) in Canada. Many of those who I was dealing with in our fisheries access negotiations were highly qualified with doctorates. I also decided to pursue a doctorate to fully specialise in international fisheries law so that I could support my country in our fisheries negotiations. I eventually became the first Pacific Islander to hold the position of legal counsel and deputy director-general of the Pacific Islands Forum Fisheries Agency (FFA). The importance of being the first Pacific Islander to hold these positions was not lost on me. I wanted to demonstrate that Pacific Islanders can be empowered to manage their tuna resources to create jobs and improve their economic and social wellbeing.

I have observed the changes in the tuna fishery in the Western and Central Pacific (WCPO) over the past 30 years, from when it was an open access fishery with no limits, to what it is today: the largest and most complex tuna fishery in the world. When I became deputy director-general of the FFA at the end of 2006, I circulated a two-page memorandum to the staff, outlining my vision of why we were serving the region; it is to support Pacific Islands governments improve the social and economic wellbeing of their peoples from the management of their tuna resources. To do that, we must be smart about the way we manage our tuna fisheries, apply limits to create scarcity and then be innovative about the opportunities for economic development. I have been involved in many of the initiatives developed in the region in the past 30 years, but none have been as monumental in terms of the way they have transformed the fishery as my most recent journey documented in this story.

This is the story about how we helped stitch it initially with no external resources. It highlights the milestones that have been achieved along the way. There are many development specialists and economists who will theorise about what the PNA has done. They will apply new international economic theories to the controls the PNA have brought to the fishery and the instruments developed to entrench their controls over the fishery. However, for me, the journey has been a simple one. It has been about working from the heart, from a gutsy determination to do something different, to be innovative and to reach deep within my personal energy to ensure that our peoples — the young, the old and feeble, the people in the village — get a fair share of the returns from our tuna resources. We have been blessed by nature and providence, and by the sea and the resources that are found in it. We are blessed to have been given custodianship over the world's largest tuna stocks. We have a responsibility to ensure that we look after the stocks, but we also have the right to benefit from that responsibility. This is the story of how a small group of countries, with few resources, a small office and a start-up capital that had to be reimbursed, managed to do just that.

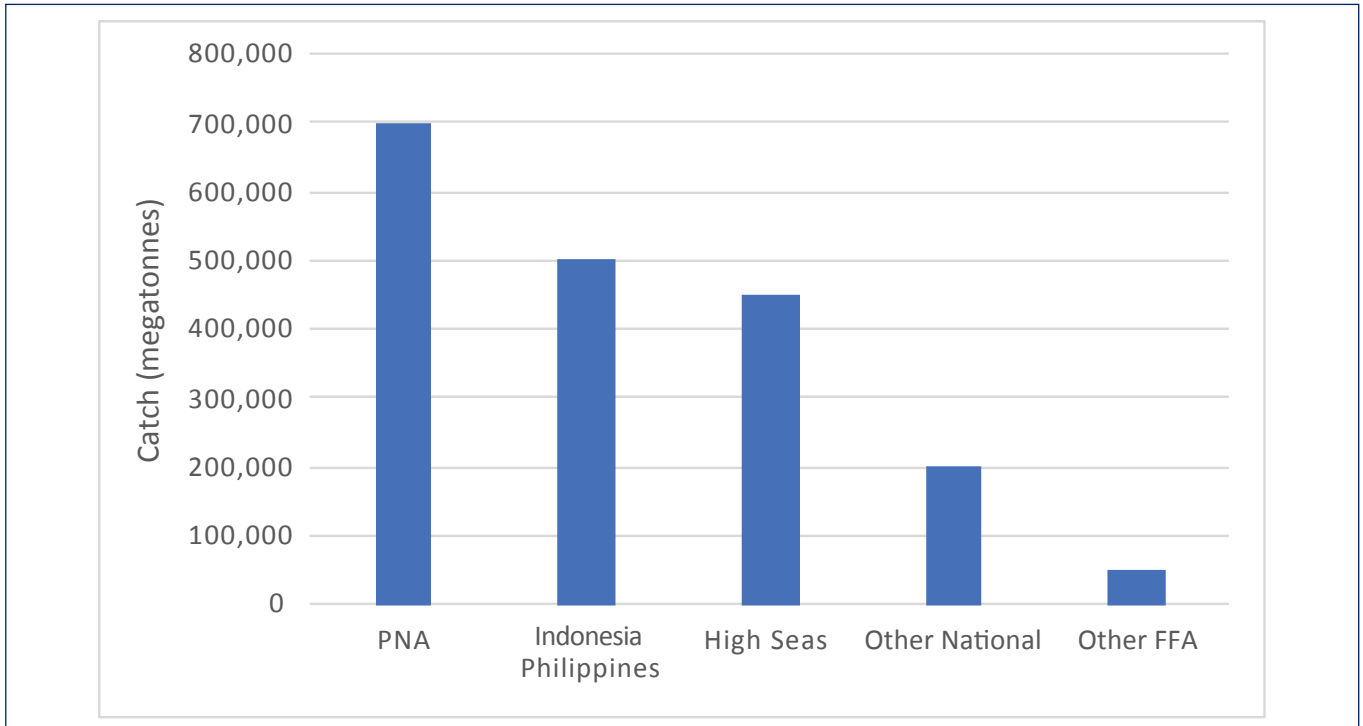
In order to understand the deep-rooted desire to do well, it might be worth asking at the outset, 'whose fish is it anyway?' and to have an appreciation of the fishery that we are talking about. The tuna fishery of the WCPO is the largest in the world, with a total provisional catch in 2018 estimated at 2,716,396 metric tonnes (mt). This is the second-highest on record, at around 170,000 mt below the record catch in 2014 (2,885,044 mt). The WCPO tuna catch (2,716,396 mt) for 2018 represents 81% of the total Pacific Ocean catch of 3,373,512 mt, and 55% of the global tuna catch (the provisional estimate for 2018 is 4,930,621 mt, which is the second-highest and only 6,000 mt from the record global catch in 2014) (Williams and Reid 2019). See Annexure I for further details. There are four major fishing methods: purse seine, longline, pole and line, and trolling. All except trolling are undertaken in the waters of PNA members.

The PNA members' share of the WCPO tuna catch is significant and therefore their role in shaping the tuna fishery in this region cannot be underestimated. Figure 1 below illustrates the share of the catch by zone, showing the proportion of the catch taken in PNA members' waters, underlining the dominance of the PNA members' share of the fishery.

The tropical tuna fishery is highly migratory and impacted by the shifts in the sea surface temperature. During an El Niño the surface temperatures around the eastern parts of the Pacific get warmer. This is a result of the warm water in the western tropical Pacific Ocean shifting eastward along the equator toward the coast of South America.

During El Niño, there is more fishing the eastern Pacific. During La Niña, the opposite happens. There is a cooling of the water in the equatorial Pacific, which occurs at irregular intervals. This cooling of the water is associated with widespread changes in weather patterns complementary to those of El Niño, but less extensive and damaging in their effects. Figure 2 illustrates the shifts in the patterns of fishing during La Niña and El Niño.

Figure 1: PNA Share of the WCPO in 2001



Source: Forum Fisheries Agency, Fisheries Development Division, 2019

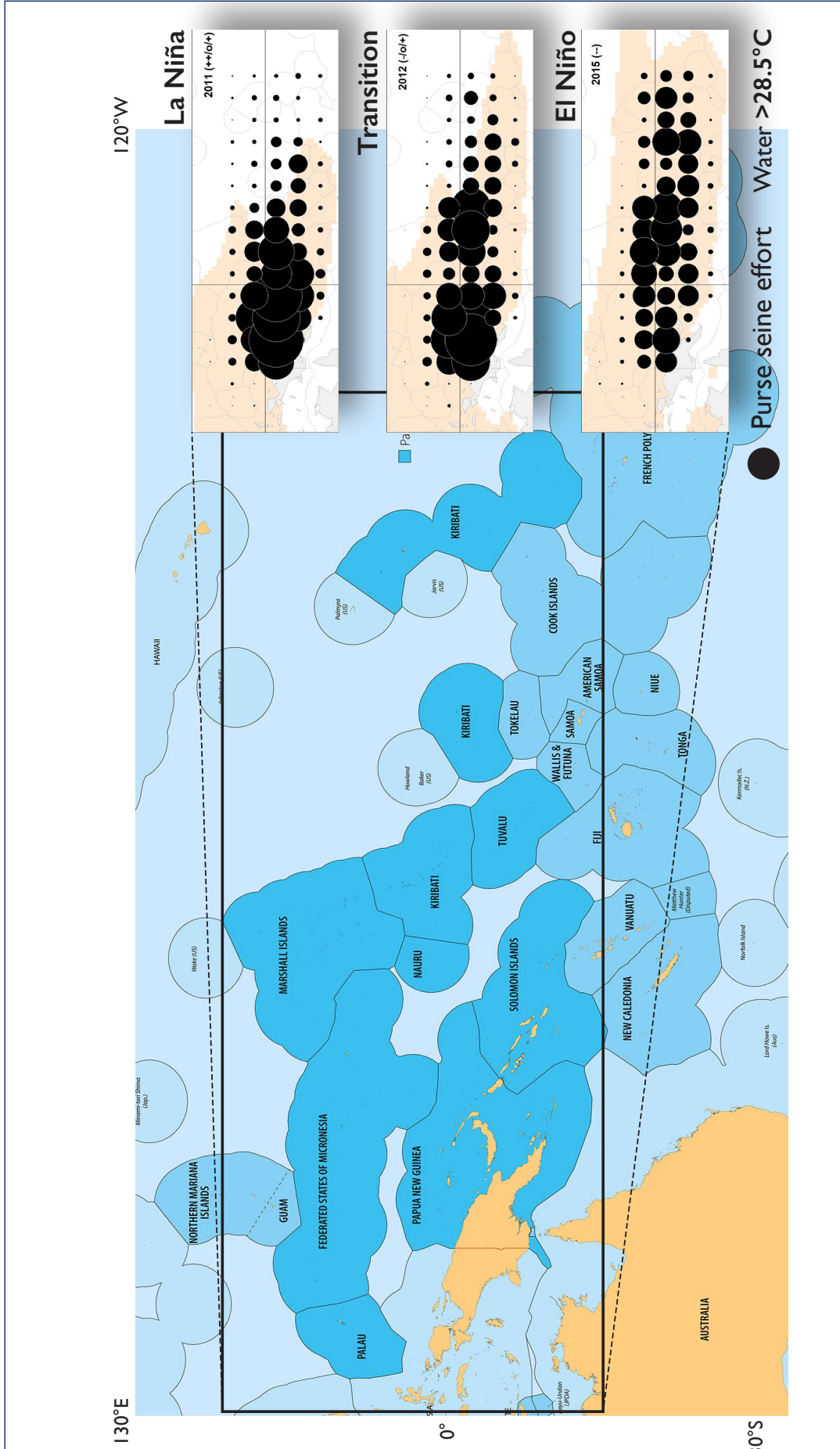
Notes: PNA includes Tokelau. The average PNA catch over the 5-year period (2013–17) of 1.4 million tonnes = 55% of the WCPO tuna catch = 50+% of the global tuna supply for canning.

One of the thoughts that came to mind when I was on the fishing vessel *Lojet* in 2014 was how susceptible the tuna industry was to the forces of nature, and how humans have little control over these climatic conditions that impact on the productivity of the EEZs. That is why in the development of tuna fisheries policies, it is always important to bear in mind that we are dealing with a natural resource that occurs in an environment over which we have no control. That is why working together with the industry and other stakeholders is critical to ensuring the effective management of the tuna resources.

I feel privileged to have been at part of these developments. Credit, however, belong to the PNA members and to their Officials like Sylvester Pokajam (Papua New Guinea — PNG), Glen Joseph (Marshall Islands), Charleston Deiyee (Nauru), Nannette Dilly Melsol (Palau), Bernard Thoulag (Federated States of Micronesia — FSM), Ribaaitake Awira (Kiribati), Dr Chris Ramofafia (Solomon Islands), and Seve Lausaveve (Tuvalu). They were the heads of fisheries in their respective member states at the time when the idea of the PNA Office was discussed. I know not all of them supported the idea. Bernard Thoulag was cautious about the proposal. In fact, his deputy Eugene Pangelinan, was openly opposed to the office, questioning the budget, the rationale for the office, the role of the PNA, the duplication of functions as he saw it, and myriad other things including why the office headquarters should be in Majuro. It is good to have an opposition, and FSM have always played that role as the devil's advocate, the flag-bearer to make sure that decisions are carefully thought through, their ramifications understood, and the financial implications are appreciated. Weaving through those issues was not as easy as people might imagine.

This book is divided into seven chapters. In chapter one, I discuss how the confluence of interest, shared vision, and personalities are important elements in shaping and influencing cooperative action. I highlight the PNA members' fortune that everything came together at the same time; we had a good grouping of like-minded PNA member

Figure 2: Purse Seine Effort during La Niña and El Niño



Source: Adapted from P. Williams and C. Reid, Overview of Tuna Fisheries in the Western and Central Pacific Ocean, including Economic Conditions – 2018, WCPFC-SC15-2019/GN-WP-01 (Williams and Reid 2019).

government ministers, supportive PNA government officials who shared the same vision. These are important ingredients in developing a pathway on shared resources. In chapter two I discuss funding and institutional challenges of the organisation. It was established as a self-funded body, something that is unique in the region, especially those involving organisations with multiple membership. In chapter three I highlight one of the awards that was received by the PNA Office in its first year of operation. It was the first time that *Islands Business* magazine nominated an organisation to be its 'Pacific Islands Personality of the Year'. In this chapter I also discuss the presidential summit of 2010 and several early reports important to the mission of the new PNA Office. Chapters four, five and six are perhaps the most interesting part of the story in terms of what the PNA members created that led to the increase in revenues, which is the theme of this book. In chapter four, I combine a discussion of two initiatives that the PNA members developed, which were the first also in the region. The first is Pacifical, a joint venture partnership between the PNA Office and Sustainable Bv, a Netherlands-based tuna marketing company which integrates a responsible approach to tuna sourcing with social accountability to market and retail PNA Marine Stewardship Council (MSC) tuna in the international markets. Both the MSC certification and the creation of Pacifical are unprecedented and demonstrate innovation and long-term vision. In the second part of chapter four I describe the establishment of the PNA Observer Agency and, in particular, the relationship with Marine Resources Assessment Group (MRAG) Asia Pacific, an international fisheries consultancy firm which resulted in the provision of high standards of service delivery. This was also unprecedented because up until that time, no observer program had been outsourced to a commercial service provider. In chapter five I discuss the establishment of the Vessel Day Scheme (VDS) and the challenges that the PNA initially confronted. It also examines how revenues increased over a span of six years. I highlight how getting the design of the structure is important in creating scarcity as a way of building the value of a fishery. Scarcity in terms of fisheries creates limits, which in turn increases the value of the fishing opportunity which is good for resource-producing countries like the PNA. Chapter six looks at the development of the supporting systems behind the implementation and administration of the purse seine and longline VDS, namely the PNA Fisheries Information Management Systems (FIMS) and its industry portal, iFIMS. Finally, chapter seven closes by drawing on all the factors that ensure the success of the PNA, and highlights the opportunities, risks and challenges going forward, which might provide some lessons for development.



Top: Marshall Islands — Fishers

Source: Francisco Blaha

Bottom: Papua New Guinea — fruits and goods sellers in Rabaul

Source: Francisco Blaha

CHAPTER 1: THE CONFLUENCE OF INTERESTS, PERSONALITIES, AND SHARED VISION

In 2014, Takashi Koya, a member of the Japanese delegation and staff of the powerful Japanese Fisheries Agency, came to Majuro to meet with us to work on the preparation of a joint tropical tuna measure for the Western and Central Pacific Fisheries Commission (WCPFC) meeting in December that year. As I showed him around the small office in Majuro — where the power and water normally go off, and the toilet is outside with a bucket on standby to fill to flush the toilet — I said that the office space was small. He said it was small, but powerful! That those comments came from someone of his seniority in the Japanese Fisheries Agency, an office with whom we have locked horns for the best part of the last 30 years, meant something. I took it for granted, but others who observed from outside and read about the PNA, have always thought that we had a large staff complement and big office to support the work we did. When they see it for themselves, the first question they often ask in disbelief is ‘yes, but where is the main office?’ They often remark about what has been achieved with so few resources.

The PNA is not new. It is almost as old as the Pacific Islands Forum Fisheries Agency (FFA); not as old as the Secretariat of the Pacific Community (SPC), but older than the Samoa-based South Pacific Regional Environment Programme (SPREP). The coming together of the PNA members was the result of the confluence of a number of factors: personalities who had a common vision — innovative thinkers with shared, often negative experiences who wanted more than anything to do something about the status quo. I asked Peter Wilson and Mike McCoy about what brought the region together in 1982 to establish the PNA. Both were US nationals, working in the region. Peter was head of PNG’s Department of Primary Industry on assignment as an FAO (Food and Agriculture Organisation of the United Nations) adviser to the department that ran their division of fisheries. Peter was also based in Palau as chief of marine resources for the US Trust Territory of the Pacific Islands until the mid-70s, when they transferred his office to Saipan where the rest of the US Trust Territory headquarters offices were located. Mike McCoy initially started his career in fisheries as Yap’s first fisheries officer as an employee of the US Trust Territory from 1973 until 1977. It was then known as the Caroline Islands. In 1979, during the time of the discussions surrounding the formation of PNA, Mike was the executive director of what is now the National Oceanic Resources Management Authority (NORMA), FSM’s national fisheries management agency, which was then called the Micronesian Maritime Authority.

Both said the PNA members came together out of frustration largely because they needed to have a strategy to deal with the Japanese who played off the countries against each other. The PNA members were also frustrated that the FFA was not effective at providing them with a forum where they could address this. Mike said that the US Trust Territories had started to negotiate bilateral access agreements in the late 1970s. However, because they were US Trust Territories, they were not sure if the US would allow them to become members of the FFA, which by then had been created by the Pacific Islands Forum (PIF). When the PNA members met with the other Pacific Island states, they couldn’t discuss issues about their bilateral access agreements with Japan because those countries did not have any understanding of the issues the PNA members faced. Consequently, they thought their interests were not going to be served by the FFA. It was not necessarily the right body to represent their interests.

This was not surprising. The abundance of tuna varies amongst the Pacific Island states. They felt that countries like Samoa and Tonga were having a say in the way the countries with more productive EEZs should manage their tuna resources, when they did not share the same fishing interests or resources. This is what prompted the PNA members to establish their own organisation where, as Peter Wilson said, they could control and establish their own tuna-related industries based on skipjack.

There were several iterations of an agreement that were discussed, including whether the group would break away from the FFA, but in the end it was decided that it would still have an umbilical cord to the FFA Secretariat. For all intent and purposes, the agreement provided for an independent group capable of setting its own rules, but instead of having a secretariat, it would use the FFA Secretariat. Journalist Sean Dorney, writing on what was arguably his biggest story, said:

The establishment of the PNA was not welcomed by some. In fact, the United States was cross about the fact that its then three United Nations’ Trust Territories, the FSM, the Marshall Islands

and Palau were all intending signatories. All had by then achieved self-government but they were still some years away from independence. The Federated States of Micronesia and the Marshall Islands gained their full independence four years later in 1986 and it was not until 1994 that Palau was fully independent. But these three self-governing Trust Territories thumbed their noses at the US and its powerful tuna lobby and joined with the five independent Pacific nations (Nauru, PNG, Solomon Islands, Tuvalu and Kiribati) in setting up the PNA. American officials who had flown into Nauru to try to talk them out of signing were far from happy at the outcome.

(Sean Dorney, The Biggest Pacific Business Story is PNA, Says Leading Pacific Correspondent, ADB Pacific Business Media Summit, 25–26 March 2014)

Many of the ideas around the establishment of the PNA would have been developed outside the meetings. This would have occurred while drinking and socialising after the meetings where the issues, the futility of the discussions of the secretariat papers, and specific incidents the previous day or at previous meetings would have been discussed. This is how many of the ideas are discussed, debated, argued, and laughed over. In fact, this is how PNA functioned for the first 28 years, with ad hoc meetings around bars, in the margins of other forums, and from this has arguably spawned much of the governance of our resources that have put us in the good stead of today. It may sound unorthodox, but this is the Pacific Islands, where our people have the propensity to speak more outside of the meeting room than in it; where they will not tell you in the face that they disagree with you, but will take you along for a ride, making you think that they are agreeing with you when in fact they don't. In fact, a good friend, mentor, and someone who has so much knowledge of how policies are developed in the region, Les Clark (former senior economist, deputy director of the FFA, and adviser to the PNA) said it's the Pacific islands 'yes' which is made up of many 'no's'!

I remember how Bernard Thoulag of FSM, Danny Wase of Marshall Islands, Albert Wata of Solomon Islands, Tetabu Tikae of Kiribati and Ramon Rechebei of Palau would often get together after the meetings, drink and then agree to support certain positions when they went back into the meetings the next day. Bernard was a great socialiser and he would organise barbeques for the PNA delegates wherever we met, whether it was in the Cook Islands, Tonga, Fiji, Honiara or Palau. There was a great sense of fellowship amongst the delegates which was often harnessed by Bernard's shepherding style of leadership. This was an important ingredient of their meetings; the close friendships and associations they had with one another became a hallmark of their meetings. This was not necessarily confined to the PNA delegates. The personalities and associations that all the fisheries personnel had with one another were close. It was never personal, even if they disagreed with others in the meeting room. There was always space and time for them to embrace, drink, sing and socialise after the meetings.

The vision to control the fisheries and strengthen their rights to the tuna resources had been asserted at many meetings. I remember Asterio Takesy, when as Deputy Secretary of Foreign Affairs for the FSM in the early 1990s, said that they viewed bilateral access agreements as temporary arrangements. These same words were echoed by Bernard Thoulag at various times and even Jesse Raglmer when he replaced Asterio as deputy secretary. The idea that the Pacific Islands should get a bigger share of their resources was well entrenched in the political economic responses of the Pacific Island states to developments that were taking place at the UN when a new international economic order of the oceans was being shaped. It was as if ambassador Arvid Pardo of Malta (who made that great speech in the UN General Assembly calling on the international community to preserve the areas beyond national jurisdictions as the 'Common Heritage of Mankind') was doing it for all the island states. The idea, the vision, the belief in wanting a bigger share of the living resources of the oceans may be found in the convention establishing the FFA and also in the agreement creating the PNA. Needless to say, this is still the written and unwritten principle underpinning the way in which the Pacific Island states view the oceans.

It has taken time to get to the point where PNA members now have the full benefit of their fishery resources and have transformed the relationship to create a sellers' market, whereby they determine the price that fishing vessels pay for access, unlike previously where the fishing vessels paid what they agreed was the fair value of access. The framework through which they have been able to achieve this has taken time to put together. This is because even

though PNA members have sovereign rights under the 1982 UN Convention on the Law of the Sea, which they had all embraced, these rights were exercised in a loose sense because there were no limits in place. (See Annexure 2 for a list of international fisheries arrangements.) In other words, almost all the access agreements did not impose any limits, either in terms of catch or number of days fished. The arrangements generally provided unlimited access to the tuna resources. It was difficult against this backdrop to properly manage the resources. In fact, you could argue that there was no management taking place at all. All that was happening was foreign fishing companies would negotiate access arrangements, pay the necessary fees (based upon what they claimed they caught and its value) and then catch as much fish as they wanted. The impetus at the time was to get accurate information about what was really happening in the fisheries so the types of regulations that were instituted often related to improving on reporting of catch, which were never anywhere near real time. In fact, the fishing boats would often report their catch to their companies back in Tokyo, Seoul or Kaohsiung in Taiwan, who would in turn fill in the catch report forms and send these to the licensing departments usually 45 days after the event. Often these reports showed great creativity. As an example, a fishing vessel would report that they 'searched in PNG waters for two weeks but caught nothing, then report that they made two sets in high seas and resumed searching in PNG waters for a further two weeks, and one last day in high seas before reporting a full hold and return to port'.¹ Thus, their reported catch in PNG's waters was zero, and therefore access fees due to PNG was nil but they would still want a further sixty-day licence to search in PNG's waters. (See the map at the beginning of this book.)

The legal framework was not amenable to the effective regulation of fisheries in the WCPO to apply limits, and so the first 25 years or so from 1982 were spent building the blocks to create the framework that would allow PNA members to control and secure their rights to the fisheries. These building blocks took the following form:

- » providing minimum terms and conditions to the region through the FFA
- » getting the US to apply these terms and conditions
- » gaining recognition of PNA members' sovereign rights through multilateral access agreements
- » establishing a satellite-based vessel monitoring system (VMS) through the FFA
- » establishing a multilateral access agreement for PNA members' domestic vessels (known as the Federated States of Micronesia Arrangement for Regional Access), and
- » instituting a Regional Register of Fishing Vessels.

These were largely PNA initiatives. The first Implementing Arrangement (IIA) was developed to regulate the orderly conduct of foreign fishing vessels, by requiring them to provide catch and effort data, report their entry and exit from the EEZ, and also for vessels to report on their position while in the EEZ, and the establishment of a Register for Foreign Fishing Vessels. The Second Implementing Arrangement (2IA) expanded on the regulations on foreign fishing vessels by requiring purse seine vessels to tranship in port. Previously, transhipments by purse seine vessels occurred at sea away from ports. Longline vessels, however, are still able to tranship anywhere at sea, including on the high seas. The Palau Arrangement applied a limit on the number of purse seine vessels that could fish in PNA members' waters. Although it proposed to stimulate investment, it had the reverse impact, creating a cartel that operated as if only the named boats had rights to fish under foreign flags. In 1995, PNG moved to invite new entrants linked to processing onshore, displacing existing capacity. This annual limit of vessels was set at various levels from 167 to 205; later in 2007 the limit was replaced by the purse seine VDS. The VDS, combined with the conclusion of the UN Fish Stocks Agreement (UNFSA) and the WCPFC, more than anything else brought together the framework that allowed the PNA in particular (and to a lesser degree the other Pacific Island states) to define with clarity the rights of the coastal states. As Les Clark likes to characterise it, up until then those rights were only loosely applied, in an economic sense, in that there were no limits. The lack of controls on the high seas represented a major loophole, but the establishment of the WCPFC, which was a Pacific Islands Forum (PIF)-led initiative, addressed that loophole in that it provided a framework to ensure compatible measures between those that were applied in zone (exclusive economic zones or EEZs) to those on the high seas. The decisions of the WCPFC are legally binding on members and this includes on the DWFNs as well. It was the incorporation of the VDS as an element in the WCPFC measure in 2005 that saw the application of these limits in the WCPO. It has been the confluence of these different arrangements, allowing for limits

¹ Maurice Brownjohn, personal communication through email, 24 March 2019.

to be applied generally throughout the range of the stocks in the high seas and EEZs, and the way in which the PNA members has been able to use these opportunities, that perhaps best explains why it has taken a long time to evolve.

I have always said that the impacts of development take a generation to realise. It takes seven years of primary, seven years of secondary education and three years of tertiary studies to mould a child and shape their skills to serve themselves, their family and their country. Change does not take shape easily and when you are dealing with countries that have different interests, it is especially difficult to direct them to all travel in the same direction. As Les Clark always said to me, getting the PNA members to agree to an idea is like manoeuvring a big bus in a small car park. It takes some skilful driving!

Maurice Brownjohn, the commercial manager to the PNA Office describes it differently. He said, if you look at the PNA logo (see Figure 3), there are eight tuna; four are swimming one way, three in another and one in the opposite way. They are all swimming different directions, but they all need each other. This explains the diversity of interests. The question is, which country is which fish and vice versa.

Figure 3: PNA Logo



Source: PNA Office, 2019

The PNA members have probably used the WCPFC in ways that many who negotiated the WCPFC Convention did not expect. I was involved in advising the Pacific Island governments as legal counsel of the FFA, and was chair of the FFA subcommittee on future management arrangements that some people viewed as a means by which the WCPFC could control the sometimes-difficult non-cooperating countries, and rein in others as well. There was nothing wrong with that. If a country is going to become a member of an organisation, or a community of nations, if it is going to participate in arrangements where they have to do things together, then they should do so in good faith. But I also thought that the DWFNs did not negotiate in good faith when the WCPFC Convention was being developed because they saw it as an opportunity to control the tuna resources of the WCPO. It follows that the development of additional PNA conservation and management measures in 2008 and the role that the Pacific Island countries played in shaping the management of the tropical tuna have probably taken those DWFNs by surprise. The European Union, US, New Zealand and even Australia probably did not expect that they would have a regional fisheries management organisation (RFMO) that operates differently from the way other tuna RFMOs work! It's a nice change to see Australia's and New Zealand's roles largely reduced to that of spectator in the tropical tuna discussions in the WCPFC. Don't get me wrong: as a DWFN, New Zealand is just as vociferous in protecting its own interests, just as the PNA members are in protecting theirs. I have seen the incoherence between their development policies to support the sustainable development of small island states and their behaviour when it comes to advancing the economic interest of their fishing companies. New Zealand also vehemently defends the US tuna industry in

regional access negotiations with the PNA. Australia plays a role too, but in areas such as getting the WCPFC to have policing responsibilities through a monitoring review scheme measure (to ensure WCPFC members are accountable). Australia also sponsored a measure to have a process for the WCPFC to develop harvest control rules for the four key tuna stocks. But their role in the management of the tropical tuna — which are the four key species: skipjack, yellowfin, bigeye and albacore — is peripheral.

But all that said, the confluence of interests, arrangements and, as Don Mackay (my very well-respected friend and former head of the New Zealand Ministry of Foreign Affairs Legal Division and chair of the United Nations Open Ended Informational Consultative Process on the Law of the Sea or UNIPOLOS meetings at the UN) said to me, the overexploited state of bigeye tuna allowed PNA members to influence measures by leveraging access to their EEZs in order to prohibit fishing in the high seas pockets, close the eastern high seas (which they have since opened), and secure other measures such as the three-month fish aggregating device (FAD) ban and 100% observer coverage to monitor these measures. The PNA members' relationship with the WCPFC is integral to the overall management framework that it has built and continues to build. The WCPFC continues to provide opportunities to add sustainable value to PNA fisheries, especially through the purse seine VDS, by clearly defining zone-based rights of PNA members in their EEZs, and by limiting opportunities for purse seiners to fish outside PNA waters in the high seas. There is potential for opportunities of a similar kind, though of lesser value, for the tropical longline fishery. One thing that has been proven in the work of the WCPFC is that unlike other tuna RFMOs, the Pacific Island states (a group dominated by PNA members) have significant influence, and this includes in the conservation of tuna resources, especially those in their vast EEZs, therefore avoiding what Garrett Hardin describes as the 'tragedy of the commons' (Hardin 1968) which is typical in all other regions.

The WCPFC operates important schemes to control fishing in the high seas that can benefit PNA, including the VMS, boarding and inspection, transshipment regulation and the use of independent fisheries observers, all of which are being slowly tightened over time. The measures have been making slow but important progress on bycatch conservation, especially shark conservation. It should be noted that these are largely driven by the principle of compatibility with existing PNA measures so that measures adopted by the WCPFC for the high seas do not undermine those that are adopted by the PNA members for their EEZs. The WCPFC measures can improve and add sustainable value to PNA fisheries, provided they do not unduly interfere with fishing for target stocks. The WCPFC continues to improve scientific understanding of the resources, fisheries and ecosystems on which PNA members are highly dependent — but it also provides opportunities for DWFNs to try to use the commission to intrude on the sovereign rights of PNA members to manage their own resources in their own interests. This is the reality of the political dynamics of the WCPFC. The success of the WCPFC is dependent on both coastal states and DWFNs being 'inside the tent', bound by its conservation and management measures. Their interests often conflict but their cooperation is essential to ensure the sustainability of stocks for the benefit of all. It is not a zero-sum game.

The close association and friendships amongst the personalities was pivotal in helping to get agreement to establish the PNA Office. In a Skype exchange with Amanda Hamilton, former fisheries project economist at FFA and now with Trimarine International, she said that 'individual personalities have a large role to play in shaping PNA's future'. There are many, but two in particular should be mentioned because it was their contribution during the WCPFC Technical and Compliance (TCC) meeting in Pohnpei, FSM, in 2008, that ultimately led to the establishment of the PNA Office. They are Sylvester Pokajam of PNG and Glen Joseph of Marshall Islands.

Sylvester Pokajam comes from a small island off the coast of Wewak, the capital of East Sepik Province, PNG. He boasted to me once that he knew more about fisheries than Brian Kumasi and Ludwig Kumoru, his fisheries biologists, because he could name all the local species of fish that were sold in the markets. He grew up in the village fishing and diving and so was probably right about his claim. He was the accidental head of the PNG National Fisheries Authority (NFA). Recruited from a field of applicants for deputy managing director, he was immediately appointed as manager of finance, as he was an accountant by qualification. Within six months, the position of managing director of the NFA was left open when Molean Chapau, a long-serving fisheries biologist who had worked in fisheries (when it was the Department of Primary Industry), was suspended from his appointment as managing director. In the vagaries of the NFA and its politics, Sylvester Pokajam acted in the role of managing director for almost a decade before his

appointment was confirmed. As I recall, it was never easy for him. There were times when his hold on the position teetered on the mood and politics of the minister of the day, and perhaps those that he associated with. Twice during his tenure as managing director, I had to write a reference for him to say what a good job he was doing. PNG politics is never dull even at the best of times. He managed to manoeuvre through the difficult trajectories of their politics to become the longest-serving managing director, and longest-serving surviving departmental head in PNG until he resigned at the end of January 2014. He was a vociferous opponent, often shouting across the floor at delegates during the WCPFC meetings. Many of us remember with great amusement the arguments he would have with the European Union, the US and Japan. It was all bantering, done with the best of intentions. Underneath that personality was concealed a kind and generous heart, and a mind that understood fisheries and the role that technology played in fisheries management. He got on very well with everyone, including those that he argued with across the table at meetings. Even I was not spared some of his idiosyncratic behaviour. He almost threw his mobile phone at me at a PNA caucus during one of the negotiations with the US on the Treaty on Fisheries at the Tanoa Hotel in Nadi, Fiji, in 2012. He was angry that I had suggested that he should prioritise the allocation of days and give his domestic vessels first priority under the purse seine VDS! He did not like that. He could be extremely supportive, or extremely disruptive. One of the challenges in change management is managing personalities and working through issues with different people so that they understand the changes. Once you can get a shared understanding, you won't have any problems. Thus it was with Sylvester; he could see the value of the VDS being run commercially, and it was his comment to Glen Joseph that 'we should have our own PNA office' that eventually culminated in the formation of the PNA Office.

Maurice Brownjohn, who was a long-standing member of the NFA board of directors since 1995, when it was established, summed it up well when he said that you need to address an agenda three times when discussing things with Sylvester Pokajam. The first two attempts had to be heated with threat and abuse; if you came back and followed a third time, you got a fair hearing and results. Clearly for Maurice, going back for more discussions showed there was a commitment to the position and the idea worthy of a sensible debate. In the early days, it was Maurice who sat at Sylvester's side, guiding him in the WCPFC forums. It was a tag team, at which point, as Maurice explained, Sylvester by then had the confidence and knowledge to represent PNG in his own right.

Glen Joseph comes from Pohnpei in the FSM and Ebon Atoll in Marshall Islands. Having spent some of his childhood in Pohnpei, the family moved to Marshall Islands, where he did part of his high school before completing his secondary education in Xavier High School in Chuuk, FSM. Xavier High School is a Jesuit-run school. It was initially a boys' school, but is now a coeducational facility. Its reputation in Micronesia is well known and many of the top political leaders, business people and civil servants in FSM, Marshall Islands and Palau went through Xavier College. This has had the effect of creating a very close network of ex-Xavier scholars in the highest echelons of government in the Micronesia region. Glen Joseph knows tuna fisheries. He started his career from the deck of a longline fishing vessel as an observer. He also spent six months at the Tsukiji fishing port in Tokyo, where he learnt the inside workings of the complex Japanese tuna fishing market. He is worth 'every pound of his weight in gold' said Simon Tiller to me. Simon Tiller at that time was adviser to the Solomon Islands Ministry of Fisheries, but he had worked in Marshall Islands under an Asian Development Bank project in the late 1990s and also in PNG on the establishment of the NFA as a full statutory body in 2000. So, Simon knew what he was talking about.

Glen Joseph, like many of his predecessors in Marshall Islands, knew that their waters were probably not as rich as the other PNA members, so for over 30 years, Marshall Islands government officials had a clear strategy for the management and development of their tuna fisheries based on geography. They recognised that their waters were on the northern fringe of the major purse seine grounds but very strategically placed to provide a servicing centre for the fleets, and so they have focused their energy on developing a range of capacities to service vessels in a way that has made Majuro the major transshipping centre for the purse seine fleet, and also an important servicing sector for the longline fleet. When I presented a paper on Glen's behalf at the 2009 Tuna Forum in Majuro when I was still at FFA, I heard Sylvester scoff when I came to the slide which said Majuro will be a tuna hub for the region. Marshall Islands has had to be visionary and as I think it was my good friend Les Clark who remarked, they are the innovators of the Pacific and not afraid of taking on new challenges. They have been able to build on other major comparative advantages

including building a strong economic policy environment that encourages private sector development, as illustrated by the strength of its shipping registry, which is ranked in the top three globally. Building on these advantages, Marshall Islands has been perhaps the most successful Pacific Island country at developing its own domestic purse seine fleet and a locally based fleet of longliners.

It therefore came as no surprise when Sylvester and Glen met at the WCPFC TCC meeting in September 2008, when I also happened to be there, that they came up with an idea. 'We should set up our own office', Sylvester said to Glen. 'We are not getting the support we need from the FFA Secretariat', he said. This was said in front of me, and I was the deputy director-general of the FFA! I knew what they meant and what they wanted. From my vantage point at the FFA, it was hard to serve all of the members' needs, when at the behest of donors like Australia, New Zealand and the European Union, who were the major funders of the FFA. Some donors were rent seekers who funded the development of the PNA members, but at the same time supported and protected their fishing vessels operating in the WCPO; some were more aligned with conservation values at the expense of the development interests of Pacific Island countries. And getting the purse seine VDS to be run on a commercial basis was always going to be difficult from within the FFA Secretariat. Anton Jimwereiy, the PNA coordinator, and Steve Shanks, the fisheries management adviser assigned to the VDS, were doing a good job, but it was only a small segment of the work of the FFA.

I mentioned Sylvester Pokajam and Glen Joseph, but these two would not have been able to get the idea off the ground if it hadn't been for others, like the chairs of the PNA at the time — from 2008 to 2009 Charleston Deiyé of Nauru, and later Kintoba Teara of Kiribati, who took over from Charleston Deiyé as PNA chair in 2009–10. They drove the ideas through at subsequent PNA meetings to bring them to fruition.

It is worth pointing out that the PNA already had a position that they paid for at the FFA. That was Anton Jimwereiy of Nauru. He was the PNA coordinator. Sometimes we referred to him as the PNA 'calculator', because before better systems were developed, he literally calculated the VDS days' utilisation manually. His salary was drawn from funds raised through the VDS Register, the FSM Arrangement and contributions from the members. Not only did Sylvester and Glen want better coordination, but they wanted the VDS to be run more professionally and as a commercial entity for the PNA. So, the decision was made to develop a discussion paper on the idea of a new, self-funded PNA. I was tasked with the job of doing the paper. I did not see any conflict in what Sylvester and Glen had tasked me to do in my role as the FFA deputy director-general. I understood the different roles that both organisations played, the fundamental and the institutional differences that underlined them and the fact that the PNA was for all intents and purposes a different organisation. The PNA was part of the FFA, in that it had ascribed the secretariat functions and roles to the FFA. There was a reason for this; it was to ensure that the group did not break away altogether from the FFA. This was done to allay the perception that the PNA was fragmenting the FFA. I would argue that if you look at the region, and the dynamics of the political economy of the fisheries, what the PNA did, and the decision its members made in 1982 and in 2009, is a natural progression of their organisation, their ideals and their vision for the fishery that they want. Today, this model of PNA members taking leadership is promoted not just in the Pacific for non-PNA nations, but globally.

Philipp Muller of Samoa, who was director of the FFA when the PNA was first mooted in 1981, was a strong supporter of its establishment. In fact, he encouraged those PNA members to set up the organisations because he could see that it was difficult for the FFA to represent the interests of all its members when these were clearly diverse and different. This was in stark contrast to his fellow countryman Tanielu Su'a who was director-general at the time the PNA Office was being established in 2009. He was opposed to the establishment of the new PNA Office, and endeavoured to block it. He got legal advice from our legal advisers at FFA who said that the establishment of the PNA Office would violate the 2007 Vava'u Declaration on Pacific Fisheries Resources 'Our Fish, Our Future', the forum leaders' directive, and that this would weaken solidarity in the region. There was nothing legal about the advice in my view. It was concealed from me, but Nolen Lennie, Solomon Islands' minister for fisheries, gave me a copy. If there had been a breach of international law, the legal opinion would have been taken seriously, but it read more like a political view and was therefore disregarded. They forgot that I had been legal counsel of the FFA and maybe could have helped avoid such embarrassment.

There was a series of meetings in Cairns to advance the concept of the PNA Office. The more productive ones were closed sessions without FFA advisors other than myself. I recall once a heated debate and within 90 minutes it was all over. Anton argued we can't make the decision now as he had programmed three rounds of meetings to debate it. Charleston Deiyee, who was chair, shouted at him that it was so decided, so no more debate. Within an hour of the special PNA meeting — at which we had agreed to set up the PNA Office and set down the timing and proposed location — Maurice who represented PNG, already had two heated calls. The first was from Drew Wright, the then executive director for the WCPFC who called from Bali, and the second from Mr Glenn Hurry who called from Canberra. He asked, 'Do you know what you are doing? You will bring disunity to the Pacific'. Tanielu Su'a then got Glenn Hurry, who was head of Australia's Fisheries Management Authority and chair of the WCPFC, to write a report for the Forum Fisheries Committee (FFC), the governing council of the FFA. I think it was Les Clark who asked Glenn Hurry, what do Australian wheat farmers, beef, and sheep producers have on their website? He said they 'try to secure the best price for their products as their key objective' or something to that effect. Les Clark told him that that was exactly what PNA wanted, and how could they be faulted for wanting to do that? Glenn Hurry's report read to the effect that 'having fully investigated the PNA initiative, I cannot understand why it has taken 28 years ...'. It was not exactly the response that was expected by the FFA and the donors who had paid for it. Glenn, perhaps as a result, had a career change, leaving the Australian public service to become the next executive director of the WCPFC. There was the hurdle to navigate the decision through the FFA and for me in particular, it became an uncomfortable time at the FFA. We were able to manage, even though I felt sorry for the staff who obviously knew that our working relationship was soured by the initiative. In my humble view, it pays to know about the legal structures and frameworks so there is no obfuscation about what is required. In the end, Tanielu wrote a nice letter to Kintoba Tearo who was then the chair, congratulating the PNA members on the establishment of the PNA Office.

I got down to thinking about the discussion paper for the members. The starting point for me was to ask, what is the impetus for a PNA Office? The PNA had become the focal point for the establishment of innovative management measures to regulate foreign fishing fleets in the region. It was the only group of countries that provided strategic leadership in the management of the region's tuna resources. I have argued that the interests of the PNA members and the rest of the FFA had diverged to the point where the PNA needed to control their commercial interests while continuing to seek support and advice from the FFA in relevant areas. The biggest change was in the strategic environment. Les Clark best characterised those changes in a paper he wrote for Kiribati in October 2009 titled 'Kiribati Paper for Discussion by PNA on a PNA Secretariat and PNA Tuna Corporation' (Ministry of Natural Resources 2009) as part of the establishment of the PNA Office.

Some of the reasons behind the proposed new PNA Office:

The increase in importance of the WCPO to the global tuna industry: The region was not always important but it is the last major tuna fishing ground to be developed and so most of the world's tuna fishers are in our region.

The long struggle to secure sovereign rights: When PNA first extended jurisdiction over 200-mile EEZs in the late 1970s and early 1980s, sovereign rights over tuna resources were not assured. DWFNs argued that individual states could not exercise control or ownership over tuna stocks that passed through their waters, and insisted that they had preferential, historical rights to access those stocks in PNA waters, because they fished them before the advent of extended jurisdiction. One of the key elements in the struggle was to require those seeking access to enter into agreements that included recognition of PNA sovereign rights, following an approach adopted not only by other Pacific Island countries but also by major developed coastal states including Australia, Canada, New Zealand and the United States. Today, sovereign rights are secure, asserted through domestic legislation and universally recognised. The strategy of securing recognition of sovereign rights through bilateral access agreements is therefore no longer an imperative and the PNA can look at more flexible, competitive and valuable arrangements for access in exactly the same way that Australia, Canada, New Zealand and the US have graduated from bilateral access agreements to more effective ways of managing their EEZs.

The fight to ensure compliance: When Pacific Island countries first extended their oceanic jurisdiction, they lacked capacity to enforce that jurisdiction, and the concept of flag state responsibility had not been given effect in

international law, with the result that previously, fishing states had no responsibility to ensure compliance by their vessels and in some cases actively supported illegal fishing by their vessels as part of the strategy to undermine sovereign rights and exploit the resources. In response, PNA members and other Pacific Island countries used the same strategy as with securing sovereign rights, requiring the flag state or an appropriate body (often fishing associations) to take responsibility for all of their vessels, not just those that were licensed. This included a requirement that they take action to ensure that vessels both complied with national laws and submitted to the court process of PNA members if they broke the law, even if they could not be apprehended. This then was the second purpose of bilateral access agreements — to provide a compliance umbrella. The need for a flag state compliance umbrella is now largely redundant because Pacific Island enforcement capacities are stronger and because there is a process for ensuring flag state responsibility through the WCPFC, involving a powerful illegal, unreported and unregulated (IUU List) blacklisting process that has been developed by the WCPFC.

Seeking successful outcomes from long-term human, institutional and business capacity-building: The past models — built around bilateral access and ad hoc attempts to leverage domestic tuna development and other forms of participation at the national level — were a simple response to the available opportunities, appropriate to the initial limits of PNA members' public and private sector capacities. These early attempts at change depended heavily on DWFNs, processing and market state capacities, but did manage to result in transferring control and benefits to those member states. The capacity of PNA members remains limited but has been greatly enhanced over the last 15 years and there is scope for a more participatory and coherent model to help continue this trend. The potential benefits from this approach can be seen in part as a return on the long-term capacity-building activities that have been a priority in both domestic and external development assistance efforts.

Increasing the value and profitability of the fishery: Between 2004 and 2007 at an historic low of US\$450 per metric tonne, no one could afford to operate for long. At US\$750–900 per tonne for skipjack landed in Bangkok by these fishing vessels, profits in the purse seine fishery were low, and vessels could not afford, and therefore would not pay the costs of, comprehensive monitoring programs, the higher access fees or even the higher costs that might be associated with Pacific Island crewing. At an average of US\$1,500 per tonne, the fishery is now highly profitable and likely to remain very profitable, so that a wide range of actions are now affordable.

PNA and other Pacific Island countries are now **more committed and more cohesive**; it has taken almost 20 years for PNA and other Pacific Island countries to build the political commitment, understanding and institutional arrangements necessary to act more cohesively

Creating a framework for sustainability and control over the high seas through the WCPFC which is critically important: Before the commission was established, no comprehensive limits to fishing could be established, and it was difficult for PNA members and other Pacific Island countries to establish tight conditions for fishing in their waters because vessels could fish freely in the high seas. Although the WCPFC in its early stages had a comprehensive system of limits in place, it was not tight enough to assure the sustainability of all the major stocks, but just tight enough to limit supplies and to limit high seas fishing in particular. As a result, vessels now cannot avoid PNA requirements by fishing in the high seas, greatly strengthening the scope for the exercise of PNA rights in their waters. (See the map at the beginning of this book.)

The implementation of the PNA VDS to manage purse seining over most of the regional purse seine fishing grounds: The importance of the VDS is that while it is conservation-based, it places control of this fishery *in the hands of the PNA*, establishing sustainability limits and leaving it to the PNA members to decide who fishes in their waters and what the conditions of fishing will be. This titled the playing field from a buyers' to a sellers' market, entrenching PNA rights to their resource in-zone thereby strengthening the bargaining power of PNA members. There are still some DWFNs who believe they have a 'right' to the tuna resources when they are in the PNA members' EEZ, but in reality, this has come home for most.

Establishing the PNA **2008 conservation package** (*Conservation and Management Measures (CMMs) and Resolutions of the Western Central Pacific Fisheries Commission (WCPFC)* (WCPFC 2019a)): this deal ensures that 1. vessels do not fish the high seas pockets as a term of PNA access; 2. that there is a three-month FAD closure; 3. there are no

discards; and 4. 100% observer coverage is applied in PNA waters. Similar measures were first adopted in Busan, Korea, in 2008, but across the tropical WCPO there was a realisation of the extent of the influence that the PNA members could exercise not just over their own waters but over the tropical WCPO fishery generally, and the high seas in particular. The PNA conservation package was the PNA members' response to coordinated DWFN actions to block conservation measures in 2007 at the WCPFC meeting in Guam and was a wake-up call for many DWFNs who had few options on the day, but to agree or potentially lose access to PNA waters. These factors provided PNA the opportunity to explore different dimensions to their dealings with fishing states, and develop innovative ways in which to maximise economic gains from the region's tuna fisheries.

Box 1: The Need for New Controls over the Pacific Tuna Fishery

'All that was happening was the foreign fishing companies would negotiate access arrangements, pay the necessary fees (based upon what they claimed they caught and its value) and then fish as much as they wanted.'

'DWFNs argued that individual states could not exercise control or ownership over tuna stocks that were only passing through their waters, and insisted that the DWFNs retained preferential, historical rights to access to those stocks in PNA waters ... One of the key elements in the struggle was to require those seeking access to enter into agreements that included recognition of PNA sovereign rights ...'

'When Pacific Island countries first extended their oceanic jurisdiction, they lacked the capacity to enforce that jurisdiction ... fishing states had no responsibility to ensure compliance by their vessels and in some cases actively supported illegal fishing ...'

'The importance of the VDS is that while it is conservation-based, it places control of this fishery in the hands of the PNA, establishing sustainability limits and leaving it to the PNA members to decide who fishes in their waters and what the conditions of fishing will be.'

'The functions of the PNA Office would be to provide strategic fisheries conservation and management initiatives and develop initiatives to maximise the sustained direct and indirect economic benefits from PNA members' tuna resources.'

'... for the first time, a small group of developing countries in the region was establishing something, doing something for themselves, without the help of the two cosmopolitan powers in the region.'

'... development is about responding appropriately to what is happening in time and space, and importantly, it is about ownership of a process, and the PNA members were in charge of the process. They were in the driver's seat. It didn't matter where the money was going to come from.'

A special PNA ministerial meeting was held in Busan in December 2008. The discussion paper I prepared was discussed at that meeting. The proposal must have come as surprise because I remember Patricia Jack, fisheries economist from the FSM, who was a member of the FSM delegation to the meeting asking me 'what is going on?' There must have been uncertainty, and a degree of apprehension. This was going beyond our comfort zone. How are we going to fund this? We are so used to others paying that it is hard to visualise how we can do things for ourselves. Thus, these questions of course did not come as a surprise. The ministers wanted more work to be done. A working group was established. What very much helped the process was once again the input of Sylvester Pokajam. He managed to convince the NFA board of directors to allocate US\$1 million to the project.

Under the chairmanship of Justin Ilakini, a young, bright and promising Papua New Guinean, a Technical Working Group (TWG) was established, with the funds from NFA being used to support the meetings. There were several meetings of the TWG throughout 2009: in Cairns in March, and again in Marshall Islands in July, and in between in May, the annual meeting of the members in Niue was held. Even as late as May 2009, there were attempts at the FFC

to scuttle the whole idea of the new PNA. At the governing council meeting of the FFA, the Australian parliamentary secretary Duncan Colquhoun Kerr (who happened to be my constitutional law lecturer at the University of PNG) asked the PNA not to establish a separate secretariat, but have the office at the FFA in Honiara. Timeon Taberranang, the Kiribati minister who was the PNA chair, said that no decision had been made at that time and therefore it was premature to pre-empt their decision. The TWG was tasked to provide options for the structure of the PNA Office, including whether it would be a corporation, business secretariat, public office, limited company, association, or non-profit organisation. The TWG was also tasked to identify the functions and responsibilities of the PNA Office, including but not limited to: a) strategic management of the resources for future generations, b) development of the resources, and c) administration of PNA management initiatives, namely the VDS and FSM Arrangement. The TWG was asked to consider the linkages between the proposed PNA Office and the FFA, the Forum Secretariat, SPC, WCPFC secretariat and other organisations; propose mechanisms for funding for the establishment of the PNA Office and options for funding its recurrent operations; and report to a special PNA ministerial meeting in October 2009 in Tarawa through the PNA member government officials.

It was an exciting time for the PNA officials. There was a happy spirit amongst them. Anton, the PNA coordinator, an old hand and experienced operator, herded everyone together. People drank, discussed and laughed as they planned what they could potentially do. The ‘sky is the limit, we are only limited by our imagination’ Maurice Brownjohn of PNG said, as they listed the areas that they could get involved in. These included setting up a register of carrier vessels, creating a PNA observer agency, a PNA crewing agency, a PNA trading block, project management for PNA, VDS trading, auctions, eco-labelling and information management systems. There was excitement as the possibilities were explored. The personalities were all determined to do something new.

Finally, the report was prepared, and a special meeting was held in Tarawa. I talked about the close association amongst the officials. There was an equally good, and perhaps the best conglomeration of PNA fisheries ministers present at the meeting. I doubt the PNA Office would have been established if it was not for this group of ministers who by sheer coincidence came together at the same time. I always talk about time and space, that everything has its time; and no doubt for the PNA, we were lucky that its evolution came when this particular cohort of ministers came together. They were visionaries — and nationalists — but at the same they recognised the common good and the value in their common fisheries; after all they did have a common interest. That is what drove them in the first place. They were Lorin Roberts of the FSM, Timeon Taberranang of Kiribati, Matt Zakhras of Marshall Islands, Roland Kun of Nauru, Harry Fritz of Palau, Ben Semri of PNG, Nolen Lennie of Solomon Islands and Tavei Tavau of Tuvalu. In the life of an organisation, you will be lucky to get a critical mass at any one point in time of people who think alike and the PNA was lucky that in 2008–09, there was such a group of ministers. But there were still some reservations. Lorin Roberts of the FSM was not able to attend, and Bernard Thoulag the executive director by then was too ill to travel to attend the meetings. His deputy, Eugene Pangelinan, represented FSM. In spite of not being a minister, he played an influential role in the discussions and was, not surprisingly, reluctant to commit FSM to something that had not been done before. In the end, he did not sign for FSM and asked to refer back to his capital. Coincidentally, Glen Joseph subsequently told me that he met Lorin Roberts at Guam airport on his return and showed the brief to Lorin, who looked at the declaration and signed it on the spot. It never got back to Palikir.

The ministers agreed to the Bikenibeu Declaration where they stated that to secure greater economic benefits and control of their tuna resources, the PNA members should strengthen the institutional arrangements for their cooperation and development through the establishment of additional mechanisms. In the above meeting, officials had had before them a report that they had commissioned through the FFA from Kwame Mfodwo of the University of Monash. The report, titled ‘A New Approach to Maximize Economic Benefits from Tuna Resources — Development of Concept’ (Mfodwo 2009), explored the establishment of a comprehensive regional licensing scheme that effectively creates the following: 1. a joint zone with strict management of this through a quota management system adapted to the realities of the Pacific; 2. the offer of long-term secure harvest access rights to interested foreign fleets and associated processing companies in return for these stakeholders establishing tangible, economically sustainable and rapidly implementable processing investments in the region; 3. the location of these investments in an efficiently functioning, commercially world-class export processing zone or set of zones in the region with management of these

zones striving to reach international best practice standards on all relevant issues (rules of origin, labour, environment, food safety standards, and so forth) so as to be commercially competitive with other leading tuna processing locations on factors other than just price; and 4. the establishment of a Pacific Islands Regional Tuna Corporation (PIRTC) — an independent commercial intergovernmental consortium to provide a focal point for progressing elements of this new approach (Mfodwo 2009). These four factors informed the discussions of the ministers which ultimately resulted in them endorsing the recommendations of the TWG and declaring the establishment of the PNA Office in Marshall Islands from 1 January 2010. The functions of the PNA Office would be to provide strategic fisheries conservation and management initiatives and develop initiatives to maximise the sustained direct and indirect economic benefits from PNA members' tuna resources.

The Bikenibeu Declaration was ground-breaking. Its importance was not in the fact that it was done, but how it was done. Dr Uentabo Neemia, head of the University of the South Pacific (USP) campus in Kiribati and author of *Cooperation and Conflict: Costs, Benefits, and National Interests in Pacific Regional Cooperation* (Neemia 1986), said that this decision would reverberate throughout the region. It was important, he said, after the decision was made in Tarawa in 2009 when we met because 'it broke from tradition, it was an exception to the rules and the modus operandi of how things were done in the region'. He said that it was remarkable because, for the first time, a small group of developing countries in the region was establishing something, doing something for themselves, without the help of the two cosmopolitan powers in the region. As a seasoned observer of regional politics and arrangements, his observations cannot be taken lightly. He said that the declaration to establish the PNA Office was transformational. What was remarkable about it was how all the major ideas were homegrown; they were generated by the officials themselves. Kiribati also contributed through a paper titled 'Kiribati Paper for Discussion by PNA on a PNA Secretariat and Tuna Corporation' (Ministry of Natural Resources 2009) in which they proposed ideas of how the office should be funded and the things that the PNA Office could work on. These included: 1. development of rules for inter-party VDS trading and pooling/selling of VDS days under the VDS; 2. establishing a vessel register, covering purse seine and associated carrier, bunker and possibly tender and other support vessels; 3. scoping a PNA crew placement agency, crew training, and imposing a training levy that would aim to place crew at all levels including skilled and officer posts with the ultimate aim of 100% PNA crew; and 4. scoping of a PNA observer placement program/agency with associated training and an observer levy, that would consider equitable participation, especially by members without regular port calls. The enthusiasm was contagious.

Making strides in development is about responding appropriately to what is happening in time and space, and importantly, it is about ownership of a process, and the PNA members were in charge of the process. They were in the driver's seat. It didn't matter where the money was going to come from. Having a sense of doing something worthwhile for themselves was enough motivation, even if some people, including some of our own, considered it blind motivation. All these factors came together — individuals, personalities, egos and faith. They combined at a given time and space that allowed the PNA members to drive their own change.

There is another important ingredient in the mix that cannot be underestimated. It is that they must have a shared vision. To me that is best captured in the preambular paragraphs of the Bikenibeu Declaration, where the members, amongst other things:

EXPRESSED disappointment at the lack of participation of Pacific Islands nationals in the harvesting and utilisation of their tuna resources and the low level of economic benefits resulting from the exploitation of their tuna resources by distant water fishing nations;

REITERATED the special aspirations of small-island developing states that their common tuna resources should be developed for the benefits of their peoples;

COMMITTED to the enhanced participation by the parties in the development of their common tuna resources to maximise the economic benefits for their peoples;

FURTHER COMMIT to developing strong and effective conservation and management measures to ensure the long-term sustainability of their common tuna resources;

DESIRED to ensure regional solidarity in the management of their common tuna resources and underlining their commitment to regional co-operation and strength through cooperation with other members of the Pacific Islands Forum Fisheries Agency;

AGREED to additional institutional arrangements to strengthen the management and conservation of their common tuna resources for the benefits of their peoples and to develop innovative approaches to maximise the economic opportunities from the sustainable utilisation of these resources.

(PNA, 2009 Bikenibeu Declaration by Ministers for Fisheries of the Parties to the Nauru Agreement – Securing Greater Value from their Common Fisheries Wealth (PNA 2010a))

They captured these sentiments in a declaration in which they wanted to secure greater value from their common fisheries wealth. This was a pivotal moment that became a game changer.



Top: Federated States of Micronesia – Transhipments in Pohnpei lagoon

Source: Francisco Blaha

Bottom: Marshall Islands – Fishers on a purse seiner

Source: Francisco Blaha

CHAPTER 2: FUNDING, ADMINISTRATION AND INSTITUTIONAL CHALLENGES

Upon its establishment, the TWG took pains to emphasise that the PNA Office would be self-funded. They did not want membership fees to be paid by the members. After all, if they had to pay, there was really little point in them leaving the FFA Secretariat and be funded by donors. Moreover, many of the members were at the time in arrears with their current annual contributions of US\$6,500. The TWG recommended that members should not need to appropriate funding as is the case with other regional organisations. The development of the PNA Office was premised on not costing members any additional resources. It was to be self-funded and should provide more equitable returns from the sustainable utilisation and management of the resources for future generations, as well as enhance spin-offs through increased in-port activity and employment. This was indeed a bold step, because to the best of my knowledge, none of the regional organisations in the Pacific had ever been established on this basis. FFA tried in 1992 to establish a consultancy arm as a means of raising additional funds and moving away from traditional aid donors, but the idea was not fully supported. Even if it was, I doubt that it would have been able to provide the FFA with financial independence. The Pacific Islands Tuna Industry Association and the Pacific Islands Private Sector Organisation are both private sector-led and established organisations, but they are not wholly supported by their members and still have to rely to some extent on donor funding. It was worrying, but such was the enthusiasm that the question of longer-term support for the PNA was set aside.

What also helped the establishment of the PNA Office during the preparatory stages and interim period was the US\$1 million by PNG. The TWG considered a range of options for funding. These included amending the FSM Arrangement and VDS Register so that funds could be accessed from the arrangements. Furthermore, in keeping with the principle of cost effectiveness, the members could provide additional voluntary support for travel, meetings, and targeted studies, including the designation of officers to work on specific assignments related to the PNA and the fisheries. In the longer term, it was envisaged that funds would be appropriated through the additional measures being contemplated. These included:

- » establishment of a crew training levy
- » imposition of an observer program fee
- » imposition of a VMS/VDS levy
- » imposition of a project development fee
- » establishment and maintenance of a PNA registry for fish carriers and tankers
- » development of a registry/tracking system for management of FADs
- » application for grants and donor aid
- » establishment of trading of VDS regional days
- » development of other trading initiatives; for example, sustainability certification, contract fishing and contract packing for PNA brand publications.

But as I explained earlier on, the new PNA was not starting from scratch. The members had already had an established post at the FFA since 2005, which they funded through direct levies that they charged to the VDS Register and the FSM Arrangement. These covered Anton's salary and some of their meeting costs. It wasn't much by any measure, compared to what was available to the FFA Secretariat, but it was enough for Anton to do his work and provide additional daily subsistence allowance for PNA officials whenever they had to meet. Thus, it wasn't as if they were starting from a zero balance.

The interim staff was appointed by the ministers at their meeting in Tarawa in October 2009. Anton was already working as PNA coordinator and it was an automatic choice that he would transfer from Honiara to Majuro. Maurice Brownjohn was a naturalised Papua New Guinean who had gone to PNG as a British volunteer to work in their fisheries in 1981. He never went back. He worked in different provinces throughout PNG, mainly in the Oro and West New Britain provinces, until 1987. He opened the Fishing Net Shop, which specialised in the manufacture and sale of fishing equipment and nets, and later started a longline fishing company which at one point accounted

for 60% of PNG's fresh exports. He was founder and chairman of the PNG Fishing Industry Association for 19 years and a board member of the NFA since 1995, the longest serving board member of the NFA Board. He was active as a member of PNG's delegation in international fisheries negotiations throughout the Multilateral High-Level Conference (MHLC) and the Preparatory Conference (PrepCon) for the establishment of the WCPFC, and the WCPFC itself, as well as trade and other forums. He was also the founder and initial deputy chair of the Pacific Islands Tuna Industry Association, the regional industry association. Maurice was prepared to restructure his well-established businesses and secure lifestyle and take on the challenges and uncertainty of the PNA role. He was designated as interim commerce manager. Throughout the process, Glen Joseph kept trying to talk me into heading the new PNA Office. 'Are you ready to move to Marshall Islands?' he once asked me. I wasn't sure. I had a secure job as deputy director-general of the FFA, and I was apprehensive about treading outside a zone of comfort that we had grown accustomed to, that is, relying on donors and knowing that Australia and New Zealand would always step in to help. I didn't mind living in Majuro. I was familiar with the country; I had gone to law school with a couple of Marshallese, one of whom became minister for justice and the other a very vocal senator in their *Nitijela* (parliament). But I was leaving a secure job that had good perks associated with it; and I was going to leave my country. Going to start the new PNA Office would entail a reduction in my salary and other conditions that I enjoyed as deputy director-general of the FFA. I knew what was involved and felt a compulsion to help. I also wanted a challenge. I had been the first Pacific Islander to be appointed substantively as legal counsel of the FFA. I was also the first Pacific Islander to be appointed as deputy director-general of the FFA. I felt like a pioneer. I showed that Pacific Islanders can excel in these highly technical positions in regional organisations. It just needs us to work, read, write, and learn as much as we can about our region, and about leadership and management. Setting up the PNA Office from scratch was pioneering work. Even though I was apprehensive and also sad to leave the FFA, I looked forward to the challenge, and was excited about the prospects for the PNA. What we were doing was new and had never been done in the Islands before. It was breaking new ground and meant taking a road less travelled.

There was a small incident in November 2009 that had a huge impact on me. By then it was known that I was leaving the FFA. It is something that was said that I have always kept in mind. It was during the annual FFA–AusAID (Australian Aid) consultations in Honiara. By that time, a level of complexity had been introduced into the FFA budget and programming process by New Zealand and Australia. They wanted to see monitoring, reviews and evaluations of programs and budget systems where the outputs are linked to outcomes. None of this was surprising, nor unusual; it just necessitated a level of overheads that would otherwise not be required. I made the comment at the meeting that I appreciated the importance of all of that, but noted that it was taking us away from our core functions and services to our members. The response from someone in the AusAID team was spontaneous and direct. They looked at me, pointed their finger and said, 'I'll answer that; you have no choice!' It wasn't what they said that reverberated with me, but the arrogance of how they said it. Development aid is a partnership, but effective partnerships can never be built around arrogance tempered by a sense of presumed subservience. I remembered what Colin Brown of the Cook Islands said. He quoted Tuiasosopo, the former American Samoan secretary-general of the SPC who said: 'We might be stupid, but we are not dumb!'

There were no advertisements about the positions for the PNA Office. In fact, with the exception of Anton, who was already working for the PNA, there were no job descriptions for the positions that the TWG envisaged for the PNA Office. Maurice was chosen to help set up the commercial arm of the PNA. I had informally indicated my willingness to help, but I was still unsure about the future of the financial viability of the PNA Office. In the end, the ministers just said that I would leave the FFA to help set up the PNA Office as the interim director. The three of us selected to be the interim staff couldn't have been more different from each other. Anton was a bureaucrat if ever there was one. He was a stickler for procedures, crossing the t's and dotting the i's. He was good with accounts, and liked to photocopy meeting papers, collating them in folders and keeping them in close custody. He invariably converted records into PDF format to ensure they were hard to manipulate afterwards. He was responsive to every single query sent to him, sometimes with little concern for the commercial value of some information to the PNA Office that could compromise some of the initiatives that we were working on at the time. He was an administrator's administrator! Maurice came from the private sector. If ever there was someone who had no idea of the way in which regional bureaucracy worked, it was Maurice! As a businessman, he had no patience for the slow bureaucratic

processes of governments and was always looking for shortcuts. But he came with credentials that many of the personnel who worked in regional organisations lacked; that is, a deep understanding of the business of fisheries. His knowledge of fishing operations, the costs of operations and markets was developed from having run a fishing business. It was rare to find such experience, and even rarer to find someone with that level of exposure wanting to work in the bureaucracy. Anton and Maurice were a healthy contrast of background, experience and personalities. I was the conductor, giving the tune, and making sure that we sung in unison. I was careful, a perfectionist, never being satisfied by the quality of what I produced. Glen Joseph probably summed up our different characteristics the best. He described the establishment of the PNA Office as a race. The starter said, ‘on your marks, get set, go’, and Maurice had already taken off, Anton said, ‘what’s going on?’ and I said, ‘wait, wait!’ I am sure our members poked fun at us, and maybe doubted our resolve, but you could not fault our enthusiasm.

Box 2: Setting up the New PNA Office

‘Going to start the new PNA Office would entail a reduction in my salary and other conditions that I enjoyed as deputy director-general of the FFA. I knew what was involved and felt a compulsion to help. I also wanted a challenge ... I felt like a pioneer. I showed that Pacific Islanders can excel in these highly technical positions in regional organisations. It just needed us to work, read, write, and learn as much as we can about our region.’

‘There was a small incident in November 2009 that had a huge impact on me ... It is something that was said that I have always kept in mind. It was during the annual FFA–AusAID consultations in Honiara. By that time, a level of complexity had been introduced into the FFA budget and programming process by New Zealand and Australia ... [I] noted that it was taking us away from our core functions and services to our members. The response from someone in the AusAID team was spontaneous and direct. They looked at me, pointed their finger and said, “I’ll answer that; you have no choice!” It wasn’t what they said that reverberated with me, but the arrogance of how they said it. Development aid is a partnership, but effective partnerships can never be built around arrogance tempered by a sense of presumed subservience.’

‘[Glen Joseph] described the establishment of the PNA Office as a race. The starter said, “on your marks, get set, go”, and Maurice had already taken off, Anton said, “what’s going on?” and I said, “wait, wait!” I am sure our members poked fun at us, and maybe doubted our resolve, but you could not fault our enthusiasm.’

‘There is something to be said about initiatives that are spawned by the countries themselves: that when the ideas are home grown, they normally germinate well.’

‘Government officials are not used to thinking in business terms; in fact, some smaller economies in the Pacific barely have a private sector. It was clear that we had to tread slowly, putting initiatives before our members, explaining it to them carefully.’

Figure 4: From L to R: Myself, Maurice and Anton Posing in the Office a Few Days After I Arrived, February 2010



Source: The author

Anton arrived in Majuro in December 2009, celebrating the New Year there, while Maurice arrived on the first working day of the year in 2010. Glen Joseph had sent through an office floor plan. We had looked at a number of potential office spaces when the TWG met in Majuro in July 2009. It wasn't easy finding one. The fifth floor of the Marshall Islands Development Bank appealed to us, with its meeting room overlooking the Majuro Lagoon. It would have been a pleasant backdrop to PNA meetings. We also looked at warehouses, hotel rooms and apartments. Land is at a premium in Majuro, and all of it is under customary tenure. The government does not own any land so it was always going to be difficult to find land to locate the PNA headquarters building. But Glen eventually managed to procure a small office space that had been used by Marshall Islands' Energy Office (Department of Energy or DOE). It was underneath a block of flats occupied by Pacific International Incorporation (PII) workers. The building was owned by PII, which had a long-term lease with the local landowners. The PII is an engineering, construction firm owned by Jerry Kramer, who was a missile systems contractor at Kwajalein Atoll military base in 1961. A couple of years after 1961, with Marshallese friends he purchased a small boat and started trading copra, and stayed on to build one of the most successful international engineering companies in Micronesia, becoming a major player in the real estate and shipping sectors. The Department of Energy had redesigned the premises; a kitchen was put in, a small conference room was fitted into the space, and there was an operations room that housed the noisy air conditioning machine. The workspace for three staff (including the later-recruited receptionist) was in the corridor, while Maurice moved into the noisy machine room. The office for the chief executive officer (CEO) that I occupied was about six feet by six feet. It is definitely cosy, but large enough to accommodate two to three people, standing. Marshall Islands had done well by us with its in-kind contribution, and Glen made sure that the office was nicely furnished with framed Marshall Islands artefacts. As part of the hosting arrangements, Marshall Islands agreed to pay for one year's rental for the building. PNG paid for the furniture, including the conference table, couches and the desktop computers; Welete Waru, NFA's head of industrial liaison, had travelled to Marshall Islands to see what was going to be needed by the office. This was part of the US\$1 million that they had allocated to set up the new PNA Office. Part of those funds was appropriated to support Maurice for the first two years. This commitment on the part of Marshall Islands

and PNG cushioned the impact on the costs that the members would have faced to underwrite, especially at a time when the source of revenue was not known. With the initial costs of rents and operations met by Marshall Islands and PNG, the PNA Office was ready to operate. These gifts complemented the PNA funds held at the FFA, which were transferred to the new PNA Office. At the end of the 2009 financial year, the balance in the PNA account at the FFA stood at US\$239,000. Anton and I felt that was a healthy sum to transfer over to the new PNA Office to meet our salaries and a provisional work program that we had developed for the office. It was enough to sustain us before we looked around for other sources of revenue. About a year after we launched, we received a letter from the FFA informing us that they had made an accounting error and wanted us to repay the money! Well, that was a good start, but worse still was that it reflected badly on the FFA's accounting system; how did that happen? Apparently, FFA had used funds from the PNA account to offset payments when funds from its other accounts were short, and when they eventually got money, instead of reimbursing the PNA account, once, they did it twice! That explained the oversubscription. We were eventually able to reimburse the FFA in 2014 from funds that had been collected from the FSM Arrangement, ensuring that we did not owe anyone.

I arrived in Majuro on 1 February, to a warm welcome at the airport by Glen and his family, and Don Xu, manager of Pan Pacific Foods and his family. Maurice and Anton had brought some Chinese food and met me at the flat at Lojkar, which was my abode for the seven and half years I was in Majuro. I am a creature of habit, like we all are, but not being fussy about where I stay, I decided that I would contribute to Marshall Islands economy by staying at PII's apartments at Lojkar. Incidentally, it was one of the places we had looked at as a possible office for the PNA. Glen kindly announced my arrival to all the PNA membership in an email he sent on 4 February 2010. He said:

Chairman,

I was going to send a notice that the host country has received the Director, Dr Transform Aqorau, and that he got off the plane on Continental flight 957, on Monday, February 1st, 2010, wearing a bright red with white flower Aloha shirt, well and smiling.

But as you can see, the Director has hit the ground running with his staff, and so we are ON. So, for now, we reiterate RMIs' [Republic of Marshall Islands] commitment into the PNA Headquarters in Majuro with full support and looks forward to working with and through the Secretariat for the aspirations of the members, including the sustainability of the stock and the economic well beings of PNA. I congratulate you all for this endeavour, and we remain humbled to be your host.

Sincerely,

Glen Joseph

Marshall Islands

We were determined and wanted to start well. My very first email upon assuming the position was sent on 3 February 2010, with a slight headache from the welcome that I received from Glen and family. My message was that we had embarked on a vision to gain a bigger share of the value of our tuna resources and I set out some of the broad areas that we would need to work on to fulfil the mandate set out by the PNA fisheries ministers in the Bikenibeu Declaration in October 2009. (See Annexure 3 for the email in full.)

We wanted to set out the broad parameters of what we, as an office, would do with the ongoing support of the members. In the office, we set out working on a drawing board with Glen and his minister Matt Zakhra, who became regular visitors, on what we should do in terms of the policy, and the commercial aspects of what we wanted to do and the administration of the office. Along with Maurice, who loved to put his ideas on the white board, we went into action. Many concepts originally put up in 2010 are only now coming up for debate; for example, auctions, pooling, training levies, labour mobility, cross-border investments with industry, contract harvesting, tracking tankers and carriers, and managing FADs. In many ways, the office was five years ahead of its time.



Top: Marshall Islands — Fishers on a purse seiner

Source: Francisco Blaha

Bottom: Solomon Islands — Crew of a longliner (mostly Indonesians) awaiting departure

Source: Francisco Blaha

We were doubly excited about the prospects — fuelled in some ways by the public sentiments expressed at the UN in 2009 by the former president of Palau, Johnson Toribiong — for the PNA to establish a tuna cartel. He had got his inspiration from the Organization of the Petroleum Exporting Countries (OPEC) and the growing demand for tuna. As a graduate from the University of Washington Law School specialising in the Law of the Sea Convention, he understood the legal rights that the coastal states had over their tuna resources and wanted to see the PNA members work together to establish a Tuna cartel, not an OPEC, but an 'OTEC' — the Organisation of Tuna Exporting Countries! Former president Toribiong invited his colleagues to Palau for a presidential summit meeting to discuss the PNA idea of an OTEC-styled organisation in February 2010. Again, this was a coup. Feleti Teo, my former boss at the FFA, and then deputy secretary-general of the PIF Secretariat, commended the PNA for that. He said, 'we had been trying to get a presidential summit at FFA but were never able to get the presidents to meet, but the PNA, only a month after establishing their office were able to get one!' Once again, we had a group of PNA leaders who probably shared the same vision. It only required the leaders to take ownership of the issues and drive them. This, as I said earlier on, also came with former president Toribiong taking the lead role that enabled the leaders to come together. There is something to be said about initiatives that are spawned by the countries themselves: that when the ideas are home grown, they normally germinate well.

The administration and financial arrangements were easy in that we simply applied the FFA staff and financial regulations as default regulations for the purposes of the interim period. While we had gone through what we wanted to do extensively during the TWG, there was still an element of uncertainty about the work programs and especially the commercial initiatives that we would embark on and this was in some cases largely because of a lack of exposure and experience in business by the officials. The initial support for accounting and managing the finances of the office was provided by MIMRA's chief accountant, Jun Acebo. He oscillated between MIMRA (Marshall Islands Marine Resources Authority) and the PNA Office, but we had a small program so he was not required to work out of the PNA Office more than once every two weeks. This was part of RMI's assistance to the PNA. Through the support of the NFA, the services of Vanguard International were secured. This PNG-based human resources company worked on the development of the terms of reference for the various positions for the PNA Office and developed a draft organisational structure. For the first 12 months we had Jun Acebo help with the accounts and finances. We advertised locally within Marshall Islands for a corporate services manager and, in doing so, we were to encounter one of the issues confronting Marshall Islands. Ramsey Reimers, the son of Robert Reimers, owner of one of Marshall Islands' successful businesses told me, 'you are going to have difficulty finding a local to fill the position!' He was right. Most of the applicants were Philippine nationals, except for one, Loreen Bigler. She was recommended by Vanguard. We got an independent panellist from Deloitte Ltd in Majuro to be part of the interview team. We offered Loreen the position of corporate services manager. She had extensive experience, having run the tourism office books as well as a very successful shop. These were some of the lessons that we were learning in terms of development of an institution, about finding the right mix and more importantly, about finding out if the capacity in fact existed to take an organisation forward.

Levels of capacity and experience varied throughout the region. Each country faced different challenges, did not necessarily share the same economic characteristics, which in turn impacted on the experience and exposure that their nationals had. We could easily have recruited someone from the larger members of the PNA like PNG or Solomon Islands, but we had a responsibility to the hosts to ensure that we recruited locally. These initiatives are also seen as job creating opportunities for the hosts, as well as providing other indirect economic benefits in the form of contracts for services, rentals, business, and the usual indirect spin-offs of hosting an organisation. Development should also be about sharing these benefits and spreading them across the membership. I quickly came to learn about the differences in technical capacities available in the northern Micronesian countries, and the diverse contrast in educational standards between the Pacific Island countries that were governed by either the British Commonwealth and the US, compared to those without access to metropolitan educational pathways. Ramsey Reimers' comments may have been made in jest to me, but they reflected an underlying issue and perhaps constraint which for the most part was addressed by importing skilled labour from the Philippines, Fiji, Kiribati, Tuvalu, PNG and Solomon Islands. Our hosts were probably the one country within the forum that in fact practised labour mobility and integration. They were the most open of all the Pacific Island countries to other people working there, even in line positions in

the government. Most of our members and the ongoing trade negotiations with Australia and New Zealand focus on labour mobility and trade integration, but Marshall Islands was already well ahead of the region. It says something for development; that we should not be shy about bringing our technical skills and qualified human resources from outside to learn from each other.

The first 12 months were focused on settling in a new organisation, getting the administrative and financial systems in place, and getting agreement from our members on what our program was to be. I know that even at that stage, when we had already signed off on the arrangements and established the office, some of our members were not really sure what we should do. This uncertainty probably held us back. Government officials are not used to thinking in business terms; in fact, some smaller economies in the Pacific barely have a private sector. It was clear that we had to tread slowly, putting initiatives before our members, explaining it to them carefully. This was frustrating for Maurice, who often said 'we are running a ***&% business!' I said yes, 'we are running a business with bureaucrats as directors, so we just have to work through that reality for now'.

We had four meetings that year: a presidential summit meeting in February in Palau, the annual meeting in April in Majuro, a special meeting in September in Nauru and a ministerial meeting in November in Majuro, in which the governor of American Samoa gave a keynote address on the future of the tuna processing plants in American Samoa, and how they could cooperate with the PNA. The major organisational and administrative challenge immediately facing the PNA Office was to find funds to support its proposed work program and activities. Where were we going to find the funds? We had US\$239,000 that had been transferred from the PNA account at FFA, but that was not going to be enough. The development of the PNA Office was premised on not costing the members any additional resources. It was to be self-funded and provide more equitable returns from the sustainable utilisation and management of the resources for future generations, as well as enhance spin offs through increased in-port activity and employment.

Box 3: Convincing the PNA Members

'Although intended to restrict the granting of allowable days for fishing ... members were given extra days, they could borrow days from future years and carried forward days from past years, if they were unused. There was no scarcity — industry just paid a nominal fee and fished as they liked.'

'Maurice took the stage for the day at the Majuro International Conference Centre, explaining to the audience that the reality was that there are just not enough boats or days a year to use the 63,000 days carried forward. He described how Palau had accumulated 1,500 days in three years due to almost no demand annually. The audience was shocked ... He concluded with "no more carry forward of days, no special allocation and no using future allocations". In effect, we were introducing hard limits, and the scheme finally tightened.'

We had another problem that Maurice got on to straight away, and that was how the VDS scheme was operating. Although intended to restrict the granting of allowable days for fishing, there were no limits on the way in which the VDS was being applied. The members were given extra days, they could borrow days from future years and carried forward days from past years, if they were unused. There was no scarcity — industry just paid a nominal fee and fished as they liked. In fact, 2010 saw about 44,000 days used and that subsequently became the base reference level for the calculation of the total fishing effort to this day. Maurice took the stage for the day at the Majuro International Conference Centre, explaining to the audience that the reality was that there are just not enough boats or days a year to use the 63,000 days carried forward. He described how Palau had accumulated 1,500 days in three years due to almost no demand annually. The audience was shocked. Maurice ran through the scheme line by line and the audience was shaken up as a few realities sunk in. He concluded with 'no more carry forward of days, no special allocation and no using future allocations'. In effect, we were introducing hard limits, and the scheme finally

tightened. The definition of non-fishing days took a few more years of negotiation to sort as did the formulae for the allocation of days to the respective members. The good news was that trading of days between members started — an inaugural sale was brokered for Palau to sell their annual allocation to PNG; in fact, PNG later paid extra as the price paid by industry under hard limits jumped so much that the NFA and the NFA board were embarrassed. Things were off to a good start.

At the annual meeting in April 2010, it was proposed that no funds would be sourced from the FSM Arrangement as this was direct revenue to the members. At the time, the FSM Arrangement was administered by the FFA and the members felt that it was not necessary to tap into that. However, later on when the PNA Office assumed responsibility for its administration, a 7.5% administration fee was levied on the revenues from the FSM Arrangement administration. There were some complaints about this by some members. They asked for justification of the 7.5% and wanted to know why the office needed those funds. We conducted a study and found that the 7.5% was actually lower than most of the administrative fees that were being charged by other organisations. I know from my time that the FFA that they charged a whopping 66% overhead administrative fee which is still lower than the 75% that was charged in some of the FFA member countries like Australia. So, it was not as if this was an amount that would be taking a huge chunk of the funds. The difference was that any outstanding balance at the end of the year was paid back to the members as dividends, an arrangement that was unprecedented in the region.

The members also agreed to a flat charge of US\$2,000 to be levied on purse seine vessels on the VDS Register. Initially the requirement to be on the VDS Register was applied only to purse seine vessels. It was always the intention that the VDS Register would be extended to longliners under the longline VDS. At that time, it was envisaged that a flat charge of US\$500 would be levied on the VDS Register for longline vessels. We needed additional revenue because we could not just rely on the VDS unless this levy was increased to around US\$5,000, but we did not want to do that as it probably would not have received support from some of the members, even though they said that we would have to raise our revenue. We were quickly learning that it was easier said than done, especially from some of our officials who almost didn't want us to raise any revenue at all, as they saw that as eating into the revenue that they could otherwise be taking (but were not). Such were the vagaries of having to deal with individuals coming from different backgrounds and experiences that one of the biggest challenges in development of new initiatives is not that it cannot be done, but how to sell the ideas to the officials. It was about being able to offer simple business-like concepts to them that they could understand and take forward.

Fortunately, Maurice's strong background in business meant he was able to see things through that business lens. In a stroke of genius, he proposed the idea of a 'conservation levy'. The argument for a conservation levy was laid out in a working paper that we took to officials at their annual meeting in April. It was easy to dispute fees for revenue, but harder to challenge a levy for conservation work. He basically defied anyone to challenge the levy.

The conservation levy was predicated on the fact that the PNA has been the premier conservation and management agency for the tuna fisheries in WCPO for the last 28 years. In the paper, we argued that SPC scientists had increasingly raised concerns about the stock status and the future sustainability of some tuna stocks such as yellowfin and bigeye and despite efforts from countries, the WCPFC had largely failed to ensure the stocks were being sustained. This was because DWFNs had prevented significant conservation measures under the WCPFC due to the consensus-based way in which its decisions are reached. The only measures in place were those imposed by PNA initiatives like the FAD closures, prohibition of fishing in the high seas as a condition of access to their EEZs and 100% observer coverage on all purse seiners. Up until that time, these were the only measures that the WCPFC had agreed upon because the PNA had applied them to the geographic areas where most of the tuna was caught, so it was a *fait accompli*. I think to be fair it is also worth mentioning that this was easier for the PNA because of the contiguous nature of their EEZs, the productivity of their EEZs and the level of purse seine fishing in the respective PNA members' EEZs, compared to the extent of high seas fishing by the longline vessels.

It was agreed that we introduce an annual conservation levy of US\$6,000 for foreign fishing boats and US\$2,000 for vessels fishing under the FSM Arrangement, with an exemption for those fishing exclusively as domestic vessels in a single EEZ. This was calculated as less than 0.1% of the catch value for a foreign fishing vessel, which equated to about 15% of the value of one purse seine set on tuna per year. It wasn't necessarily easy convincing some of the

officials of the merit of the conservation levy, as they felt that the money should be going to their treasuries instead of the PNA Office, even though they never had the income previously. One of the issues that Eugene Pangelinan kept raising was that he did not want to see the PNA Office collect any more revenue than it needed. This arose from his familiarity with the FFA budget system, which required that the FFA present a balanced budget. Also, Eugene was just being a conscientious objector to anything that could be viewed as competing with members. The value of cooperation is generally only realised when the economic benefits derived from the cooperative arrangement are seen and until then, it was not possible to envisage the gains that would be made from all the commercial initiatives that PNA would embark upon. So, there was some resistance to the conservation levy, but at that time, our priority was to raise the funds that would allow us to do those things that the TWG and PNA ministers had established the PNA Office to develop. As to having a balanced budget like the FFA, we would have been able to do the same if we were donor dependent, but we had no controls on the number of vessels operating in PNA members' waters and since the existing levies were imposed on the basis of the number of vessels, the income would fluctuate depending on the number of vessels in any one year. We argued that the excess funds, if any, at the end of the year would be paid back as dividends.

As expected, there was opposition from industry too. Japan sent a high-level delegation to protest, led by Goto-san, the special adviser to the Japanese minister for fisheries. In fact, it was reputedly the first visit to Marshall Islands by Japanese fishery officials in 12 years. Clearly, we were now on the map. Goto-San, the head of the Japanese delegation, said that it was 'outrageous' to charge so much — US\$6,000 a year. Maurice responded 'but, Goto-san, at today's prices, that is just two to three metric tonnes of tuna a year out of the six to eight thousand metric tonnes per boat you take from our waters. I think your crew would kick that much off the deck on a single set'. There was no debate — Japan paid. Everyone paid!

Box 4: The Introduction of the Conservation Levy

'Fortunately, Maurice's strong background in business meant he was able to see things through that business lens. In a stroke of genius, he proposed the idea of a "conservation levy" ... It was easy to dispute fees for revenue, but harder to challenge a levy for conservation work. He basically defied anyone to challenge the levy.'

'The conservation levy was predicated on the fact that the PNA has been the premier conservation and management agency for the tuna fisheries in WCPO for the last 28 years ... SPC scientists had increasingly raised concerns about the stock status and the future sustainability of some tuna stocks ... and despite efforts from countries, the WCPFC had largely failed to ensure the stocks were being sustained.'

'It was agreed that we introduce an annual conservation levy of US\$6,000 for foreign fishing boats and US\$2,000 for vessels fishing under the FSM Arrangement, with an exemption for those fishing exclusively as domestic vessels in a single EEZ. This was calculated as less than 0.1% of the catch value for a foreign fishing vessel, which equated to about 15% of the value of one purse seine set on per year.'

'Goto-san, the head of the Japanese delegation, expressed that it was "outrageous" to charge so much — US\$6,000 a year. Maurice responded "but, Goto-san, at today's prices, that is just two to three metric tonnes of tuna a year out of the six to eight thousand metric tonnes per boat you take from our waters. I think your crew would kick that much off the deck on a single set". There was no debate — Japan paid. Everyone paid!'

'It was evident that besides dividends, we were totally self-funded. This is still unprecedented in the region and clearly hated by donors desperate to "help", get influence and preside over any attempts at self-determination of PNA members.'

For the PNA Office that was the US\$1.0 million budget we needed. We somehow managed in 2010 and even made money, although we struggled to make sure that we did not over expend because of the number of meetings that we had that year, and not forgetting we had PNG's valuable support alongside that of RMI and Solomon Islands. As we ended the year with positive trading reserves, Maurice had proposed a nominal dividend be declared at the end of year one, the logic being it would cost the PNA next to nothing in reality, as most members would only see their arrears in annual contributions reversed. We retained the earnings for future years.



Skipjack tuna

Source: David Itano

In fact, we made a small loss in 2011, so we drew on reserves, but in 2012 we were able to balance our expenses and costs. The trigger for being in the black in 2012 was taking over the administration of the FSM Arrangement from the FFA Secretariat. The FSM Arrangement was an agreement amongst the PNA members to allow their domestic vessels preferential access to each other's waters. The agreement had entered into force in 1995. We levied a 7.5% administration fee based on whatever fees the members levied on 3,907 days that they had allocated to the FSM Arrangement. This helped boost our revenue and complemented the levies imposed through the VDS Register, days' trading and the conservation levy. In 2013 and 2014, we made a surplus which was distributed to the members as dividends. No one said anything against the dividends! Indeed, the ministers were pleased about them as it was unprecedented in the region. (In 2016 and 2017 further dividends totalling US\$1.5 million were paid to members to support their programs as the result of Pacific MSC trading. See chapter four.)

It was evident that besides dividends, we were totally self-funded. This is still unprecedented in the region and clearly hated by donors desperate to 'help', get influence and preside over any attempts at self-determination of PNA members.

There are, however, important lessons to learn from this type of arrangement, which is self-funded. There are implications for governance arrangements, and in particular for the corporate structure of the organisation. There were uncertainties about the nature and role of the organisation. Was the office an intergovernmental office? Was it a commercial entity? These questions continued to linger in the minds of officials. In spite of what they said when they

were members of the TWG, they were still doubtful and apprehensive about the role of the office, whether it was a duplication of the FFA Secretariat's functions and just uncertainties about entering into business. We had a working group to try and sort these issues out, but as the office had already been established, it was more or less left to the three of us to work it out for the members.

We commissioned two exercises to provide the clarity that would remove some of these obfuscations from the minds of the officials. We contracted Jonathan Peacey, former staffer of the New Zealand Ministry of Fisheries to facilitate the development of a strategic plan for the PNA. Through the support of the World Bank, we secured the services of Tom McClurg, a fisheries economist also from New Zealand, to facilitate the development of a business plan. Although we had said that we would be self-funded, we couldn't stop donors from knocking on our doors! The World Bank by then had been developing a fisheries strategy and wanted to be a player in the tuna fisheries in the region. Ironically, PNG had invited the International Finance Corporation (IFC) and World Bank to assist in providing advice and support to set up the PNA Office and the idea had been rejected by them — they were not interested. Six months later they were desperate to be involved at the regional level. In 2010, on the margins of the presidential summit meeting in Palau, the World Bank offered to provide support but everything had to be cleared through AusAID who were going to provide the funds, so we walked away!

Then in 2012 the World Bank offered to fund the business plan for the members. Because we were new and therefore would not have met their due diligence requirements, they facilitated the contract themselves, so no funds were transacted through the office. That is the way I wanted it, and it worked out well. The choice of Jonathan and Tom were not coincidental. New Zealand had been a strong supporter of rights-based fisheries management, and was one of the first countries to introduce individual transferable quotas (ITQs) as part of their fisheries management system. Tom McClurg was a Māori and had worked in the largest Māori-owned fishing company in New Zealand. He had empathy with what the PNA wanted, which was to transfer the ownership rights of the fisheries to the hands of Pacific Islanders.

The strategic plan was adopted by the PNA members at the 2011 annual meeting in Tuvalu. They viewed as their vision, that they were:

members working together to maximise control of Western and Central Pacific tuna fisheries to ensure they are managed sustainably and enable each member country to use tuna resources in ways appropriate for its situation to obtain significant economic and social benefits for their communities

with their mission being:

to work together to establish mechanisms and initiatives to maximise the economic and social benefits members obtain from sustainably managed Western and Central Pacific tuna fisheries.

(PNA Strategic Plan, 2011 (PNA 2011, p. 9))

Ultimately, their goal is to 'maximise the value of their days' either individually or collectively. This gave some clarity to what we could and should support from the work program and budget and allay criticisms that the PNA was trying to usurp their role of governments in business.

The business plan proposed by Tom McClurg was thorough and forward-looking in my view. It proposed the creation of a board of directors to provide oversight to the PNA Office. The board of directors would be made up of independent individuals with skills in fisheries and business management. The governance structure proposed by Tom was that the officials and ministers would provide policy direction for the PNA Office, but the financial and administrative arrangements would be overseen by a board of directors. The structure proposed for the office in the report was accepted by the officials, but not the governance arrangements. That would have meant that they would have had to involve their citizens from outside their circles in the affairs of the PNA. Not all of the proposals were adopted, such as the idea to have a board consisting of independent people with commercial background, but the core elements of the proposals were accepted. These included having a board consisting of heads of fisheries, and

the VDS being the major focus of the PNA Office. The business plan made it clear about the distinct role of the PNA that differentiated it from other organisations and agencies, it was that the PNA represents the owners of skipjack tuna stocks in the region. It is distinguishable from other regional and national agencies in that it is charged by the owners with carrying out collective commercial activities on their behalf to promote improved commercial returns from involvement in the skipjack fishery. In particular, that role recognises that the greatest investment of all members is their investment as owners of the shared skipjack fish stock. That investment will always be the most valuable asset any party is likely to have anywhere in the skipjack supply chain. The value of that investment has historically been obscured by the form, and piecemeal nature, of access arrangements to the fishery. The initiative that can make by far the largest contribution to the commercial returns enjoyed by all owners of the skipjack resource is to restructure access arrangements into a properly designed and operated VDS (*PNA Business Plan*, 2010 (McClurg 2012, p. 12)).

We decided that the PNA Office should be small, lean and mean and be cost-effective with key services outsourced to commercial service providers and our members. We saw the idea of farming out some of the projects to our members as a means of capacity-building, but unfortunately these never really got off the ground in the way we envisaged because of the ambivalence over the roles that the members would play and also largely because the office was new. Thus, there was some discomfort, and maybe uncertainty, about the idea that a national administration would be housing a service that would be extended to all of the members and so we just tendered out services to commercial service providers. For our information technology services, we used a small Majuro-based computer company owned by Randy Sylvester, a former American World Teach Volunteer who stayed back after his teaching stint in one of the outer islands in the Marshall Islands. We used consultants to provide us with the necessary technical and policy support that we needed, and then later developed a system of secondment from our members to assist the office to process the data from the VDS. We wanted to ensure that our overheads were low, and that we used our members and commercial service providers wherever possible. We had a ceiling of seven staff, which for most of the time while I was CEO was not filled. We subsequently got approval from the members to increase the ceiling to nine staff. This was, and still is, very small compared to all the other regional organisations in the Pacific. I learnt that you do not need a very large organisation to be effective, and you can work with the resources that you have around to achieve the required efficacy that you want.

The structure, character and defined roles of new organisations take time to evolve, but the key lesson in all this was getting officials themselves to drive it and not be influenced by others like donors who might not necessarily share the same interests. It was not easy navigating through these early issues of funding and choosing an organisational structure. I think that PNA members must stay flexible, consider how the PNA can be continually improved and not be afraid to try new ventures.



Papua New Guinea – Resource owners in the forefront, resource beneficiaries in the background

Source: Francisco Blaha

Box 5: It's a Matter of Empowerment

'New Zealand had been a strong supporter of rights-based fisheries management, and was one of the first countries to introduce individual transferable quotas (ITQs) as part of their fisheries management system. Tom McClurg was a Māori and had worked in the largest Māori-owned fishing company in New Zealand. He had empathy with what the PNA wanted, which was to transfer the ownership rights of the fisheries to the hands of Pacific Islanders.'

'The business plan made it clear about the distinct role of the PNA that differentiated it from other organisations and agencies, it was that the PNA represents the owners of skipjack tuna stocks in the region. It is distinguishable from other regional and national agencies in that it is charged by the owners with carrying out collective commercial activities on their behalf to promote improved commercial returns from involvement in the skipjack fishery.'

CHAPTER 3: THE EARLY FOOTPRINTS AND BECOMING ISLANDS BUSINESS MAGAZINE'S ORGANISATION OF THE YEAR 2010

The first year of the new PNA went past like a whirlwind. So many things were being proposed and so many decisions had to be made. But we had enthusiasm, and with the support of Glen Joseph, Charleston Deiye, Sylvester Pokajam, Nannette Melsol, Dr Chris Ramofafia, Kintoba Teara, Anton Jimwereiy, Maurice Brownjohn and others, we somehow managed. As I reflected on the year, I was amazed by how fast it had gone. I wrote an email to all the PNA officials in which I said about 2010 that:

It has been a challenging, but rewarding year. I am sure that as we reflect over the next few days, we will realise that we are but a sum of the whole picture, and that each one of us has had a part to play. I feel a deep sense of gratitude to all of you...

Our achievements this year are all attributable to you. We are all learning as we traverse this journey. It is a voyage that those before us started, and we owe it to them to complete or at least shape for those who will come after us to guide ashore.

Take time to rest, relax and enjoy this festive season. We have a long road ahead of us to travel.

(Email, Christmas Eve, 24 December 2010)

The year had begun as it ended, with two unprecedented events. We had a presidential summit meeting hosted by the president of Palau in February and ended the year with being awarded the *Islands Business* magazine's 'Organisation of the Year'. We had never had a high-level political summit devoted exclusively to fisheries, in particular, tuna fisheries. This was the first of its kind in my mind since the Forum declared their intention to establish the FFA in 1976. Since then I cannot recollect a political meeting at head of government or head of state level that was convened in the region solely for fisheries. I know that there was a meeting of some of the leaders in February 1982, when the agreement to establish the Nauru group was finalised and signed, but it was not a separate presidential summit, so the Palau presidential summit meeting was unprecedented. Why and how we inspired Luisa Taga, the editor of the regional magazine *Islands Business* and the judges to select us as its 'Organisation of the Year' was also beyond me, but they must have seen something that PNA members were doing that was encouraging. They usually award a 'Person of the Year' and most of the nominations up until then had been influential politicians and leading men and women, but never had an organisation been selected. It was rather humbling, especially when we had just started out as a stand-alone operation.

The inspiration for the award may be traced to a number of things that were done in 2010, which started first of all with the presidential summit meeting. Once again, there was a fusion of events, the confluence of individuals and circumstances. Former president Johnson Toribiong of Palau called a few of his fellow PNA political leaders on the side of the 2009 UN General Assembly. He encouraged them to think about establishing an OPEC-type cartel for the tuna-producing counties of the Pacific. It was in that same vein that former president Toribiong invited his colleagues from the PNA membership to meet in Palau in February 2010. The government of Palau also offered to pay for the airfares of the leaders to attend using their funds at FFA from the proceeds of the regional fisheries access agreement with the US to meet these costs. The timing was perfect, and also coincidental. The leaders' summit was being convened just at the time when the new PNA Office was being established. Ironically, there was no correlation between the planning of the two events (the journey to establish the new PNA organisation and the presidential summit), but they came at the same time and one can therefore argue that once again it was the confluence of events, the coming together at the right time and space, that would have a larger impact than what officials had probably expected. These are the kinds of things that you cannot always plan in development. It has to come from people themselves. Regional organisations and international bodies had tried very hard to convene a political meeting to discuss fisheries issues ever since Ratu Sir Kamisese Mara called for the establishment of regional arrangements to take advantage of developments at the UN on the Law of the Sea in the 1970s, but were not able to. I think if I am not

mistaken, this was the first political summit on fisheries since the 1977 forum, when it was decided in Port Moresby that the FFA would be established in Honiara.

Despite not having a clear source of income for the PNA, we never thought we would have financial problems in organising the summit so we went along with it anyway, budgeting for the costs from the funds that we had transferred from the FFA Secretariat. Palau offered to pay for the cost of the leaders' travel and we said that we would fund officials' travel from the provisional budget that we had established in 2009, which included funding meetings. We were excited about the leaders' summit meeting and wanted it to be a good one, in highlighting the issues of 'OTEC' and ideas about how we could gain a fair share of the value of the resources. The idea of 'OTEC' was promoted by former president Johnson Toribiong who drew inspiration from the oil-producing countries.

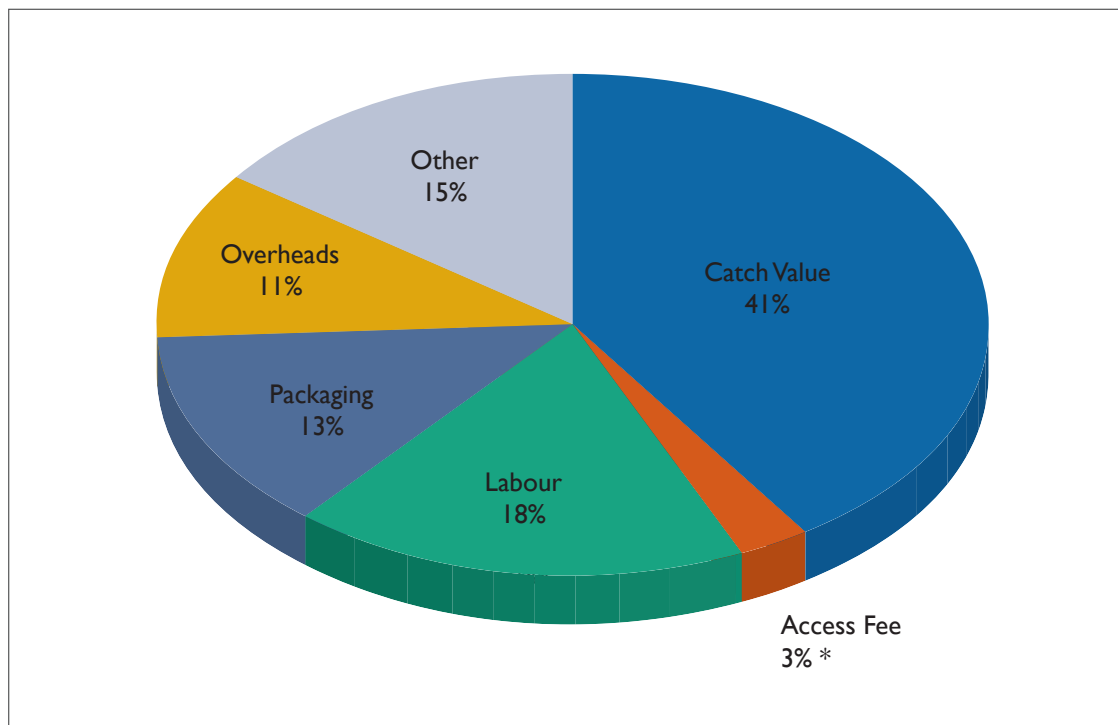
There were three things that also came together at the time which influenced the direction we wanted to take. The first was that sometime in 2009, through the FFA a study was commissioned which was undertaken by Kwame Mfodwo on new approaches to maximise benefits from tuna resources, as previously mentioned. The ideas he proposed are still valid today and worthy of being pursued, but they got clouded in the complexity of the mechanics of putting them together for nation states. We asked Kwame to prepare a paper for us for the presidential summit on the establishment of 'OTEC', how it would be structured and would operate. Once again, he provided a high-quality, useful paper with practical suggestions on how the corporate structure of 'OTEC' for PNA members could be arranged. The limitations of the proposals, however, did not lie with the proposals themselves, but more on the inability of fisheries officials to grasp commercial concepts, the realities and the complexity of the ideas. This was not surprising and not necessarily a drawback, although it was frustrating. It simply reflected how the realities have to be negotiated to institute change. Some critics accused the PNA (and the 'OTEC' concept) as being an economic cartel. Maurice corrected them. He said the intent was a conservation cartel, as this was a renewable resource, and if conservation limits improved returns for the people, it was a win/win for conservation and also for the PNA members.

The second was also a study that was done by Peter Philipson of the FFA looking at the share of the benefits going to PNA members from their fisheries (Philipson 2009). The study, which he was able to distil to the chart below (Figure 5), showed the value of the share of the benefits to PNA members as a proportion of the price of a can of tuna. It also showed that the PNA members were only getting around 3% of the value of each can of tuna (not yet on the store shelves). These findings put things into the context of how much the countries were losing in terms of the value of their tuna. The study made them both aware of the value chain and conscious of what they could do to extract benefits from the fishery along the value chain, especially at the retail and branding end. Philipson was a dry, kind of boring, fisheries economist to listen to, but he was able to put the facts and figures in a succinct manner that everyone understood. These facts also largely influenced our thinking, especially in seeing where we were losing out in the value chain.

The third was the choice of the keynote speaker for the summit. Palau wanted a keynote speaker to address the leaders. Nannette approached me for some names. I think at the time I was still at the FFA, in my last month as deputy director-general. I thought that it would be good to have an international speaker who we knew about, but who had no long-term involvement in the Pacific Islands. I had heard that at the 2007 Pacific Tuna Forums (which are regional industry, government and civil society gatherings to discuss the state of the fishery in the WCPO) that someone from the Netherlands had described tuna as the 'new gold' and that an OPEC-type arrangement could be established for the Pacific Islands. I thought that this was the kind of message that could be conveyed to the leaders, to complement the vision that former president Toribiong had for the establishment of 'OTEC'. I suggested to Nannette that we approach Henk Brus of Atuna, the online global tuna news service. I didn't know Henk personally at the time, but as he ran Atuna, many people involved in the tuna industry at least knew of him. Henk was invited to provide me with a keynote address. I don't think his speech rattled the PNA leaders, and in fact in some ways it was not as inspired as I had expected (and in some areas it was clearly misinformed about the VDS), but his presence at the meeting enabled him to develop a partnership with the PNA Office as his business antennae went up when the PNA leaders agreed to subject the skipjack free school fisheries to MSC certification assessment. We later learnt that Henk had in fact run a pre-assessment in the Eastern Pacific Ocean for yellowfin free school several years before the PNA Office had been established. Sustunable Bv, which was Henk's company, was a renowned free school trader having no link to

the MSC. A year later things came together, either as planned or by coincidence, in the partnership of Sustainable Bv and the PNA. This new joint venture gave impetus to a new way of looking at the PNA fishery, that of marketing tuna to retailers from Europe and the United States as coming from the 'pristine waters of the Pacific Islands'. This was a novel way of looking at our fisheries that provided a freshness I had not seen for a while. Even though some people may take credit for the idea, I had not heard about it until that partnership was developed.

Figure 5: Share of Benefits for PNA Member States from the Sale of a Can of Tuna



Source: Adapted from the original, FFA Fisheries Development Division, 2019

Note: * Access fee (charged by PNA members) is usually 7–10% of catch value, or about 3% of the retail value

We went into the presidential summit meeting armed with this information and a strong desire for something to be done, and for the PNA to take a more proactive role in the commercial side of things. It is worth recounting at the meeting with the president and leaders where former president Toribiong asked about risks of offending Japan and the US, and how Maurice responded by saying 'we don't give a damn', to which he responded 'I like your style', while the rest of the room was still catching their breath. We got off to a great start.

When we arrived in Palau, there was a delegation from the World Bank that wanted to meet with the PNA members. By then the World Bank wanted to get involved in fisheries, and through their 2009 study on 'The Sunken Billions: The Economic Justification for Fisheries Reform' (World Bank and FAO 2009), they thought they could invest in the fisheries to get better returns for developing countries. In 2009, well before that meeting, Maurice and Justin Ilakini (who was the tuna industry liaison officer for the NFA in PNG) had already had some discussions with representatives of the International Finance Corporation as to what role the World Bank/IFC could play in helping the PNA. We had proposed the establishment of a stabilisation fund that could be used by the PNA members to offset any losses resulting from taking management and conservation measures, with interest to fund the PNA Office. This was because the first thing that countries were usually afraid of in taking stronger measures was that they would lose revenue. This was not necessarily true but these fears went to the core weaknesses of the architecture of regional arrangements which were largely based around cooperative agreements that were ultimately left to individual countries to implement. So, a stabilisation fund would have been able to insulate against the fear of revenue losses. The initial IFC/World Bank response was they had no interest in fisheries. A few weeks later palm oil became too controversial and they were desperate to look at fish, but not at any PNA initiative just at the FFA level — and no longer with the IFC but upgrading to the World Bank.

The meeting with the World Bank in Palau got off to a wrong start. Instead of supporting the PNA and encouraging them for their initiative, their officials criticised and questioned even the legality of the PNA Office. But the PNA had often been labelled a divisive group as it had long demonstrated independence in its decisions, rather than defer to the dictates of donors. The World Bank officials did offer support, provided the PNA referred all decisions on World Bank support to AusAID. What a way to start, especially when they were looking for a role to play in regional fisheries. You don't just come and start questioning and threatening a body that has been around since 1982! Anyway, the best response was given by Glen Joseph when he asked the World Bank officials in Palau: 'All we want to do is to ensure we get a fairer share of the value of our tuna resources, now tell us, is there something wrong with that?' Well, what can you say to such a question when you are one of the world's largest donors? Go back to the status quo, because that is better for you! It was a good way to start for the World Bank though, especially for a group that was not really going out to solicit funds, but were nonetheless interested in reaching out to developing effective partnerships. Finally, we walked away from the World Bank officials in the car park, leaving them clutching their papers unsigned. In the end, several years later, we did get two small projects from the World Bank in the first two years of our operation. These were paid directly to the consultants because by that time we would not have met the World Bank's fiduciary rules. We did not even have audited accounts, let alone a full-time accountant.

Box 6: Establishing the PNA Against the Odds

'Some critics accused the PNA (and the "OTEC" concept) as being an economic cartel. Maurice corrected them. He said the intent was a conservation cartel, as this was a renewable resource, and if conservation limits improved returns for the people, it was a win/win for conservation and also for the PNA members.'

'[Peter Philipson's] study showed that the PNA members were only getting around 3% of the value of each can of tuna (not yet on the store shelves). These findings put things into context on how much the countries were losing in terms of the value of their tuna.'

'A year later things came together, either as planned or by coincidence, by the partnership of Sustunable Bv and the PNA. This new joint venture gave impetus to a new way of looking at the PNA fishery, that of marketing tuna to retailers from Europe and the US as coming from the "pristine waters of the Pacific Islands". This was a novel way of looking at our fisheries that provided a freshness I had not seen for a while.'

'It is worth recounting at the meeting with the president and leaders where former president Toribiong asked about risks of offending Japan and the US, and how Maurice responded by saying "we don't give a damn", to which he responded "I like your style", while the rest of the room was still catching their breath.'

'The meeting with the World Bank in Palau got off to a wrong start. Instead of supporting the PNA and encouraging them for their initiative, their officials criticised and questioned even the legality of the PNA Office ... You don't just come and start questioning and threatening a body that has been around since 1982! Anyway, the best response was given by Glen Joseph when he asked the World Bank officials in Palau: "All we want to do is to ensure we get a fairer share of the value of our tuna resources. Now tell us, is there something wrong with that?"'

'Finally, we walked away from the World Bank officials in the car park, leaving them clutching their papers unsigned.'

The presidential summit meeting was also preceded by another first, and that was a meeting with the major tuna fishing companies operating in the region. Maurice arranged 45 minutes each to meet with Itochu of Japan, FCF of Taiwan, Trimarine of the US, Frabelle of PNG, PPF of Marshall Islands and a few other companies. The idea behind the meeting was to hear what ideas industry had for the fishery and inform it about the PNA's vision and new strategic direction.

The companies responded unanimously in one area: 'Please set hard limits on effort and limit output — it will squeeze out inefficient effort, force up tuna prices and industry profitability and you can name your VDS price'. One of the key messages that we wanted to share with the industry is that we wanted to develop new strategic partnerships and move away from dealing with flag states and associations, which was how the US and Japan had conducted their access negotiations, and deal directly with processors and the brands. This would mean doing away with all these access negotiations, which not only took time, but also could lead to compromised government officials and ministers and did not necessarily yield the best results for the countries as a whole. Furthermore, access negotiations were just a tool that was developed by the United Nations Food and Agriculture Organization for countries that had only just declared their EEZs and did not have a compliance umbrella to deal with enforcement of coastal state laws. Such negotiations were viewed as an interim mechanism, but they had assumed a life of their own and were inculcated into the way access was being provided to foreign fishing vessels. In fact, the then Kiribati minister for fisheries, Hon. Taberranang Timeon informed the sixth session of the WCPFC in Tahiti in 2009 that the PNA members were going to be taking a new approach to fisheries access and will be moving away from negotiating access agreements to dealing directly with the processors and brand holders. The meeting was useful and the message from the industry was consistently clear, in that they wanted the PNA to ensure that they maintained scarcity of days. Their view was that a price of US\$1,100 per metric tonne for skipjack tuna allowed for the best margin for their operations as well as ensuring that the PNA members receive a fair return on the value of access. At that time, the value of a day was about US\$900 to \$1,500 for a day. How things have certainly changed since those very first PNA-industry consultations in Palau in February 2010.

After the PNA–industry meetings, and others with the World Bank, all of which were unprecedented, we were ready for the presidential summit. The PNA member state officials crafted some language and as usual there were elements of doubt as well as apprehension, because some officials did not want to go far enough, especially in terms of the commercial role of the PNA and the office. As I said earlier, this ambivalence emanated in some instances from a lack of commercial experience, which is another aspect of fisheries management that perhaps can be improved.

Henk Brus's key message was that the fisheries business was in crisis due to the decline in fish stocks and this threatened the security of PNA members. He stressed how it was a good moment to make a new start and move away from past models of fisheries development that were responsible for the crisis. These old models have been proven all over the world to exhaust natural resources, threaten ecosystems and to ineffectively generate income. Due to the decline in fish stocks, organisations like CITES (Convention on the International Trade in Endangered Species) were considering measures such as putting bluefin tuna and even bigeye tuna on their prohibited species list, which would have negative consequences for the fisheries. This was creating doubt in the minds of consumers and the message therefore was that there should be a positive spin to be put to the market about where the tuna comes from, and more on the cultures and backgrounds of the societies from where the tuna is taken. It was energising to listen to someone we didn't know or hadn't even met before, but that was one of the reasons we had suggested he attend, because he probably did not have any baggage. His message to the PNA leaders was that PNA members should try to get out of the crisis with a clean slate. He said, 'throw the old models out of the window and start with new innovative approaches'. 'If PNA members want to reach a solution', he said, 'they must get attention, create waves and make a stand, *by connecting to the consumers*'. This would entail developing mechanisms that will make the consumers 'meet' the owners of the resources. He said that PNA members and their leaders held the key to the future of the global tuna industry and consumption. There were a number of conclusions from his presentation that are worthy of inclusion, because they are a reminder of the potential of the PNA and what could be achieved by working together. His concluding remarks were:

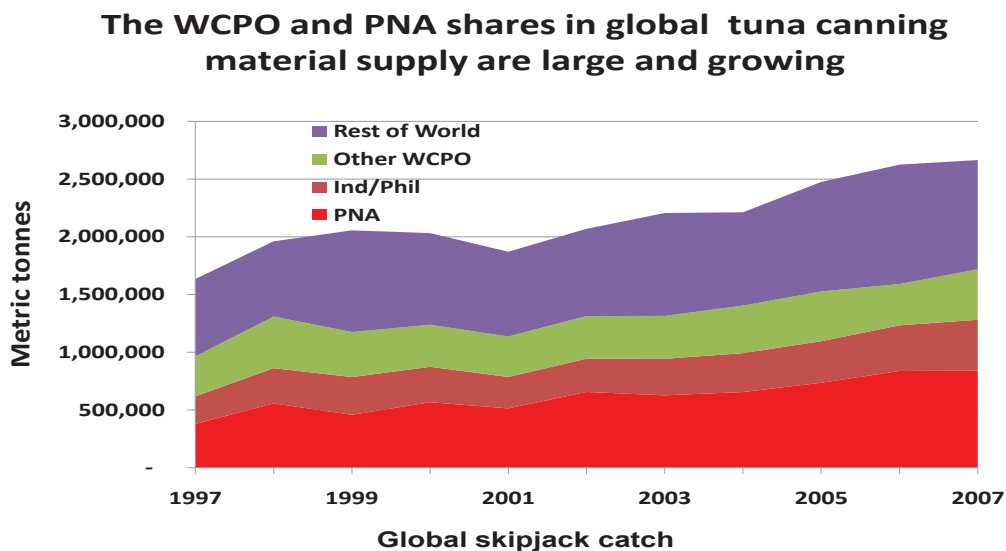
- » Canners and brands are not taking the decision who eats what — retailers do that.
- » Retailers are mandated by the consumer.
- » The PNA can create direct alliances with large retailers to buy their tuna.
- » Remember: 'canned anywhere — but caught in PNA'.
- » Tell your story: global warming — your ecosystem — your way of life — your people.

- » Influence the flow of raw material!
- » Beware of connecting investment in canneries to fishing rights.
- » Let the market determine where tuna is processed.
- » Make policies on conservation and economic gain — these go hand in hand.
- » Focus your earning model on fishing rights and ports.
- » Limit the access of vessels — adjust to catching method/species/volume.

There was only one slight but fundamental hitch in his presentation, which was when he called for catch limits and doing away with the VDS! I thought that it was not really the right message since we were already well into the application and implementation of the VDS, which was complex enough but relatively simple to enforce compared to catch limits, but overall his message was well received. Clearly, he was not so familiar with that particular PNA agendas and directions.

My message to the PNA leaders was simple. We showed them that catches of tuna in PNA members' waters over the past three years had hovered above 1 million tonnes, but what I really wanted to share with them was the opportunity they had in reshaping regional fisheries, reshaping the industry and doing something that would create waves in the region. I showed leaders the chart in Figure 6, which illustrated the WCPO and the large PNA share in global supplies of skipjack for tuna canning material supply and I noted how skipjack was the major species used for canned tuna. I wanted them to appreciate the importance of their waters, and their share of the catch of tuna take from the region. All of this showed how important the PNA is to the global tuna industry.

Figure 6: Proportion of PNA Share of Global Tuna Canning Material

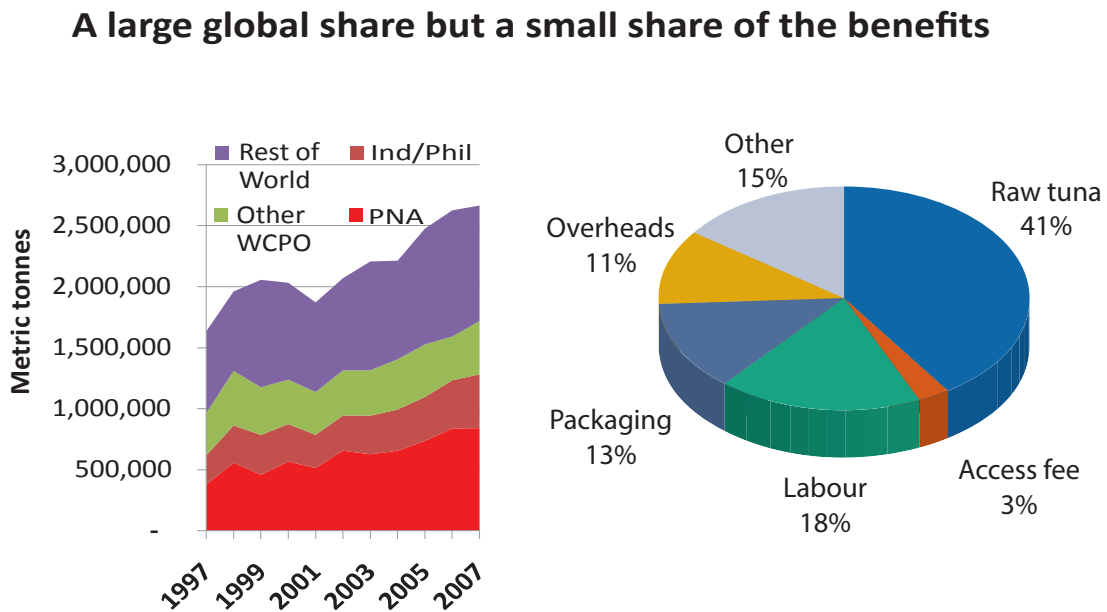


Source: Forum Fisheries Agency, Fisheries Development Division, 2009

I showed the presidents that two-thirds of the world's tuna canning material comes from the WCPO, and this share is growing, while about one-third of the global tuna canning material at the time came from PNA waters and was growing because not only was the PNA fleet growing, but there was an increasing catch being taken from the high seas by those PNA vessels. This was enough to make the PNA the single major player in the world market for tuna canning material — *if we act coherently*. Yet something was not right, because while the Pacific Island countries and specifically the PNA members had a large share of the global market for tuna canning and related uses, they only had a small share of the benefits. I showed them the anomaly in the benefits, clearly illustrated in Figure 7, and challenged them that they can do something about it. I pointed out that we had a large share of the global share but a small share

of the benefits. I remember Glen Joseph of Marshall Islands presenting this slide and asking the question, ‘why is it that we, in whose waters most of the fish is taken from, only have a very small share of the benefits?’ It must have been frustrating for Glen Joseph as well as for many of the PNA members’ leaders, because as I recall, this is something our leaders have been talking about since 1976!

Figure 7: Share of PNA Benefits and Catch



Source: Forum Fisheries Agency, Fisheries Development Division, 2009

I said to the leaders at the summit that there is much we can do at national level to improve policies and capacities in both the government and private sectors, but the real potential lies in strengthening our collaborative efforts as Parties to the Nauru Agreement to use our position as a major global player. I challenged the leaders to use this position to conserve and protect our stocks from overfishing and ensure they remain the healthiest and most valuable in the world. And I stressed we can get real returns from healthy stocks by working with organisations like the MSC to let consumers know that tuna fishing in our waters is conducted sustainably. I said that we can use our position to control tuna output and influence prices in the way that OPEC does, as former president Toribiong had pointed out to us. We had a PNA purse seine VDS that could be used to set effective limits on purse seine production for this purpose, and we needed a similar scheme to limit longline fishing and production. And we could also use our market power to secure opportunities to participate fully in all aspects of catching, processing and marketing our fish instead of just selling licences, including being involved in joint ventures in fish processing, marketing and vessel servicing among ourselves and with other major players in the industry.

I said, ‘this event inspires us to reach to the limits of our energies and our imagination to make the best possible use of the tuna resources with which we have been blessed. I sincerely hope that through the establishment of the PNA Office in Majuro and the new vision projected by the PNA, we will improve the quality of lives of our peoples’. Months later in a brainstorming session with Maurice, he made a valid point: ‘What we can achieve is only limited by our imaginations’. The PNA members have always been known for thinking outside the box, as reflected in its history of management measures.

I listened to the views of the leaders with interest, because without doubt everyone shared the same perception about the lack of benefits and also perhaps the same vision for the way forward. Former president Anote Tong of Kiribati said:

This meeting has the makings of an historic event in how we, as the major resource owners of the last viable tuna fisheries in the world, can sustainably manage the resource for the benefit of our peoples. I believe that the key elements needed for this to happen are:

Firstly, we need to exert greater control over our resource. This will require greater cooperation in how we manage our waters, including the pockets of high seas that exist between us;

Secondly, we need to ensure the sustainability of the tuna resources in our waters. Failure to do so would be detrimental to our collective efforts;

Thirdly, the structure of our relationship with our partners must change. We cannot continue with licensing arrangements forever. Our partners must recognise our aspirations to maximise our benefits from the resource and we invite them to enter into new arrangements with us that will allow that to happen. If there is a need to provide our partners with an incentive to cooperate, consideration could be given to implementing, for example, a condition that we be given the first right to add value to tuna caught in our waters; and

Finally, but perhaps more importantly, we need to collaborate as a cohesive unit that promotes our collective interests.

For the record, Kiribati strongly endorses the efforts we are now taking to sustainably harvest our tuna resources so it is there to serve our future generations. We would like to see these efforts result in, among other things, higher returns from the tuna fisheries, increased participation in the fishing industry at all levels and a concerted drive to effectively manage fishing capacity issues by our partners so as to reinforce our own national efforts.

(His Excellency Beretitenti Anote Tong, Statement at PNA Presidential Summit, Koror, Palau, 25 February 2010, copy with author)

The former president of Nauru, Marcus Stephens, said:

At this juncture I would also like to acknowledge the enormous assistance that had been rendered by the Pacific Islands Forum Fisheries Agency (FFA) since the inception of the PNA. Our decision to set up a separate PNA Office should not be seen to diminish our respective and collective obligations and commitment(s) to the FFA as members of the FFA. FFA has done a lot for us, and FFA has a strong and ongoing role to play in broader Pacific Island fisheries policy and development support. However, the PNA is now focussed on developing its commercial aspirations, an area where the FFA framework is simply unable to accommodate.

Leveraging greater economic benefits from tuna resources of the PNA is still as important as ever. We have learned a lot more since 1982 and we can no longer agree and be satisfied with current access arrangements. The PNA must now work together to explore and expand our involvement in all aspects of the tuna industry.

The PNA has reached yet another turning point where we now seek to cooperate with genuine development partners, be it historical ones or new ones, but with partners who recognise our collective needs and aspirations. Development partners must be willing to cater for our needs as well as their own while promoting mutually beneficial relationships.

(His Excellency Marcus Stephen, President of the Republic of Nauru, Statement at 1st Parties to the Nauru Agreement Presidential Summit, Koror, Palau, 25 February 2010, copy with author)

Box 7: Throw the Old Models Out the Window

'One of the key messages that we wanted to share with the industry is that we wanted to develop new strategic partnerships and move away from dealing with flag states and associations, which was how the US and Japan had conducted their access negotiations, and deal directly with processors and the brands. This would mean doing away with all these access negotiations, which not only took time to negotiate, but also could lead to compromised government officials and ministers and did not necessarily yield the best results for the countries as a whole.'

'The meeting was useful and the message from the industry was consistently clear, in that they wanted the PNA to ensure that they maintained scarcity of days. Their view was that a price of US\$1,100 per metric tonne for skipjack tuna allowed for the best margin for their operations, as well as ensuring that the PNA members receive a fair return on the value of access.'

'Henk Brus's key message was that the fisheries business was in crisis due to the decline in fish stocks and this threatened the security of PNA countries. He stressed how it was a good moment to make a new start and move away from past models of fisheries development that were responsible for the crisis. These old models have been proven all over the world to exhaust natural resources, threaten ecosystems and to ineffectively generate income ...'

'He said, "throw the old models out of the window and start with new innovative approaches". "If PNA members want to reach a solution" he said, "they must get attention, create waves and make a stand, by connecting to the consumers". This would entail developing mechanisms that will make the consumers "meet" the owners of the resources. He said that PNA members and their leaders held the key to the future of the global tuna industry and consumption.'

There was a surprisingly strong level of support for the direction that the PNA was taking and a desire within the member states to take control of their destiny. The outcomes of the presidential summit were probably just as unprecedented as the summit itself, when the leaders called not only for additional closure of high seas in the eastern part of the region to fishing by purse seine vessels, which would have meant enhancing even more the economic value of their EEZ, but also agreed to subject the PNA free school skipjack fishery to the MSC certification. The closure of the eastern high seas areas to purse seine vessels was aimed at controlling IUU fishing there, but more importantly, to reduce fishing mortality of bigeye tuna. (See the map at the beginning of this book.) It must be remembered that this was the stock that was overfished and we were looking for additional measures to the three-month closure on fishing on FADs to further reduce the pressure on bigeye tuna stocks. Enforcing the additional measures was not going to be a problem, because all purse seiners were already required to carry an independent fisheries observer to monitor the closures. The decision by PNA leaders to go ahead with the MSC certification assessment took a few people by surprise and later on I received an email from Katherine Short who was at that time working for the World Wide Fund for Nature (WWF). She wrote we had pulled the rabbit out of the hat because no one had expected that our leaders would agree to it. It had never been done before for multispecies, multilateral fisheries and so the announcement caused quite a stir and perhaps was even viewed with scepticism. Some in the tuna industry, who perhaps had a vested interest in the supply chain and brands, argued it could not — in fact should not — be done, but they had their commercial interests, which were not ours. There were three decisions which leaders made that were in my view transformative.

The first was the recognition of the need to increase the economic returns from their tuna resources and to get involved in various ventures that would enable the members to participate along the value chain. I know that the leaders could probably have done more in this respect and maybe they could have tasked officials to establish an OPEC-like arrangement to take back to them for their endorsement. They could have even had a different structure that would allow for more independent commercial decisions to be made and implemented, allowing for things like cross-boundary investments, and more integration between the members. Once again it seemed to indicate the ambivalence of some officials and I guess fear that we were going too fast too soon. The idea that the members would

be doing something for themselves without any donor support was in itself concern for some and so there was this general reluctance particularly by some officials to not go as far as others wanted. Nonetheless the language that was eventually agreed to by the PNA leaders was sufficient for us to take forward as our mandate to work on new initiatives. This included strengthening the VDS and having it recognised by the leaders as an important platform in the development of the PNA fisheries. This was important for those from Palau, who were ambivalent over whether they would sign on to the VDS, not because they philosophically disagreed with it, but about whether their fishing relations with Japan were more important to them than the ideals of the PNA. This reflected the difficulties and sometimes tricky relations that countries had to traverse in order to get things through as members of the PNA.

The leaders were also able to agree to language that would allow the members to consider prohibiting fishing to vessels that they license to the high seas to the east of the Pacific. This was an important step in ensuring that the PNA could manage the high bigeye catches in those areas, which were largely unregulated. Even though at the time the level of fishing in those areas was lower than in the central Pacific, the proportion of bigeye catch associated with fishing in that area was high compared to elsewhere in the WCPO. This was important because it then allowed officials at their special meeting in Nauru in September that year to agree to close off the eastern high seas areas as a further measure to the raft of measures already put in place by the PNA members such as catch retention of all tuna species, the prohibition on fishing on FADs and so forth.¹ These were all part of the package of conservation and management measures that the PNA members had adopted through the Third Implementing Arrangement (3IA) in 2008. The presidential summit meeting agreed to impose further conservation and management measures that would involve adding to the range of measures that were already in the 3IA. It was agreed that the members would review the implementation of the 3IA at each annual meeting (Article II), and for the annual review in 2012 to give specific attention to the impact (positive or negative) that the closure of the additional high seas areas had on domestic development.

The *Islands Business* award for 'Organisation of the Year' was fitting recognition for the hard work, resolve, enthusiasm and energy of the small band of officials working on the PNA initiatives, and a perfect indicator to those who doubted the viability and vision of the PNA that we were onto something big — really big. In presenting the PNA with the award, *Islands Business* said in a statement that it was an unprecedented acknowledgement by the magazine of the contribution of an organisation to Pacific Islands development.

It was the first time that regional organisations of the Pacific were being given international recognition. The PNA was also a finalist in the International Seafood Championship Awards in 2016. I said it was an honour and 'a good reflection of the work the Parties have done to manage the fishery', in a press statement that I released in recognition of the honour (Naime 17/9/2015). We were one of 16 finalists in four categories — for leadership, innovation, vision, and advocacy. I said 'it was gratifying to see PNA make it to the finals in this industry award and heartening to get recognition from others who are looking in to see what we are doing, as the seafood industry award is an objective overview (of the fishery). It is recognition that our members and the PNA Office can be proud of.' The inclusion of PNA as a finalist in the Seafood Championship Awards competition was acknowledgement of the significant conservation and management work that PNA brought to the tuna fishery, which enforced best practice standards in the fishery, increased benefits to the PNA, and improved the long-term sustainability of the tuna fishery in the WCPO.

¹ Prohibiting fishing in the high seas to the east of the Pacific wasn't as easy as people might think, because these areas border Kiribati's EEZ and the Kiribati-licensed EU vessels fished in those high seas, and at that time only opportunistically fished in Kiribati's EEZ. Of course, one would think that Kiribati would want them to fish in their EEZs and not in the high seas, as that is where they would be earning their income from, but at the time the VDS was not as effective and parties were not selling days, so the kind of economic thinking that has now influenced the thinking of PNA officials was not there at the time. Kiribati was rightly concerned about the impact that these closures would have on their domestic fisheries.

Box 8: The 2010 Presidential Leaders' Summit in Palau

'I said to the leaders at the summit that there is much we can do at national level to improve policies and capacities in both the government and private sectors, but the real potential lies in strengthening our collaborative efforts as Parties to the Nauru Agreement to use our position as a major global player. I challenged the leaders to use this position to conserve and protect our stocks from overfishing and ensure they remain the healthiest and most valuable in the world. And I stressed we can get real returns from healthy stocks by working with organisations like the MSC to let consumers know that tuna fishing in our waters is conducted sustainably. I said that we can use our position to control tuna output and influence prices in the way that OPEC does, as former president Toribiong had pointed out to us.'

'I said "this event inspires us to reach to the limits of our energies and our imagination to make the best possible use of the tuna resources with which we have been blessed. I sincerely hope that through the establishment of the PNA Office in Majuro and the new vision projected by the PNA, we will improve the quality of lives of our peoples".'

'The outcomes of the presidential summit were probably just as unprecedented as the summit itself, when the leaders called not only for additional closure of high seas to the eastern part of the region to fishing by purse seine vessels, which would have meant enhancing even more the economic value of their EEZ, but also agreed to subject the PNA free school skipjack fishery to the MSC certification ... [Katherine Short of WWF] wrote we had pulled the rabbit out of the hat because no one had expected that our leaders would agree to it.'

'The idea that the members would be doing something for themselves without any donor support was in itself concern for some and so there was this general reluctance particularly by some officials to not go as far as others wanted. Nonetheless the language that was eventually agreed to by the PNA leaders was sufficient for us to take forward as our mandate to work on new initiatives. This included strengthening the VDS and having it recognised by the leaders as an important platform in the development of the PNA fisheries.'



Top: Kiribati — Pacific Island crew on a Chinese vessel

Source: Francisco Blaha

Bottom: Noro, Solomon Islands — The day's catch

Source: Francisco Blaha

CHAPTER 4: MARINE STEWARDSHIP COUNCIL (MSC) ECO-LABEL, PACIFICAL AND THE PNA OBSERVER AGENCY

'I think we assume that most of the time the region and the countries are a homogenous group and that they will always cooperate on every issue that you put to them, but I have found is that this is not always the case. We fail to estimate the complexity of the region.'

Two things that not only the PNA leaders, but also the TWG and the PNA ministers were keen to explore when they were looking to establish the new PNA were: 1. Ways in which they could increase their share of the value of the pie, and 2. How to increase their participation in the fishery. We were full of ideas and you are only limited by your imagination. In fact, when one thinks about it, there are so many things that can be done when we work together, but I have observed that sometimes it is easier for regional politicians to say that they want to cooperate, but when the time comes to doing something collectively that entails some loss of sovereignty to the collective group, they easily get cold feet. This has been one of the central features of regionalism that perhaps impacts on the ability of Pacific Island governments to fully integrate regionally. I think we assume that most of the time the region and the countries are a homogenous group and that they will always cooperate on every issue that you put to them, but I have found that this is not always the case. We fail to estimate the complexity of the region, and that is a lesson that I learnt in helping to shape the PNA. As I have said earlier in this book, perhaps the PNA logo sums it up, which shows four fish swimming one way, three in another direction and one on its own. Yet in spite of the depiction that they are swimming in different directions, they all need each other, so there is a mutual benefit by sharing and working together.

In this chapter I describe how the efforts of the PNA members have made a difference and led not only to a greater sense of integration amongst themselves, but also provided a framework for them to have an impact on the global tuna industry. The initiatives I detail here were part of the endeavour to increase the value of the fishery, the members' share of the value of their tuna in the global market and also to get involved in the fishery through the supply chain in some of the services that are vital to the management of their tuna resources. In addition to the success of the VDS, the members were successful in putting their collective efforts on the world map through the development of two initiatives, namely Pacifical, which is their marketing and retailing platform and the PNA Observer Agency, which is their commercial arm supporting the work on their fisheries observers.

Raising the Standards, the Marine Stewardship Council (MSC) Certification and the Development of Pacifical

'When people in Europe and other developed countries buy a can of tuna containing fish caught in PNA waters, it is about them knowing they are supporting the livelihoods of men, women and children whose bread and butter — and social and economic wellbeing — actually depends on tuna.'

The establishment of Pacifical, a joint venture between the PNA and Sustunable Bv of the Netherlands, was predicated on the PNA free school purse seine fishery being given the green light to carry the MSC certification. Both the MSC certification and Pacifical were unprecedented in the history of regional cooperative fishing endeavours by Pacific Island countries so they represented a revolution in the regional fisheries architecture. Perhaps PNA members did not know it at the time, and I must admit that we probably did not give much thought to it, but embarking on MSC certification has been transformational, as I will explain later on in this chapter. I don't think that many PNA member government officials realised what the MSC was really all about and what it could do to the fisheries, but there was an air of excitement amongst the PNA members, and we were all prepared to do something new and expand our horizons.

Up until the establishment of the new PNA in 2010, no purse seine tuna fishery in the world had been certified by the MSC as being sustainable. This represented a challenge and it was not because the fisheries did not meet the three criteria of the MSC standard of sustainability, protection of endangered species and effective management

framework, but I think they did not perceive there to be an economic incentive. In addition, the political economy, especially of developing country fisheries, was such that they often failed to meet the third criterion, namely that relating to governance. It was not until the PNA took the initiative that more industrial tuna fisheries involving the developing countries have since been accepted, including in the Pacific. The exceptions were the Maldives pole and line fishery, the American Albacore Fishing Association for Pacific albacore tuna in the Northwest US, and a small Japanese pole and line skipjack fishery which had already received their MSC certification when we embarked on getting ours. They were certainly nowhere near the scale of the PNA purse seine fishery in terms of volume and value, but it was evident that there was scope to certify developing country fisheries if all three criteria of the MSC standards could be met and a credible chain of custody could be established. What was a new twist was that it was *governments* that would hold the certification, rather than the industry.

The MSC is an independent non-profit group based in the United Kingdom that was established to set up standards against which independent assessors can evaluate a fishery. The MSC is widely recognised as the gold standard in the industry. It maintains this high standard by engaging the services of a group of independent experts in various aspects of fisheries. I didn't realise how political all of these eco-labels and the environmental green movements can be, until we decided to have the PNA free school skipjack fishery assessed against the MSC standards.

There is some history behind the endeavours to subject the PNA fishery to MSC certification and I think different people are likely to make a claim that they were the first to initiate it. In fact, there were two studies that preceded the announcement to seek MSC certification in Palau in February 2010. The first, in 2008 and predating the new PNA, was an attempt to assess whether the PNA fishery that was subject to the FSM Arrangement could meet the MSC standards. If I am not mistaken, this was undertaken when I was at the FFA. Amanda Hamilton, while engaged as FFA project economist, worked on a project to carry out a pre-assessment of the PNA FSM Arrangement purse seine fishery. Amanda is an Australian national who joined the FFA in 2005 from Samoa, where she had been working as an agricultural economist. I remember advising her after her interview on her return to Samoa, that if she was given the job, she should seriously think about accepting it because it was a good position where she would be involved in work that was capable of changing the livelihood of our peoples. I am glad she accepted the position as she became a valuable member of the FFA economics team. I did not realise it at the time, but there were already efforts underway to see if some of the Pacific Islands fisheries would be able to meet the MSC standard. I had not given much thought to the MSC, although their Sydney-based representative to the region at that time, Duncan Leadbitter, attended the FFA annual meetings for a couple of years. It goes to show how much of the upswell of developments on the ground you can miss, when you focus too much on the bigger picture. Anyway, the FSM Arrangement fishery was subjected to a pre-assessment, but it was found that it would not be able to meet the MSC standards because of the bigeye tuna mortality on FADs. So that was the end of the FFA's forays to get MSC certification. I don't know who was contracted to undertake the pre-assessment of this initial attempt to obtain MSC certification. When I look back at those times while writing this story, I now understand why Duncan Leadbitter attended those FFA meetings. It was to see how some of the fisheries in the region could be subjected to MSC certification. If you came from a developed country, these certification hurdles were more familiar. Most of the expatriate staff from a single country who were working at the FFA when I worked there were from Australia and they were familiar with the MSC through the certification of the prawn fishery in the Northern Territory and the lobster fishery in Western Australia. When I reflect on what the FFA was attempting back then, I now see how important it was and perhaps I should have put more energy and effort into it as I did when I left the FFA and started the PNA Office in Majuro.

The second attempt at MSC certification by the PNA was made in 2009 by Maurice, who at the time was working in his businesses with Latitude 8 Ltd and The Net Shop in Port Moresby. Maurice convinced the NFA board to fund an MSC pre-assessment covering free school, drifting and anchored FADs and natural logs for both skipjack and yellowfin. The work was done by Richard Banks with Moody Marine Ltd. Not many of us knew about the pre-assessment and it was largely kept within the ranks of the NFA. I don't think it would have made a difference anyway. None of us had a clue about the workings of the MSC and what it stood for, apart from seeing Duncan Leadbitter attend the annual FFA meetings. When we see how successful the PNA members are now, in the way that they have used the MSC certification to change the broad structure of the WCPO tuna management framework, sometimes we take it for granted — but that took vision. Although none of us knew it then, because I don't recall the term 'MSC' ever being mentioned in the steering group meetings on the establishment of the PNA Office. I think that it was just as well

Maurice kept it under wraps, because there would have been a circuitous debate amongst the various PNA member government officials on whether to go for pre-assessment. Sometimes, the price you have to pay for regionalism and collective decision-making is inefficiency and stagnation of progress, but there are few other alternative ways in which decisions can be reached when the issue entails multiple countries, and this is where I think, upon reflection, we can thank Maurice for taking the initiative when he was at NFA in 2009 to get them to fund the pre-assessment for the PNA free school fishery.

Once MSC certification is obtained, a fishery can start to use an eco-label. One of the things I learnt was that there are many *different* eco-labels, which are labels that indicate to the consumer that if they see the logo of the eco-label on a product in the supermarkets, then the fishery has met the standards of the eco-label. There is usually a process that involves a rigorous evaluation of a fishery against the principles of sustainability set out by these different eco-labels, normally by independent third-party assessors. The assessors would have had to go through training to qualify them to undertake the assessments. Generally, once a fishery is passed and is assessed to have met the standards of the eco-labels, the products produced from fish caught from the fishery may be eligible to use the eco-label. The use of eco-labels on fish products came into fashion with the increasing consumer consciousness, particularly in the European markets, about where their seafood was coming from and their desire to ensure that what they were eating was being sourced from sustainably managed fisheries. It amazed me just how cut-throat the eco-label industry was, with some eco-labels almost blackmailing fishing companies which often found it cheaper to simply pay them off and to have their logos on their products than try to avoid them and face mafia-like tactics as a result. We also had to go through the same struggles when Pacifical was established, because Earth Island Institute, the group that owned the Dolphin Safe logo, wanted all of the tuna marketed through Pacifical to also carry their Dolphin Safe logo, yet they did not have any relevance or credibility in our region. The politics behind the eco-label business was just shocking and sometimes perhaps disgraceful since at the end of the day, it was all about them getting paid for 'protection' and a logo.

I often wondered if the consumer was actually aware of all the claims that were being made by these various eco-labels, so one day in 2014, I asked a floor manager at a Coles supermarket in Launceston, Tasmania, if people bought canned tuna because of the eco-labels that they carry. He said that mostly the consumers were not aware of the eco-labels and really did not ask about where the tuna came from. The key driver that he observed that influenced consumer behaviour was the price. I think that in Europe, the consumers are more environmentally conscious and would rather want to know where their canned fish comes from, and therefore are prepared to pay a little extra, whereas in the US and to some extent Australia and New Zealand, they were more price conscious and less aware of sustainability. There are many different eco-labels that are used to certify sea food products. Some examples of the more popular ones are Fair Trade, Friends of the Sea, Ocean Wise, and Sea Choice.

The MSC sets the standards, but the assessments are in fact done by independent third-party assessors. This is to ensure that the assessment is done at arm's length, and is totally objective. The certification bodies all have to go through a rigorous process of training to ensure that they are familiar with the standards. Many of them aim to gain recognition by ensuring that they meet the International Standards Organisation's (ISO) high level of quality management, which makes them even more competitive in the certification market. The assessments are therefore done to very high standards by people who are extremely well qualified in the field of fisheries. From my observations and coming to see how the eco-label politics manifests itself, I would argue that MSC certification is the best and most rigorous standard of all the eco-labels. My view is based on being involved in the process while being CEO and consultant to the PNA, and having also seen the undeniable positive change in management of the fishery as a result of the certification. In terms of the geographic area and also in terms of its complexity, the PNA fishery was the largest (and if I am not mistaken) the first multinational, multizone tuna fishery to have ever been subjected to MSC certification. These views are also supported by the findings of a comprehensive UN FAO study in which they assessed all the eco-labels and ranked them. Not surprisingly, the MSC certification came out top of the ranks.

Maurice and I assumed that some of the NFA management had kept the pre-assessment quiet as I certainly did not know about it, even though I was a key figure in the steering committee on the establishment of the PNA Office. I never heard Sylvester Pokajam or Justin Ilakini mention it in any of our meetings, but that was a good strategy because

by the time the office was established in early 2010, we had already completed the pre-assessment. As I said, the idea of obtaining MSC certification was relatively novel and maybe in the minds of Maurice and perhaps one or two others who knew about it, it was the best way of going about it, and we were able to hit the ground running when we started up the new PNA Office. There were certainly teething problems that were a direct result of the lack of consultation with the member states, but the bigger issue (and one to be expected) was that of industry and more particularly the global brands opposing a potential shift in the market structure. The certification was about the member countries, not the PNA; it was the fishery being managed and regulated by the members and vessels licensed by members to fish in their waters, not those of the PNA (which of course does not have any waters or vessel licensing itself). But I knew that it would have taken a long time to get everyone to buy in on the idea while we tried to educate the officials on the MSC certification process, so it was the right decision to make at the time, and more importantly, the leaders embraced it. As I have argued, there is a level of patience when working on regional cooperative endeavours that is required to get new initiatives off the ranks. There is at least a gestation period of eighteen months to two years or even longer, for an idea to take shape and then get it off the ground, but the certification was fast-tracked, which caught a lot of people by surprise.

I am getting a bit ahead of myself but the PNA leaders in the presidential summit called for increasing the value of the fishery, growing the pie, having more and bigger slices through the vertical integration from fishery to the end market, and 'putting icing on the cake' through branding. Still, when the announcement was made that the PNA leaders had agreed to subject the PNA purse seine free school skipjack to MSC certification assessment, it was a total surprise for some observers and stakeholders, outrageous for others and a stroke of brilliance for PNA members.

I have learnt much about the MSC, and I have participated on behalf of the PNA in two arbitrations in 2011 and 2018 disputing the PNA certification, which I will describe below. I do not know of any other certified fishery that has been subjected to the same level of scrutiny and objections by other stakeholders as the PNA MSC fishery and sometimes I felt that there were deliberate attempts to undermine the efforts of the PNA. At least I was able to rationalise the challenges we went through, but my colleague Maurice always thought there were ulterior motives from all those who fought against the PNA certification, and I think he might have been right, although I never really saw it the way he viewed it. It was about jostling for market share in the retail sector, and the PNA certification posed a threat to a number of stakeholders whose commercial interests were potentially being weakened by it and PNA members' participation in the fishery.

By the time we had established the PNA Office in January 2010, Moody's had completed a pre-assessment in which they found that it was possible, upon further review and analysis, for the FAD free school skipjack (and possibly the free school yellowfin fishery) to be certified, with conditions. It was decided to start with free school skipjack and learn the ropes before diversifying further. There are basically two types of sets that are made by these large industrial purse seine vessels. One set type is known as a free school set. This means that the fishermen set around a single species school of fish that has come up in the water to feed, and they encircle the school with the net. There are no logs or whale sharks that are associated with the set, and almost no bycatch of non-target species. You generally find these kinds of schools during the daytime and often you will see birds around the schools. That is how they spot the schools: through looking out for aggregation of sea birds around white foams, which form when the tuna surface and feed on the plankton.

The other set type, which has been the subject of some controversy (as explained below), is to set around fish aggregating devices (FADs — see Figure 8). These might be naturally drifting objects like floating logs or dead whales or they might be rafts deployed by the vessels. In the last two to three decades the industry has developed the technology whereby fishermen place old nets with coconut fronts which they tie to a floater with a tracking buoy so they can be tracked. Originally, these were VHF buoys with a 60–89 nautical mile range, and then later these were replaced with satellite buoys that can report their position by GPS and allow global monitoring. The buoys are no longer limited to two to three per boat. These days, sonar-capable buoys are so advanced that fishing companies can simply have someone back at their headquarters to monitor and track the movements of several hundred of their FADs. They can even estimate the volume of fish underneath the FAD. Gone are the days where every FAD had to be checked early in the morning to see if aggregations warranted a set. Now fishing companies just direct their vessels where to go for optimal tonnage. Maurice calls it 'cherry picking', where they pick and choose which FADs to head

for, as they know their vessels will optimise their catch. This is controversial because there is a higher mortality rate of smaller tuna and, for some reason, there is also a relatively higher rate of juvenile bigeye tuna and other bycatch that is often caught in association with FADs. But in a perverse twist, only targeting large aggregations of tuna may reduce the percentage of non-target species of concern in the fishery, such as sharks.

Figure 8: Fish Aggregating Devices (FADs) Being Pulled from the Sea (Top) and on Deck



Source: The author

At the time, there were concerns about the sustainability of bigeye tuna and the impact that fishing on FADs was having on the juvenile bigeye stock, with bigeye considered overfished. It was also the target species of the longline fishery and therefore there were interactions with other fisheries which exacerbated the complexities about its management. Ironically, taking measures to limit juvenile bigeye mortality through conservation measures and FAD closures benefits the industrial nations whose fleets and markets target mature fish on the high seas' longline fishery for the US and Japanese *sashimi* market.

Box 9: The PNA's MSC Certification

'Up until the establishment of the new PNA in 2010, no purse seine tuna fishery in the world had been certified by the MSC as being sustainable.'

'... it was evident that there was scope to certify developing country fisheries if all three principles of the MSC standards could be met and credible chain of custody could be established. What was a new twist was that it was governments that would hold the certification, rather than the industry.'

'When we see how successful the PNA members are now in the way that they have used the MSC certification to change the broad structure of the WCPO tuna management framework, sometimes we take it for granted — but that took vision.'

'Once MSC certification is obtained, a fishery can start to use an eco-label. One of the things I learnt was that there are many different eco-labels, which are labels that indicate to the consumer that if they see the logo of the eco-label on a product in the supermarkets, then the fishery has met the standards of the eco-label. ... The use of eco-labels on fish products came into fashion with the increasing consumer consciousness, particularly in the European markets, about where their seafood was coming from and their desire to ensure that what they were eating was being sourced from sustainably managed fisheries.'

'It amazed me just how cut-throat the eco-label industry was with some eco-labels almost blackmailing fishing companies, which often found it cheaper to simply pay them off and to have their logos on their products than try to avoid them and face mafia-like tactics as a result.'

'The certification was about the member countries, not the PNA; it was the fishery being managed and regulated by the members and vessels licensed by members to fish in their waters, not those of the PNA (which of course does not have any waters or vessel licensing itself).'

It was against this backdrop that we went to Palau for the first presidential summit meeting to seek the endorsement of the PNA leaders to go ahead with the full assessment of the PNA free school fishery for skipjack. We deferred certification of free school for yellowfin as there were concerns about the stock status at that time. In January 2017, we had an expedited assessment for free school yellowfin certification and the scope of the MSC certification was extended. The unit of certification, which is the technical term for the stock that is covered by an MSC certification, was extended from skipjack to include yellowfin tuna, making it one of the largest fisheries ever to be certified.

In Palau in late February 2010, prior to the PNA presidential summit, Bill Holden, the Pacific fisheries manager for MSC based in Sydney, gave a presentation at a special meeting of the members on the MSC principles. Bill was an old hand in the Pacific Islands and he was always good company. He had worked in the tuna industry in Tonga and had managed a longline fishing company with his former partner, so he was knowledgeable about Pacific tuna fisheries, markets and the major players, especially in the longline fishery. He was a US national, but had lived in Tonga for a long time and was even married to a Tongan national, so he knew the Pacific and Pacific Islanders well. Sometimes outsiders underestimate the difficulties of working in the region with developing countries especially with people who have different cultures. It is therefore always important to try and understand how the Pacific peoples think, which is often not easy.



Top: Kiribati — Boarding vessels for inspection in Tarawa

Source: Francisco Blaha

Bottom: Solomon Islands — Controlling bycatch transshipment from a Taiwanese longliner in Noro

Source: Francisco Blaha

There are three principles the MSC has set, which have to be met in order for a fishery to be certified. Bill explained these to the members, described the price differentials between the tuna products that were not MSC-associated and those that were sold in the market in Europe with the MSC logo attached to them. There were three tuna fisheries that were already certified by then: the Maldives pole and line fishery that I mentioned above, which was the first developing-country tuna fishery to be certified; the American Albacore Fishing Association for Pacific albacore tuna in the Northwest US, which was a developed-country fishery; and the Japanese Tosakatsuo Suisan pole and line skipjack tuna fishery. These were smaller fisheries and in the case of the Tosakatsuo Suisan pole and line fishery, only involved two boats, so they were nothing compared to the scale that the PNA members were envisioning.

The message that we got from the presentation Bill Holden gave to the PNA members was that there was a high demand for MSC-certified tuna and that there was a premium to be paid for it. At its very core, a fishery would have to pass over 30 performance indicators under the three criteria of the MSC in order for it to be certified. These cover: 1. the scope of the target stock throughout the region; 2. the overall environmental impact of the unit of certification on the fishery under assessment; and 3. the management systems that deliver on principles 1 and 2. So these relate to whether the fishery is sustainable and that the fishing method being assessed is not causing the stocks to decline. In order to pass the first criterion that the fishing method is not causing a decline in stocks, the assessors must be able to demonstrate that there are enough fish left in the ocean for repopulation to occur, and that fishing must be at a level that ensures it can continue indefinitely and the fish population can remain productive and healthy, stock-wide. Furthermore, they must be able to demonstrate that there are minimal impacts from fishing. In other words, the fishing activity must be managed carefully so that other species and habitats within the ecosystem remain healthy, and finally that there are effective fisheries management and governance arrangements in place. The fishery must be able to show that the operations are well managed and the certified fisheries component complies with relevant laws and they are able to adapt to changing environmental circumstances to maintain a healthy stock.

Bill's presentation was convincing and while listening to him, I felt as if we were on the right track, and that if we wanted to be innovative and do something differently and increase our control and share of the fishery, we would have to explore other innovative means of doing it. MSC certification was just one brilliant idea about how we could go about it. Bill emphasised that for the PNA, it would send out a good message to the international tuna markets. Bill spoke about six pillars that should inform the PNA certification for its purse seine free school skipjack. These were:

- » Reputation. Show consumers, investors, clients, employees and suppliers the prestigious blue eco-label.
- » It's the right thing to do. Support and reward sustainable fishing.
- » Trust. Address consumer concerns of provenance and choice.
- » Marketing. Use innovation and differentiation.
- » Risk management. Ensure long term security of supply.
- » Bigger picture. Reinforce environmental credentials and drive behaviour change.

He explained to the attentive audience, most of whom (including myself) were probably hearing about the MSC for the first time that the MSC's mission was, through the use the eco-label and fishery certification program,

to contribute to improving the health of the world's oceans by recognising, rewarding and incentivising sustainable fishing practices, influencing the choices people make when buying seafood, and working with our partners to transform the seafood market to a sustainable basis.

(Marine Stewardship Council mission statement, <https://www.msc.org/about-the-msc/our-strategy> (MSC 2017))

I could start to see the connection when Bill was making his presentation, and I saw where Maurice and those at the NFA were coming from. For PNA members, it should not just be about securing the rights to the fishery, but more broadly it is about integrating the entire story of the Pacific Islands, the pristine environment and unique cultures of the Pacific Islands. When people in Europe and other developed countries buy a can of tuna containing fish caught in PNA waters, it is about them knowing they are supporting the livelihoods of men, women and children whose bread

and butter — and social and economic wellbeing — actually *depends* on tuna. It's about them knowing that when they make their nice tuna sandwich for their children, they are supporting and promoting the values and livelihoods of the peoples of the Pacific Islands. When I came to appreciate this, I then saw the enormous transformative influence that MSC certification could have, if there was strong collective goodwill, and I think at that time it was clear that the members wanted to try something innovative and creative. As I said, individuals helped to shape things and with respect to MSC certification and the way it has been an agent for transformation, we have to acknowledge that if Maurice had not taken the initiative, I do not think that we would have put PNA on the global map, because besides the VDS, the PNA's MSC certification has been the single most influential transformative agent in reshaping the fisheries. In closing his presentation Bill highlighted some of the benefits of MSC certification for the PNA as being:

- » access to new markets
- » protection of existing markets, and maintenance of 'buyers' preference
- » product differentiation in competitive global markets
- » improved traceability
- » high-quality third-party confirmation of good management
- » tool for change
- » economic sustainability
- » business security
- » increased demand
- » market recognition/enhancement of brand values
- » price stability/premium price
- » promotional opportunities
- » projection of an image of responsibility to the environment
- » peer group recognition — demonstration of sector leadership
- » innovation and new product development.

The presentation was well received and by the time I had fully understood the ramifications, we were well on our way. The PNA leaders endorsed proceeding with the assessment and we went into full swing to get the certification done. The announcement by the PNA leaders of what we were intending to do (subject the purse seine free school skipjack fishery to MSC assessment) reverberated across the global tuna industry. It was going to be a unique certification in many respects. It was the first international fishery to be assessed, the largest in terms of the geographic spatial coverage of the unit of certification, it involved different EEZs, vessels from different countries, and unlike other certifications, this particular one was going to be held by governments, whereas all the others up until that point were held by fishing companies or industry associations.

The MSC Certification Process and the Political Ramblings

The MSC assessment itself was undertaken within the first year of the new PNA (2010) through a rigorous process involving extensive consultations with key stakeholders. The MSC's team leader for the project was Richard Banks, who I subsequently contracted as our fisheries economist adviser, and in the MSC team we also had the benefit of the experienced and well-known fisheries manager Les Clark and accomplished scientist Dr Tony Lewis. They brought with them an in-depth understanding of the fisheries, borne out of years of experience. The assessment itself is rigorous and the team went through all the policies and regulations with a fine-tooth comb, looking for any weaknesses and areas that could disqualify the certification. I did not expect the depth of scrutiny that the fishery was being subjected to and, in the process, I also learnt about a fresh way of looking at the fishery. The MSC offers high-level principles against which the fisheries regulation and policies can be evaluated. I thought that it was such

a neat way of looking at the fishery and the more we got involved with the assessors, the more I realised the importance of the MSC evaluation. At that time, I thought that even if we didn't get certified, at least the evaluation would provide us with an opportunity to know where our fishery, and the policies and regulation that our members had in place, stood in terms of the MSC standards. I also realised that we could use it as a driver of change. Maurice and I had long discussions about the MSC certification and our policies, and Maurice was of the view that even if we failed, we would still have the best benchmarking possible for the start of the new PNA. I have always thought that it was a stroke of genius by Maurice to conspire to get the PNA to be involved in the MSC process. I liken it to a conspiracy because it was not, as I explained earlier, well shared with the wider membership. Eugene Pangelinan of the FSM again brought his typically sceptical perspective to our consideration of MSC certification. As the 'conscience' of the group, he questioned whether certification would place an unnecessary burden on members. This was an important issue and it was useful to have someone like Eugene force us to test the merits of the proposal and not take everything at face value. Ultimately, however, as CEO I did not share his sense of caution, as that would only hold things back and by then I was convinced that for us, MSC certification was going to be good. I felt proud that we were doing something so innovative and I put my whole being behind it to ensure that we would achieve the first certification of its kind in the world. We were already doing something that no one had done in the region before and that was to establish an organisation that was fully self-funded, so with that sense of self-determination and zeal, there was no reason why we could not pursue MSC certification. It also helped that Glen Joseph was chair of the PNA in 2010 when the PNA Office was established because he was able to ensure that there was broad policy support for the certification process. As I mentioned earlier, he was a visionary and innovator and therefore kept saying that we should not oppose these initiatives, even before we had started! Sylvester Pokajam of PNG, too, was another very strong-willed person who backed the new PNA's endeavours and our initiatives like MSC certification. It helped that both Glen and Sylvester had personally ensured that the new PNA Office in Majuro was well supported by way of resources, and that involvement early on, at least in my mind, granted a level of respect in their later dealings with the PNA.

The announcement that we would go for full assessment was not without controversy. Purse seining was large scale, multizone and multinational, and there were of course issues that people had with some of the principles of the MSC, particularly in terms of the extent to which the PNA has control over skipjack tuna stocks. I am sure that as soon as the PNA leaders had made the announcement, there were a number of interest groups who perhaps felt that their commercial interests were going to be threatened. I did not fathom the extent to which there was going to be opposition to the assessment and perhaps that was because of my naivety at that time of the political aspects of the international global tuna trade. My colleague Maurice was more politically aware and argued that there was obviously a conspiracy against the PNA because our MSC certification represented a threat to the market share of the major brands. The major brands and processors were represented by the International Seafood Sustainability Foundation (ISSF), which is a US-based non-profit organisation. I did not really know much about the ISSF but I was aware of its establishment as I knew one of the founders, the late Dr Jim Joseph, who was a highly respected and well-known tuna fisheries manager and scientist. He had written a number of books on tuna and when I was a student in Canada, I became familiar with his work. I came to know him well a few years later and found him to be a humble and knowledgeable man, and one from whom I learnt much. At the time, it was thought that bringing science and the industry together would help to get the tuna RFMOs to have more science-based conservation and management measures. I think Maurice may have been reading too much into the objections of the ISSF and was being overly sensitive, and perhaps it did not help that the chair of the ISSF at that time, Chris Lechewski, CEO of Bumblebee, gave the impression that they were opposed to the PNA in various media statements. I think in hindsight, it was all really about nothing, and we could have worked together. What we were doing was new, and inevitably that created challenges; not difficulties, but issues that could easily have been ironed out if we had initially consulted with each other. We saw that we had different objectives to the ISSF in terms of the interests of our members, and might I suggest I cannot reconcile my observations of the ISSF's position with the original vision of Dr Jim Joseph for the ISSF's role. We viewed the membership of the ISSF as consisting of the major brands and processing plants whose primary interest, amongst other things, would be their commercial interests and to keep the price of tuna as low as possible. As price setters, it was in their interest to pay as low a price as possible for the raw material so that they

could maximise their profits. This is where we felt that our objectives as PNA members and as primary raw material producers clashed, as we wanted to ensure that we sell at the highest price possible and limit output for conservation and economic optimisation. We were at opposite ends of the spectrum, with the brand owners wanting to see the price set as low as possible while the primary producers, who were largely the PNA members, wanting to see as high a price as possible. It was against this backdrop that we started on the wrong footing in our relationship with the ISSF. We viewed them with suspicion and indifference, which in hindsight may have been unnecessary and perhaps we could have communicated better.

Box 10: The MSC Certification Process

'Maurice was of the view that even if we failed, we would still have the best benchmarking possible for the start of the new PNA.'

'We were at opposite ends of the spectrum, with the brand owners wanting to see the price set as low as possible while the primary producers, who were largely the PNA members, wanting to see as high a price as possible. It was against this backdrop that we started on the wrong footing in our relationship with the ISSF [International Seafood Sustainability Foundation].'

'... having these developed country organisations oppose the endeavours of developing countries gave us the impression there was indeed a conspiracy against the PNA to ensure that our MSC tuna did not undercut the existing supply chains and market structures, especially for FAD fish. However, I cannot say that they were not entitled to oppose the assessment ...'

'... the MSC team, led by Richard Banks, went through all the relevant national policies, and regulations, and as well as some of the regional and international instruments, with a fine-tooth comb. It was not smooth sailing and I knew that there were weaknesses in our systems ...'

'... the certification was issued with conditions. I should explain that these conditions may have imposed a burden on the members, but they have helped guide us and to reshape the fishery and improve it in ways that we would never have been able to without the MSC certification process.'

'All of these conditions sounded complicated to me when they were initially established and there was a feeling that unnecessarily high standards had been imposed upon us. But now when I look at how the MSC has evolved and where the present standing of the fishery, I can be grateful that we did not lose sight of the bigger picture.'

From the PNA's point of view, matters were made worse by the fact that ISSF were joined by OPAGAC (Organización de Productores de Atún Congelado — organisation of producers of frozen tuna), an organisation made up of the Spanish purse seine boat owners, and EUROTHON (Comité Européen Interprofessionnel du Thon Tropical — European Tropical Tuna Fishing and Processing Committee), a French-based organisation. They were all objecting to the PNA MSC certification, and having these developed country organisations oppose the endeavours of developing countries gave us the impression there was indeed a conspiracy against the PNA to ensure that our MSC tuna did not undercut the existing supply chains and market structures, especially for FAD fish. However, I cannot say that they were not entitled to oppose the assessment, because as stakeholders in the global tuna industry, they were perfectly within their rights to raise objections, but it did create some ill feeling towards the organisations, which has taken some time to overcome. Ironically, I subsequently joined the ISSF Board of Directors when I stepped down as CEO of the PNA. While, as businesses, certain members of the ISSF may want to see the prices of tuna low to maximise their profits, most of them were just concerned about the effective management of the world's tuna stocks, and ensuring that the RFMOs which were largely all confined to governments made the right decisions.

I have not gone into detail about the way the assessment was done as this is a story about the MSC and PNA members. However, it was a thoroughly vigorous process. Richard Banks and the team went through all the relevant national policies and regulations, as well as the regional and international instruments, with a fine-tooth comb. It was not smooth sailing and I knew that there were weaknesses in our systems and, in some instances, existing fisheries policies were probably there by default, rather than by design. Many PNA members can implement collective fisheries management through administrative means, mainly by ministerial decree in their legislations. This allows them the flexibility to move rapidly to promote regional cooperative action. This is a key feature that differentiates the management of fisheries and the implementation of regional cooperative measures and is perhaps why the members have been able to succeed, at least in terms of tuna management. It is not the same when they try to cooperate in other areas because the regulatory framework that allows them to engage in a much deeper and integrated way is not there. An example is how the limits under the VDS are agreed to by members at their annual meetings. The MSC assessment took almost 12 months to complete, but then there was the small issue of the objections and the arbitration which I discuss in some detail below.

As we had expected, the certification was issued with conditions. I should explain that these conditions may have imposed a burden on the members, but they helped guide us to reshape the fishery and improve it in ways that we would never have been able to without the MSC certification process. In other words, we have been able to help achieve change management of the fishery through the conditions imposed on us by the assessment. Thanks to the foresight and vision of people like Maurice, Glen Joseph of Marshall Islands, the late Nannette Malsol of Palau, Dr Christopher Ramofafia and Sylvester Diake of Solomon Islands, Sylvester Pokajam and Ludwig Kumoru of PNG, Beero Tioti of Kiribati, Charleston Deiye of Nauru and Kakee Kaitu'u of Tuvalu — who each had a major role in the implementation of the necessary changes to management in the various PNA member states — we were able to see through the certification process. They supported the assessment and ensured that everything was done by way of ensuring that the regulations and policies were in place to pass the fishery through the MSC standards.

The MSC assessors Richard Banks, Les Clark and Tony Lewis recommended that the PNA free school skipjack fishery be certified subject to a number of conditions. These conditions related to measures that the members had to take to ensure a more robust management framework for the skipjack fishery and are set out in Annexure 4.

There were seven recommendations in total. In summary, these were:

- » **Recommendation 1:** First, that the PNA draws up a management strategy for the PNA members which integrates existing elements to apply specifically to the skipjack harvest and is linked to limit and target reference points established as per condition 1 (the adoption of harvest control rules); and second, that the PNA vigorously pursue the adoption of a management strategy for WCPO skipjack in the WCPFC.
- » **Recommendation 2:** Encourage, and support through the WCPFC, Indonesia, Philippines and Vietnam to further develop their fisheries information systems, largely within the framework of ongoing initiatives.
- » **Recommendation 3:** PNA members provide documented evidence that the partial strategy continues to be implemented successfully for both yellowfin and bigeye tuna with evidence to be made available in an annual report to the PNA Office.
- » **Recommendation 4:** The stock assessments of both silky shark and blue marlin provide greater understanding of the status of these stocks as well as shark assessments for WCPFC. The results of these should be reviewed and if necessary, appropriate mitigation measures taken to reduce mortalities of these species. Mitigation action would have to be implemented in 2013, if required.
- » **Recommendation 5:** The PNA is to review the Nauru agreement and related instruments to ensure that the appropriate principles, including the precautionary approach, are applied.
- » **Recommendation 6:** A biennial review of monitoring, control and surveillance arrangements in the purse seine fishery be undertaken, using the MRAG national/regional study as a benchmark.

- » **Recommendation 7:** The PNA establish a system of regular internal and external reviews on the following: monitoring and evaluating the VDS (focusing on monitoring and management); the performance of the PNA relating to the VDS and management of the purse seine fishery more generally; and national implementation of the VDS and other PNA processes related to the purse seine fishery. The internal review should comprise an administrator's report prepared annually (as opposed to on an ad hoc basis) summarising the uptake of VDS across the sectors, the PAE shares and transfers, and other developments and concerns. The document must be at a level consistent with the existing PNA report of 2010, but also including details of PAE transfers and lessons learned.

(Richard Banks et al., *MSC Assessment Report for PNA Western and Central Pacific Skipjack Tuna (*Katsuwonus pelamis*) Unassociated and Log Set Purse Seine Fishery, Version 5, Public Certification Report, 21 December 2011, Moody International, Ref 8112/v. 5*)

One of the elements of a good fisheries management framework is the existence of a harvest strategy. A good harvest strategy can tell you how much fish can be taken out of the sea, and if fish stocks go down to an unsustainable level (called the limit reference point). The strategy should also contain policies to ensure a reduction in fishing effort or catch and how the stock can be rebuilt. The assessors required that, within five years of certification: the PNA and/or WCPFC must be in a position to demonstrate, amongst other things, that reference points are approximated for the stock and can be estimated; the limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity; and the target reference point is such that the stock is maintained at a level consistent with biomass that would produce the maximum sustainable yield (MSY) or some measure or surrogate with similar intent or outcome. PNA members were required to work collectively and also through the WCPFC to establish and adopt explicit and appropriate target and limit reference points for skipjack, and vigorously pursue the adoption of reference points in the WCPFC. This raised some challenges for PNA members because, in so far as the WCPFC was concerned, they were only a subset of the WCPFC membership and therefore the PNA's interests were not necessarily shared by other members of the WCPFC. Some of the WCPFC members were not familiar with the MSC, let alone the concept of limit and target reference points, especially the Asian countries, so engaging them on these issues raised some challenges. Initially, the PNA members had to work closely with the FFA Secretariat and the SPC to get the broad support of Pacific Island countries before they could project their advocacy outside the regional countries. The reason why the PNA members had to get the broad agreement of the other Pacific Island countries and the WCPFC was because only the WCPFC had the power to adopt these harvest control rules, and reference points. Therefore, in order to fulfil the conditions of the MSC certification, the PNA members had to get the agreement of the WCPFC. It was not easy as there were competing interests, but it helped that some Pacific Island countries were seeking MSC certification for companies fishing in their waters. The Cook Islands, Fiji and New Zealand were all at different stages of having their respective fisheries assessed and to that extent it was helpful as they all were required to support the same conditions, namely to demonstrate limit and target reference points and also harvest strategies. In other words, there was a broad general public policy interest in ensuring that there was a robust tuna fisheries management framework that could stand up to international scrutiny.

To comply with the MSC conditions, PNA members had to adopt defined harvest control rules for the exploitation of skipjack tuna in their waters consistent with the harvest strategy, reducing the exploitation rate as limit reference points were approached. PNA members needed to show that effort was effectively limited within overall PAE levels established in accordance with the VDS, its various implementing arrangements and appropriate WCPFC conservation and management measures. All of these conditions sounded complicated to me when they were initially established and there was a feeling that unnecessarily high standards had been imposed upon us. But now when I look at how the MSC has evolved and the present standing of the fishery, I can be grateful that we did not lose sight of the bigger picture.

After an assessment is made to qualify a fishery, there is a period for stakeholders who may not be happy with it to object to the findings. There may be a variety of reasons why stakeholders would object, ranging from the unit of certification to the method of assessment. It could be anything but the objection process ensures that all the stakeholders have an opportunity to have a say in the process. It is a transparent process. In the case of the PNA

certification, the objections related to the extent to which the PNA could control the impacts on the stocks outside the area where the certification would apply, which was only in the PNA waters. In other words, whether the PNA members had enough leverage to control the skipjack fishery throughout its range which included the waters of non-PNA members. The other objection related to the fact that under the certification, it was possible for fishing vessels to make an 'MSC set', that is fish on 'free schools' and then make a set on a FAD in the same fishing trip. If the objections are not accepted by the assessment team, the stakeholders may request a third party to determine the dispute through arbitration which the MSC is then obliged to facilitate.

I was surprised by the level of opposition that we faced. We were taken to adjudication twice: in 2011 in London and in 2018 in New York, when the fishery was subjected to recertification. On both occasions, I appeared on behalf of the PNA team and if I am not mistaken, they were probably the only times that the PNA members were taken to arbitration. I have not gone into detail here on the issues that were disputed. The second time, in New York, we were challenged by the International Pole and Line Foundation (IPNLF), a London-based non-profit organisation that was established to promote pole and line fishing. The irony was not lost on me and I thought to myself, why on earth would people who profess to promote themselves as supporting sustainable fishing be opposed to what we were attempting? After all, we were all trying to do the right thing. But we found ourselves at the wrong end of the bargain and on the other side. Despite claiming to promote sustainable fishing, the IPNLF were opposing it to protect their commercial interests and market share of their sponsors.

At the end of both arbitrations, I attempted to reach out to all of those who opposed us by extending my right hand of friendship and telling them that we were all in the business of trying to sustainably manage our tuna and therefore we should endeavour to work with each other, instead of against each other. For me there was no need to harbour any acrimony; the power of innovation and creation is something that we can all share. We all live in the same ocean and the management of the natural resources it contains has huge implications for the global tuna market, and with the impacts of climate change being felt by developed and developing countries alike, we could not afford to lock ourselves in political games. The irony that here we were all claiming to be the bastions of sustainable fisheries management was not lost on me as I felt a little annoyed about the time we were spending on these arbitrations and challenges that we had to face because it was just a distraction as far as I was concerned. In January 2018 in New York, as I stood before the arbitrator, a short Scotsman who at the time was the attorney general of Anguilla in the Caribbean, I let him know my feelings about being dragged to New York in the middle of winter to argue about the tropical tuna resources in the South Pacific. We were as far removed as we could possibly be from the realities of the Pacific Islands for whom the management of tuna was a matter of survival. I said that it would be sheer madness if we were to oversee the overexploitation of a resource for whom our governments depended on for their development. Furthermore, I also reminded everyone that the MSC certification had prompted the PNA members to drive through key changes such as the development of reference points; in terms of fisheries management, these were important tools with which to assess the health of the stocks. I said that I could not understand how anyone who professes to hold themselves out to support sustainable fisheries management could be opposed to the recertification of the PNA's MSC certification (see Annexure 4).

We were taken on by powerful and well-financed groups, but in the end, we won both arbitrations because on each occasion, we took the high moral ground. The MSC certification has provided the impetus for the members to drive changes through the WCPFC and also to ensure that they, as individual member states, raise the benchmark for the management of their fishery. There is an inextricable link between the MSC certification and the establishment of Pacifical, since the latter was established as a marketing and retailing platform for PNA MSC tuna, which is covered in the next section.

The Establishment of the Pacific Joint Venture and Its Global Aims

For a long time, Pacific Island leaders, and indeed the PNA members' government officials and ministers, had been saying that they wanted to have a bigger share of the pie, or at least a fairer share of the pie. As previously mentioned, a 2009 study by Peter Philipson commissioned by the FFA Secretariat explored the value of a can of tuna (Philipson 2009). He found that the countries from whose waters the resources were being taken were in fact getting only 3% of the wholesale price of a can of tuna. If the members could somehow capture a portion of the value of the canned tuna from their waters in the retail supermarkets in Europe, Australia and New Zealand, that would be a

bonus. It did not have to be a whole lot more, but at least if they could have some returns from the canned tuna, they would be going some way towards achieving what their leaders had been agitating for by vertical integration and proposed branding. Up until then, there was a lot of talk about getting more involved in the supply chain for tuna from the PNA members and from some of the advisers in the FFA but no one really had any practical idea about how to increase their share in the supply chain. Most, if not all, of the advice that was coming from the FFA and other financial institutions like the Asian Development Bank (ADB) over the years was to reduce the number of licences and increase the fees that the vessels were paying. There did not seem to be any innovative suggestions coming from anyone apart from looking at extracting more value from the primary production sector.

Commenting on the opportunity for sustainable trade was Henk Brus, the keynote speaker at the first PNA leaders' summit and director of Sustunable Bv, a Dutch-based trading company promoting sustainable free school tuna. When he heard that the PNA leaders were going to agree to subject the PNA free school skipjack fishery to MSC assessment, he was stunned and excited — and saw an opportunity for his own business as well as for the PNA. Meanwhile Maurice worked on the design of a PNA brand, in line with the PNA leaders' ambitions, which eventually became the Pacific logo. Maurice saw a fundamental flaw in the MSC certification scheme as it applied to the PNA. In the PNA's case, it was the *governments*, not the industry, holding the certification, so despite the MSC certification, the PNA members would not make a cent from it to maintain the certificate or any developmental support (as is done when certification is achieved by fishing companies), because they did not own the harvested tuna.

Alternatively, if the vessel operators were to market the PNA MSC tuna, and be given access to use the MSC certificate, it would effectively mean that by losing the benefits from the MSC logo the PNA members would not get anything either, because the advantages of the MSC logo would be exploited by the vessel operators, not the PNA members. This was not really what the PNA members wanted and also, it would be inconsistent with the PNA leaders' direction for more vertical integration of the of their fishery and brand. So, Maurice and I got talking to Henk and Maurice flew to Barcelona to broach the idea and brainstorm the practical reality of setting up a marketing and retailing platform for the PNA MSC tuna once the certificate was issued. Once again, this was unprecedented and going into business this way was going to be a new thing for all of us. The members had never gone into business, let alone a marketing and retailing business that would sell their products in the US, Europe and some of the other developed markets. The initiative was to be another test for regional solidarity and also for the will and commitment of the PNA members towards the cause that they had set out to pursue. The pathway towards setting up Pacifical and getting buy-in was not easy, even though the PNA leaders had said that they wanted to see something like this done. I have found that at various times officials can be fickle and sometimes they behave like elected leaders, and so when we put the idea of what became known as Pacifical and having their own logo was put in front of them, some of them were dismissive. They couldn't understand why they were being asked to cooperate in that way, but we never relented and my colleague, Maurice, was pretty dogged about it. We always said it was about the power of ideas, and sometimes people struggled with an idea that was new, or the concept of thinking outside the box, but we also were aware that this was going to be a unique endeavour, one that had never been done before, so we persevered. Once again there was mass opposition from global brands, FAD-dependent fleets and some NGO groups, which appeared to be associated with certain elements of the industry. There was a lot of speculation, and maybe just rumour-mongering, within the industry that we would hear snippets from people that we dealt with. We heard that certain leaders of some industry groups even said that 'the world will have to wait', underscoring the breadth of the opposition.

After the usual debate amongst the members on the logo and going into business, early in 2011 the PNA established the Pacifical joint venture with Sustunable Bv, to promote and market PNA's MSC-certified, free school tuna. The biggest challenge we faced would be marketing the MSC-certified tuna, as the members did not own the fish after it was caught and brought on board the vessel. The concept was to control the trade in PNA-MSC tuna by using Pacifical as a brokerage, and to restrict access to MSC product so that it is only traded under the PNA Pacifical logo. This way the members were able to ensure a healthy economic incentive for vessels to fish sustainably, increase the economic benefits to themselves, promote the PNA fishery, the countries and their people on every can — and safeguard the credibility of the PNA's MSC certificate by maintaining strict adherence to the PNA's MSC chain of custody (CoC) scheme. I am sure if the MSC had been open to all, its value would have been lost in the price wars that characterise the international tuna trade.

The Pacifical business model created an economic incentive for free school fishing which rewarded sustainable fishing practices and discouraged FAD-dependency fishing, which was opposed by many of the green NGOs. The premium paid for sustainably caught tuna, which is roughly 20% above market price of FAD-caught tuna, is paid at the retail end for MSC free school certified tuna. The processor sources MSC-certified tuna from participating vessels in members' waters and pays them a premium for it. The majority of this premium is paid to industry, which is shared between catcher, trader and processor, while the members, through Pacifical, receive an MSC maintenance fee on all sales of Pacifical co-branded PNA-MSC-certified tuna products. The Pacifical service fee was initially set at 5%; however, it has since been revised to 2% effective January 2018. This keeps the Pacifical brokerage extremely competitive in the trade. In addition, the MSC in London receives 0.5%. The PNA Office receives 50% of the returns to Pacifical.

Box 11: Establishing Pacifical

'If the members could somehow capture a portion of the value of the canned tuna from their waters in the retail supermarkets in Europe, Australia and New Zealand, that would be a bonus. It did not have to be a whole lot more, but at least if they could have some returns from the canned tuna, they would be going some way towards achieving what their leaders had been agitating for by vertical integration and proposed branding.'

'The pathway towards setting up Pacifical and getting buy-in was not easy, even though the PNA leaders had said that they wanted to see something like this done ... when we put the idea of what became known as Pacifical and having their own logo was put in front of them, some of them were dismissive.'

'Once again there was mass opposition from global brands, FAD-dependent fleets and some NGO groups, which appeared to be associated with certain elements of the industry.'

'The biggest challenge we faced would be marketing the MSC-certified tuna, as the members did not own the fish after it was caught and brought on board the vessel. The concept was to control the trade in PNA-MSC tuna by using Pacifical as a brokerage, and to restrict access to MSC product so that it is only traded under the PNA Pacifical logo.'

'The Pacifical business model created an economic incentive for free school fishing, which rewarded sustainable fishing practices and discouraged FAD-dependency fishing ...'

'The processor sources MSC-certified tuna from participating vessels in members' waters and pays them a premium for it. The majority of this premium is paid to industry, which is shared between catcher, trader and processor, while the members, through Pacifical, receive an MSC maintenance fee on all sales of Pacifical co-branded PNA-MSC-certified tuna products.'

Under the joint venture, the PNA Office, as the owner of the MSC certificate, is responsible for maintaining the MSC and CoC certifications, implementing the CoC program, annual audits, training and bonus payments to MSC-trained observers. The members' revenue from Pacifical covers all of these costs, including supporting the canning of raw packed tuna, in addition to supporting the members' domestic programs. Sustainable is responsible for all the global marketing, promotion, brokering contracts between brands, retailers and processors for the supply of the members' MSC-certified tuna, and maintaining comprehensive traceability from fishery through to consumer. Sustainable and PNA are equal partners in the joint venture and share half of the revenue to cover their respective roles.

The Pacifical Co-brand

As part of the expansion of the PNA members' endeavours to venture into international trade, they also decided to have their own logo to put on products associated with their MSC tuna to distinguish it, but more importantly it was to have something that would be recognisable as uniquely from the Pacific Islands in the markets of developed

countries. The global tuna trade is dominated by a handful of global brands, many of which are vertically integrated, thus making it very difficult to enter as a stand-alone private label, without the financial and human capital to fight for shelf space. Given that the members did not own any of the catch, processing facilities or market share, launching a PNA brand on their own would require significant financial investment, expertise, supply networks and global manpower which they did not have. It was exciting to be part of this new venture, because the concept of co-branding had never been done before in the sector, and it saw private labels and brands paying to associate with the co-brand rather than the reverse. In fact, some put the Pacific 'story' ahead of the MSC certification in highly socially minded markets such as Scandinavia.

As part of this drive, in 2011 Pacifical introduced a mandatory co-branded logo on the outer face of every PNA MSC product. Production started with national home brands, where small volumes saw slow but sustainable growth in the market, with emphasis on resupply before rolling on to the next market. This started with Spar in Austria and then markets opened up in Germany and the Netherlands. While there was some initial hesitation among brands to include the co-brand on their products, retailers generally supported the Pacifical concept and the number of brands and private labels working with Pacifical continues to grow.

Pacifical has really helped to raise the profile of PNA members through the PNA MSC certification, and the co-brand that is placed on the canned tuna products means that PNA members now have products in markets in Australia, New Zealand, Europe and the United States from which they receive a return from the Pacifical co-brand. One of the more recent innovations that Pacifical has embarked on is to ensure that they use blockchain technology in their CoC to ensure watertight traceability from sea to the supermarket shelves. A blockchain is just a series of databases which are interconnected to each other and, in the case of the CoC, provides for a tamper-proof traceability system from the moment the tuna is caught at sea, to the way it is stored in the boat, until the catch is processed. This allows consumers to track a canned tuna from the exact location and time of catch, along with the name of the vessel which caught the tuna. These innovations have helped to improve transparency in the fishery and also reduce the likelihood of IUU fishing.

Figure 9: The Pacifical Logo



Source: PNA Office, 2018

Like most new initiatives, there was some resistance and we had some teething problems, but we never gave up. I found it all fascinating because once again we were breaking new ground and treading on areas that no one had ever trod on before. Today the Pacifical logo also serves as a geographical indicator promoting the PNA member countries

as the origin of sustainable MSC-certified tuna on supermarket shelves around the world. In 2017, over 150 million units across 150 product lines carrying the Pacifical logo were traded in over 30 different countries and regions.

There is perhaps no better way of gauging the success of regional cooperation, perseverance and the single-minded doggedness that goes with it than to see John West brand tuna in Coles and Woolworths supermarkets in Australia and New Zealand, in fact throughout South-East Asia and the south Pacific, with the MSC and Pacifical logos. When I think of the struggles we had to go through, the arbitrations and the strong appeal I made, I realise that it has been worth it. I also think about how we would never have got to that point if we had given up. It takes a bit of genius to put these ideas together, and the support of those around to make it actually work. My colleague Maurice was relentless, and Richard Banks, Les Clark and a myriad of other officials like Glen Joseph and Ludwig Kumoru were critical in making it work, as were Henk Brus and his staff located around the globe on the marketing side of the venture. The power of MSC and Pacifical is as much about the transformative power of change management as it is about getting PNA members on the map where they had never been before. I would argue that it takes a bit of courage and ingenuity to do that.

Figure 10: Canned Tuna with the MSC and Pacifical Logo



Source: PNA Office, 2018

Since its development, Pacifical has grown from strength to strength in the face of significant and diverse challenges. As consumer confidence has grown in the PNA MSC certification, Pacifical has expanded the range of products it offers as well as the markets it serves. There has been significant industry buy-in and growing recognition of the success of Pacifical. There has been an increasing number of purse seiners and carriers who have signed up to catch and tranship PNA MSC-certified free school tuna. Today, 94% of the purse seiners in PNA waters are trained to deliver MSC-certified tuna. It has also generated additional work for the over 800 observers who are paid an additional levy for the services they undertake to verify MSC-eligible caught tuna. This is also one of the additional benefits of the MSC certification and Pacifical, in that it has added an additional layer of responsibility that has given our observers a new set of skills. Since 2018 there have been four PNA member state nationals placed on three-month internships in Holland working alongside Henk's EU staff, writing blogs, and being ambassadors for the region. Additionally, Pacifical features in the major seafood shows such as the European Seafood Expo and the Boston Seafood Show. Pacifical has truly put PNA on the map fulfilling the PNA leaders' dreams.

More significantly on a sustainability platform, Pacifical has encouraged a clear shift towards less FAD dependency and increased sustainability of tuna stocks, which has resulted in a marked improvement of bigeye stocks, which for a while was the one stock that was subject to overfishing. We can be proud of our contribution towards ensuring a change in fishing patterns through the MSC and Pacifical — a practical example of the MSC 'theory of change'. One of the biggest changes in the tuna fisheries in the WCPO is that unlike most other purse seine fisheries where FAD

Box 12: The Rewards of Pacifical

'When I think of the struggles we had to go through, the arbitrations and the strong appeal I made, I realise that it has been worth it.'

'The power of MSC and Pacifical is as much about the transformative power of change management as it is about getting the PNA members on the map where they had never been before. I would argue that it takes a bit of courage and ingenuity to do that.'

'Today, 94% of the purse seiners in PNA waters are trained to deliver MSC-certified tuna.'

'... Pacifical has encouraged a clear shift towards less FAD dependency and increased sustainability of tuna stocks, which has resulted in a marked improvement of bigeye stocks, which for a while was the one stock that was subject to overfishing.'

fishing is the norm, in the WCPO free school sets represent over 60% of all sets. There is more free school catch than FAD catch in the members' waters. No other ocean can boast that all key tuna stocks are in the green which is a testament to the success of the cooperative efforts of the PNA members.

The Development of the PNA Observer Agency (POA)

The PNA Observer Agency (POA), like Pacifical, is another of the institutions that the members established as part of their endeavour to gain further participation, benefits and control of the fishery. I am amazed when I look at how successful these initiatives are now, but when we first started, we had so many challenges that we had to go through, with resistance from some of our PNA members, regional organisations and also from the vessel operators. The growth of the observer programs may be traced to the Treaty on Fisheries with the US and also the need for the SPC to collect scientific data, primarily for purposes of scientific analysis, but also for stock assessment. For a long time, it was thought that only a 20% observer coverage was sufficient for collection of data, so there was no real impetus to grow the national and regional observer programs. Generally, observers were treated as the poor cousins of fisheries managers, because in the most part they were contracted as casuals and only had contracts for the duration of the trip. Some of them had dual roles as compliance and scientific data collectors, especially those who worked on the domestic boats, but key was that they were to observe and record; they were not policemen and had no enforcement role. In the main, their role was to collect scientific data for the scientists at SPC to enable them to undertake analysis of the biological status of the tuna. They would often take samples of the stomach and the gills of the tuna and keep these in special bottles and return these for analysis, so their role has always been an important one in helping fisheries managers make management decisions. But they also recorded a vast amount of other data from crew treatment, to pollution and operational details. The conditions under which they worked were not always comfortable. In 2014, I spent 18 days on two Chinese purse seine vessels, the *FV Lojet* and *Jin Hiu No. 2*, not only to see the fishing operations, but also to see how the observers lived and worked. It is generally hard work because they have to wake up early in the morning when a FAD set is made and then they observe the whole operation till the end. They also have to undertake periodic checks on the bridge of the position of the vessel, take measurements of the sea surface temperature and make estimates of the catch. Each time, they must keep a journal of their daily activities and what they observe, as well as keep a logbook of the catch, which is largely an estimate of how much fish they think the vessel has caught in a set. This all takes time, patience and putting up with working in uncomfortable conditions. The food, too, varies between vessels with the US-flagged vessels almost always having food that was hotel-like quality, while some of the vessels were basic, so they never knew what to expect when they went out to sea.

When I first started in Majuro, we had many observers in port at the time, because that was the beginning of the implementation of the 100% observer coverage and there was also heavy transshipment in Majuro lagoon. There were about 10 Solomon Islands observers, including two women, who stopped by the office. I had just moved into my apartment and in a gesture of hospitality I invited them over to stay. I recall that I had very little cutlery to accommodate guests, let alone 10 observers, but they were tired of being on the boat, had little money and did not

mind roughing it out on the comparative luxury of my floor. They all loaded up on the blue pick-up truck that I used and we went to the apartment. I soon realised that these observers were no longer doing national country work but they were doing international work, moving from one zone to another, getting picked up in one port and then being dropped off in another. Throughout the year, observers from the various member countries would troop into the PNA Office to use a computer that we had placed in the conference room for their use along with free internet access, communicating with their coordinators and also their families. Most of the time, the observers would arrive with no allowance and so we would have to give them some money for their taxi fare back to the wharf or to buy cigarettes. I became friends with the observers and enjoyed listening to their stories about the fishery and their informed insights. In some ways I also felt guilty, as here I was as a CEO of a tuna regulatory body with a huge stake in the fishery, listening to these observers who knew more about the fishery than me, sitting comfortably in an office making regulations that they would have to oversee. It was ironic in a way, so I decided that I should also go out to sea to experience for myself commercial fishing on a purse seiner. I would listen to the more experienced observers who could make comparisons about the state of the stocks and the various fleet operations. They often talked about the huge schools of tuna they saw and the large size of the tuna. It was common knowledge that there had been a lot of heavy fishing and in fisheries management we know that no fishing increases the biomass of the stock. All forms of

Box 13: The Overhaul of Observer Programs

'For a long time, it was thought that only a 20% observer coverage was sufficient for collection of data, so there was no real impetus to grow the national and regional observer programs. Generally, observers were generally treated as the poor cousins of the fisheries manager ... they were to observe and record; they were not policemen and had no enforcement role.'

'What got me really sympathising with the observers was the lack of coordination they faced regionally, with reports of their pay being delayed for over a year on occasions, a situation which was simply unacceptable. I also appreciated that with the introduction of the new mandatory requirement for all purse seine vessels to have 100% observer coverage, they were now doing international work, serving the region, rather than just their national governments.'

'I used to give them cash from my own pocket to buy cigarettes, and telephone call cards to call their families and I knew that something better had to be done for our young men and women who were being called upon to be the eyes and ears to protect the world's largest tuna stocks. We had to put in place an observer agency which would ensure that the logistical support given to observers when they move from one port to another was better coordinated.'

'In 2007 when the WCPFC failed to agree to a new conservation and management measure for the tropical tuna, it was Les Clark who gathered the PNA member leaders and developed a new measure that has helped to reshape the tuna fishery. He thought of the three-month FAD closure, the closure of the two high seas pockets to foreign fishing vessels licensed by the members and also as part of the package to enforce these measures, a requirement for all purse seine vessels to have on board an observer from a member country ... With that proposal, which was subsequently approved by the PNA members, hundreds of new job opportunities were created for our young men and women across the Pacific Islands region.'

'What was different about our approach to all the observer programs being run in the region was that we proposed that the POA would operate under a model of full cost recovery. Thus, all costs attributable to delivery of services by the POA would be calculated and recovered under an equitable "user pays" arrangement with industry.'

'The POA became fully operational in September 2013, and after a few embryonic problems, it is now a trend-setter in setting the standards for the coordination of observer programs and the way observers should be treated so that they do their work effectively.'

fishing reduce the size of the stock. The only question for fisheries managers is how far down do they want to reduce the stock and we know now that with the impetus brought about by MSC certification, we have to avoid fishing the stock to its limit reference point. In fact, for optimal economics, so vital in our region, the fishery is managed at around a target reference point of 50% of the unfished stock and a point near economic optimisation, rather than pushing for increased catches at biological maximum, which runs the risks of stock fluctuation, small sizes and depressed prices and is poor economics for our domestic industry.

Sometimes the observers would complain about the lack of response from their coordinators and how in some of the member countries, they would be shut out of the offices and prevented from using the computers. There was an understanding amongst the member countries that they would support the respective observers, especially those who were on trips that were coordinated by the FFA Secretariat. The FFA had bank accounts in some of these countries, and so when the observers arrive in a member country and need some cash, they in theory could get an advance. Many times, the observers had to seek the assistance of the shipping agents or local administrations. It was not a healthy environment to be in when you had a family to support, and turning to ships' agents put observers in an often-compromised position and all too often I sat and heard about the plight of the observers. I became close to them, admired them for their hard work and dedication and got to appreciate the importance of the work that they were doing for the member countries. I thought that this was just not the way to treat observers and that there had to be a better way. We already had a regional program that belonged to the member countries, but it was still being coordinated out of the FFA Secretariat. This was the FSM Arrangement Regional Observer Programme, which is a multilateral access agreement amongst the PNA members that involved vessels fishing under that arrangement. It was always the intention of the members for the PNA to assume responsibility for that observer program and we eventually did, when the administration of the FSM Arrangement was transferred to the PNA in 2012. What got me really sympathising with the observers was the lack of coordination they faced regionally, with reports of their pay being delayed for over a year on occasions, a situation which was simply unacceptable. I also appreciated that with the introduction of the new mandatory requirement for all purse seine vessels to have 100% observer coverage, they were now doing international work, serving the region, rather than just their national governments. They worked multiple zones, often boarding different flagged vessels in the various ports. They were our regional servants who worked to protect a regional resource. I could see this and quickly realised that the observers and the important work that they were doing required better coordination. I used to give them cash from my own pocket to buy cigarettes, and telephone call cards to call their families, and I knew that something better had to be done for our young men and women who were being called upon to be the eyes and ears protecting the world's largest tuna stocks. We had to put in place an observer agency which would ensure that the logistical support given to observers when they move from one port to another was better coordinated. It was sad for me to observe how undervalued our observers were by their bosses, yet these were our nationals, people who were doing great work for the region who deserved to be treated better than they were when we started out in Majuro in 2010. So I was determined to put in place the plans that we had discussed as part of the establishment of the new PNA Office for the establishment of a PNA Observer Agency (POA).

The idea of the POA came from Les Clark who did a paper for Kiribati that was presented at the 2009 special meeting of the PNA in Kiribati, but what is transformative about the agency is not so much the agency itself and the fact that it was outsourced, but more the fact that suddenly new job opportunities were created, simply because of a new measure. I have always been fascinated about Les Clark and his ability to think laterally, but also to envision every possible scenario. In 2007 when the WCPFC failed to agree to a new conservation and management measure for the tropical tuna, it was Les Clark who gathered officials from the PNA members and developed a new measure that has helped to reshape the tuna fishery. He thought of the three-month FAD closure, the closure of the two high seas pockets to foreign fishing vessels licensed by the members and also, as part of the package to enforce these measures, a requirement for all purse seine vessels to have on board an observer from a member country. (Please refer the map at the beginning of this book to see the high seas pockets.) With that proposal, which was subsequently approved by the PNA members, hundreds of new job opportunities were created for our young men and women across the Pacific Islands region. We not only doubled, but tripled and quadrupled the number of our young men and women



Top: Solomon Islands – Checking log sheets on a Taiwanese longliner

Source: Francisco Blaha

Bottom: Papua New Guinea – Boarding for inspection in Rabaul

Source: Francisco Blaha

working as observers, thereby creating one of the largest cross-border industries in the Pacific Islands region. This perhaps for me has been one of the most outstanding successes of regionalism in the last 30 years since the members have been cooperating on fisheries.

Putting together the POA was not as difficult as implementing the observer program that it was charged to manage. Not surprisingly, getting it off the ground was not without its challenges, because we got resistance from some of our members and also from the vessel operators. One of the first papers that we took to the PNA members when they had their first annual meeting in 2010 was on the development of an integrated observer placement coordination agency. We drafted a paper for the members in which we referenced the Bikenibeu Declaration of October 2009 where ministers agreed to:

new initiatives to generate increased benefits for their domestic economies from the region's tuna fisheries reflecting the importance of catches in their waters for global tuna supply. These include amongst others, refuelling in port, unloading catches in PNA ports and requiring vessels to have PNA nationals as crew.

(PNA, 2009 Bikenibeu Declaration by Ministers for Fisheries of the Parties to the Nauru Agreement – Securing Greater Value from their Common Fisheries Wealth (PNA 2010a))

We were careful to point out that an integral part of this initiative was the use of PNA member country nationals as observers on all fishing vessels operating in PNA waters. We said that the members had viewed the development of a PNA Observer Program and Observer Placement Agency from (a) monitoring and compliance with the FAD Closure and Catch Retention Scheme, and (b) providing employment opportunities for PNA nationals. The latter fell within the ambit of the ministers' agreement in the Bikenibeu Declaration. The closure of additional high seas areas to purse seiners also underscored the increased significance of the monitoring and compliance role of observers. We suggested in the paper that the POA should be established by a memorandum of understanding (MoU). In order to get things moving, a draft MoU was circulated to members in February 2010 so that they could send the MoU to their respective legal counsels for analysis. We always felt strongly that the members should be involved in the establishment of these initiatives so it was agreed that the TWG, consisting of the observer coordinators from Solomon Islands, Nauru, Kiribati, Marshall Islands, Federated States of Micronesia and PNG would be established to develop the PNA Observer Program and Placement Agency. We were lucky, perhaps, that we got the ministers to sign the MoU in April at the annual meeting in which they agreed to give cross-jurisdictional rights to their respective observers. I think from the perspective of regional cooperation and getting cross-border labour movement, allowing observers from their respective programs to continue to work and observe on fishing boats in other PNA members' EEZs was the first time that it was done. In other words, our fisheries observers were no longer just working for their respective governments but they were providing a regional service that involved collecting data from the fishing vessels wherever they went. In the past, fisheries observers were told to stop working when they entered the EEZ of another PNA member. This was one of the changes that arose from requiring all purse seiners to have 100% observer coverage, which effectively meant that no purse seine vessel could go out to sea without an observer on board. From what I could see, Nauru and Marshall Islands were the two countries that were the most liberal in respect of allowing nationals from the other Pacific Island countries to work there, but it had never been done on a regional scale before and so this was unprecedented. We were once again being innovative and breaking new ground. It was as I had said all along, the power of new ideas and the courage to try out new things, even if they were untested, will give great rewards. My exposure to the tribulations and the hardship of the observers made me feel strongly that this was the right thing to do.

To get the ball rolling, in the latter half of 2010, we put together a group to start working on the development of a POA. We approached MRAG Asia Pacific, a well-established consultancy firm to undertake a review of the options for us. MRAG runs observer programs globally, so it was well versed with the trade. I felt sorry for David Evans as he was a good friend and colleague of mine, but sometimes you have to separate friendship and professionalism and that is exactly what we had to do in order to move on, otherwise we would perhaps not have gotten anywhere with the development of the POA.

Things really got moving when at their annual meeting in April 2011, PNA member nations' fisheries ministers agreed to establish the POA for the overarching purpose of coordinating the PNA Observer Program. It was established under the MoU on 'Continuity of Transboundary Observer Coverage of PNA Observers and Development of a PNA Observer Programme and Placement Agency' (*Memorandum of Understanding on Continuity of Transboundary Observer Coverage of PNA Observers and Development of a PNA Observer Programme and Placement Agency*, PNA29, 22 April 2010 (PNA 2010c, p. 2)). It was agreed that in the initial stages of the POA, the primary focus would be to coordinate the placement of observers under the FSM Arrangement. At that time there were around 40 purse seine vessels authorised under the FSM Arrangement, each requiring 100% observer coverage.

The objective of the POA would be 'to implement the requirement that all purse seine vessels operating in the members' waters must have on board an observer who must be a PNA national authorised under a national observer program or a sub-regional observer programme' (*Memorandum of Understanding on Continuity of Transboundary Observer Coverage* (PNA 2010c, p. 3)). It seemed to me that it was agreed by ministers that the initial focus of the POA would be delivery of the FSM Arrangement observer program and assisting coordination between members' domestic observer programs. We were careful in crafting the role and functions of the POA so as to not be seen to encroach on the national observer programs. Thus, it was agreed that:

- » The POA should be operationally, rather than strategically, focused. That is, the POA would focus on the 'nuts and bolts' tasks involved in running the FSM Arrangement observer program (for example, coordination of placements, flights, visas, payments, logistics, et cetera), while strategic observer functions (such as standards development, training and capacity building) should remain with FFA and SPC (and WCPFC), according to current arrangements.
- » The POA may opt to assume responsibility for data entry of the components of FSM Arrangement workbooks currently being entered by FFA. Alternatively, data entry could be 'outsourced' to either FFA or SPC who have existing data entry staff and infrastructure. This may depend on data access agreements. The scientific elements should continue to be entered by SPC staff.
- » The PNA should consider assigning the POA to undertake day-to-day management of the PNA's Group MSC Chain of Custody scheme. Effective management of the Group CoC scheme is central to capitalising on the benefits of MSC certification and the PNA requires additional capacity to operate the scheme. Having CoC undertaken by the POA appears to have a number of advantages: set-up costs will be reduced, the same database will be used for both observer and CoC management and, given the central role of observers in the CoC scheme, there is considerable overlap in the role of the POA.

(PNA Observer Agency, Paper prepared for the 30th Annual Meeting of the PNA, PNA30, Funafuti, Tuvalu, 12 April 2011 (PNA Observer Agency 2011, p. 3))

What was different about our approach to all the observer programs being run in the region was that we proposed that the POA would operate under a model of full cost recovery. Thus, all costs attributable to delivery of services by the POA would be calculated and recovered under an equitable 'user pays' arrangement with industry. This included not only the direct costs such as observer payments, travel and accommodation, but also indirect costs such as funding coordinators, debriefing, data entry, office accommodations, communications and equipment. At the time we did not know what it would cost, but we knew that the budget required for the POA would depend on the final mix of services requested of it and that it should be refined, following members' decisions on key issues such as the scope of services. In other words, whether the POA would undertake MSC CoC tasks and data entry. We proposed that consideration should be given to changing the current 'per trip' fee structure to a 'per day' fee structure, which would more accurately reflect the fishing patterns and observer needs of FSM Arrangement vessels. In order to support ongoing capacity-building and training of observers, we proposed that fees for strategic services such as capacity-building and observer training should be cost recovered from industry and passed on to FFA and SPC, which provided the training. Finally, we proposed that the collection of fees should be undertaken by the PNA Office as part of licence renewals. Upfront payment of fees would be a condition of licence renewal, as this was the only way that a fully cost recovered program would work.

We then had to think about how we would deliver a program and service and so three delivery models were assessed. The first model we explored was internal delivery by the PNA Office, but we were careful not to grow the office, as we wanted to ensure that we remained small and efficient, so we quickly dismissed that option. We then discussed whether it would be feasible to have a joint venture between the PNA and a commercial provider. That would have been a preferred option, but the governance arrangements were problematic and because we were new and had just started, we were not prepared in terms of resources and manpower to engage in an arrangement involving the commitment of time and resources that we did not have available. The final option we considered was to outsource the POA to a commercial provider. The strengths and weaknesses of each model were assessed. The case for a joint venture did not appear to be as strong as in the Pacific case and so we opted to outsource the POA and invited bids from commercial service providers. This too was unprecedented, because up until that point none of the regional organisations had outsourced any of their services to a commercial service provider, so we were entering into uncharted territory.

The POA became fully operational in September 2013, and after a few embryonic problems, it is now a trend-setter in setting the standards for the coordination of observer programs and the way observers should be treated so that they do their work effectively. But I recall how I had to simply close my ears to the complaints from Eugene Pangelinan of the Federated States of Micronesia who always (in my mind) lent an overly sympathetic ear to his industry, which perennially complained about the costs of the POA. The industry always wants things cheaply and those in the domestic industry of the Federated States of Micronesia were some who complained the most. Other vessels simply complied with the new requirements. I often wondered about a certain CEO of one of the domestic fishing companies from one of our members who would always complain about the cost to industry, but every time I saw them in a plane, they were always sitting up at the front in business class. There was also one time when Dr Naomi Biribo, who was secretary to the Ministry of Natural Resources of Kiribati at that time, complained to me at the annual meeting of the members in Honiara in 2014 about the costs of the fees that were being charged to run the POA. I said to her that if we wanted to run an effective program and look after our nationals properly, then the industry should pay what is an appropriate level of fees. Their complaints stemmed from the fact that, for a long time, the PNA member countries were subsidising the industry for the cost of the observers and that the vessel operators had had it easy for a long time. The observer fees were not a revenue stream and many of the members treated the fees just as if they were, and so these were some of the challenges that we faced in getting some of our members to support the idea of having the POA fully cost recovered. I told Dr Biribo that I would not license any of their vessels if they did not want to pay the fees. I know it was a bit harsh and perhaps hot-headed on my part, but I had no other alternative, if we wanted to get things off the ground. I became a bouncing board between MRAG, the service provider and some of the vessel operators and the members. But we were lucky in that we got very good support from Glen Joseph, Sylvester Pokajam and Patrick Mackenzie, paradoxically the director of the National Oceanic Resources Management Authority from the Federated states of Micronesia, who unlike his deputy, Eugene Pangelinan, was supportive of the POA.

There are at least 1,000 trained observers across the region who are doing perhaps the only regional work pursuant to an arrangement that is governed by a MoU signed by the members. At the time of writing, it was estimated that we will have seen the 100,000th observer sea day by midyear in 2019. When I reflect on the challenges that we had to face in setting up the POA, it pales in significance to the sense of pride I feel when I see our POA observers at airports in Nadi, Honiara, Tarawa, Majuro and Pohnpei, proudly wearing the dark blue T-shirt with PNA Observer Agency emblazoned on the back and matching caps, armed with safety equipment and tools for the job, including two-way communication. They are met upon arrival, transported, accommodated, fed, and paid within days of submitting their reports. What is more, industry (well most) no longer complain about the costs, but rather push for POA coordination to be fishery-wide. Our leaders wanted to increase our share of the pie in jobs and also in the value chain and we were able to deliver to them, at least with respect to expanding the number of jobs available to observers and also to get canned tuna products that carry the MSC and Pacific logo in the supermarkets. We had to fight and struggle but, in the end, we were able to get both of their demands off the ranks.



Top: Solomon Islands — Sunrise in a Pole and Liner

Source: Francisco Blaha

Bottom: Kiribati — iKiribati and Chinese crew on a Chinese-flagged purse seiner ready to tranship in Tarawa

Source: Francisco Blaha

CHAPTER 5: THE VESSEL DAY SCHEME (VDS) — TRADING AND ADDING VALUE

‘As part of the operationalisation of the VDS, our initial suggestion to the members was for them to purchase days from the PNA Office at an agreed rate. As a sign of how things have changed so much from what we at that time viewed was a reasonable rate of return for a day, we said that where no rate is agreed by the members, the previous year’s rate shall apply, and in the first year a default rate of US\$1,000 a day shall apply for purchase from members and a sale price of \$1,100 to members ... We would never have envisaged that days would be selling for mostly US\$10,000 to \$14,000 a day, with traded days now worth US\$18,000 in some instances ... I think when members look back, they certainly lost a lot of money in pre-VDS days, and our leaders were right to call for the resource owners to get a fairer share of the benefits from their resource.’

One of the most successful transformations that has taken place for PNA members, if not the entire Pacific Islands region, has been the overwhelming success of the purse seine VDS. The story of the VDS has its origins in the mindset of people like the late Bernard Thoulag and Albert Wata, who felt frustrated at the way in which the capacity limits under the Palau Arrangement were curtailing their ability to grow their domestic fleets and license whoever they wanted. We can thank Peter Sitan, who at the time was head of FSM’s fisheries, and those who worked in PNG at the time for the foresight in raising the issue of overcapacity and the increase in number of purse seiners that were coming into the fishery in the late 1980s. This ultimately led to the development of what is now known as the Palau Arrangement for the Management of the Western and Central Pacific Tuna Fisheries. A decade or more later, Maurice described the Palau Arrangement as having become a cartel for foreign flag state interests intent on perpetuating their control of the fishery rather than PNA members. The arrangement has undergone some changes over the years, but the core vision and oversight that gave birth to the idea have continued to remain strong, at least amongst some of us who have felt the fire inside that we want to control this fishery — that we want to secure the rights to the fishery for the benefit of our peoples. The VDS is now the centrepiece of the PNA and it has found a place in the annals of the global tuna industry. As for fishing vessels operators, they perhaps know more about the VDS than any other aspect of the PNA (or even of the FFA for that matter, I might argue), because it has huge ramifications for their vessels and their profit margins.

The VDS is a measure established in law under the Palau Arrangement, so any discussions of the VDS — and the trading and associated with it and the success that it has had in transforming the fishery — should actually trace its origins to the evolution of the Palau Arrangement.

The Historical Development of the Palau Arrangement and Capacity Limits

The origins of the VDS can be traced back to the late 1980s, as I said above, to people like the late Bernard Thoulag, Albert Wata, Peter Sitan and the myriad of other PNA member government officials, especially those in PNG who, while dealing with DWFNs, continued to think about how best they could control the fishery. In looking at the origins of the evolution of the VDS, I don’t think you can ignore the contribution of the following: the late Philipp Muller, the Director of the FFA at the time; his deputy David Douman, who then went on to have an illustrious international fisheries career at the FAO in Rome; Roger Uwate who was the senior fisheries economist at the time; Keith Owen, an Australian who had a stutter, and who brought great humour to the regional fisheries meetings through his light-hearted demeanour, and who later replaced Roger Uwate as senior economist at the FFA; and Drew Wright also of the FFA. There are many others I probably have forgotten, but the idea behind the VDS as we see it now really had its roots around that time and with these people, who thought about the growth in the fishery, the expansion of the purse seine fishery and the lack of controls at that time to curtail that growth. During their annual meeting in Nauru in 1990, the idea to have some kind of limit on the number of vessels was canvassed, which paved the way for the development of the Palau Arrangement. I remember coming back from my studies in Canada in August 1990 to the Ministry of Foreign Affairs to hear about this new arrangement that was being considered by the (original) PNA, how no one was really sure how it would work, but there were high hopes that we were onto something. In fact,

there was no agreement and no framework, just a decision that the PNA would work on a legal framework to apply some limits.

Box 14: The Vessel Day Scheme

'The origins of the VDS are ... founded on the recommendation by Gerry Geen to introduce a sub-regional limit on the number of purse seine days fished that is significantly lower than the number of days fished in 1999 (perhaps in the order of 10–20%) and introduce a system of charging bilateral access fees based on verified data on the number and location of days fished and a two-tier approach to fee setting (base fee per fishing day and a zone fee) that provides strong negotiating leverage to members. This was the genesis of the scheme, and thanks to the man whose idea it was, it has become one of the most transformative in the region, and set the members on the pathway to achieve outcomes that no one expected.'

'The major change introduced by the VDS was removing the DWFNs' allocation of vessels and replacing it with days allocated to the members, rather than to the flag state. This represented a fundamental shift in the structure of the fisheries management arrangement in the region up until that time, and this was one of the biggest factors in reshaping the fishery and the development success of the VDS. The rights were held by the members, and no longer were they 'price takers', but they became 'price setters', although it took them a while to get there.'

'The success of the VDS did not just happen overnight ... there were several hits and misses and threats to leave, including the very first walk out that I ever saw in all my time serving in the region.'

The general philosophical underpinning of the approach was that limiting the number of vessels would create competition amongst the vessels. Thus, at the annual meeting in Nauru in 1990, the members agreed to apply a cap on the number of vessels as an interim measure while they developed a mechanism to apply some form of what was at the time called capacity limits. I joined the FFA Secretariat after returning from my studies in Canada on secondment from the Solomon Islands government as assistant legal counsel in 1991. One of my first tasks was to coordinate with Keith Owen and other colleagues at the FFA, the convening of a small working group to develop the legal framework to apply limits to the purse seine fishery. The momentum accelerated when Michael Lodge, who later became secretary general of the International Seabed Authority in Jamaica, joined the FFA as legal counsel. He took the reins of the development of what they had by that time decided to call 'the Arrangement for the Management of the Purse Seine Fishery of the WCPO'. The idea was simple: the arrangement would apply a limit on the total number of purse seine boats that may be licensed collectively and individually by all the PNA member countries. These included the US fishing vessels that were already at that time fishing under the Treaty on Fisheries which had just entered into force on 15 June 1988. At that time (and as they still are today), these vessels were the only DWFNs that had a multilateral access agreement with Pacific Island countries, whereas all the other fishing licensing arrangements were bilateral arrangements.

It was agreed that an overall cap would be placed on the total number of purse seine vessels, but then they would be allocated by flags, so the US would have a certain allocation, the Japanese would have an allocation, the Koreans and so and so forth. This was a fundamental philosophical approach to the arrangement which would later come back to haunt the members, because while they allocated the majority of the vessel quotas to flag states, they limited the quotas they could give to themselves. As a matter of process to address these limits, the PNA members agreed informally amongst themselves that the arrangement would also be used as a trigger mechanism to promote domestic development. They would give preferential access to their own fishing vessels, followed by those involved in joint venture arrangements who landed their catch on shore, and the last priority would be given to those vessels that fished exclusively offshore and took back their catch to their home ports. It should be remembered that there were very few domestic and joint venture fishing arrangements at the time, and the only onshore processing plant in the PNA member countries was in Solomon Islands. In fact, Solomon Islands had a policy that discouraged purse

seine fishing in their waters in order to protect their domestic pole and line fleet, so there were hardly any landings or transshipments of purse seine catch anywhere in the region at that time. In the early 80s, PNG had similar policies to protect the pole and line industry servicing a *katsuobushi* (dried, fermented skipjack tuna) operation at Nago Island in Kavieng, New Ireland Province. This led to the now infamous Morgado Square, a box of sea territory excluding purse seining in an area that is normally one day's steaming from port, and a second closed area for purse seiners around Cape Lambert in East New Britain Province. The fishery at that time was otherwise largely open access, with no restrictions on the number of vessels or the volume of catch and thus the arrangement being developed was going to be the first in which a form of limits would be applied. It was an interesting period of the development of the fishery, because the purse seine fishery was only starting to take off and expand and so I guess from a fisheries management and institutional perspective, there was also a learning curve to be negotiated. We have to be appreciative of those who thought how the purse seine fishery was interacting with the tuna stocks, and with the longline fishery and how it was impacting on the status of yellowfin and bigeye stocks, which both fisheries caught. Some of the PNA member officials at that time had one eye on how they would be able to participate in the fishery and the other on what these very powerful and efficient fishing boats could do to the tuna stock. In reality these sentiments go back to the principles under which the PNA was established in 1982. The draft arrangement also envisaged that as PNA members expanded their domestic fleet, they would reduce the allocation to foreign DWFNs. I recall Philipp Muller explaining how the capacity limits would encourage competition amongst the vessels for licences because of the limits and that this would be good for the economics of the fishery. So, broadly speaking, officials at the FFA and the members had already envisaged that the limits would create competition and lead to better economic outcomes, and this was emphasised during the negotiations. Mike Lodge and his team of officials, including Tekabu Tikae from Kiribati, Albert Wata from Solomon Islands, and Bernard Thoulag from the FSM, worked hard to produce a text, which they finalised in Kiribati in July 1992.

The Arrangement for the Management of the Purse Seine Fishery of the WCPO was adopted by the members and opened for signature the same year. The name 'Palau' was attached to the title of the arrangement upon request from the late Victor Uherbelau, one of the pioneers of the organisation, and a leading attorney from Palau who was their first law graduate. At the time there were a number of agreements that had been negotiated and the name of the place where they were concluded had been added to the title. For example, there was the Wellington Convention (which was on the prohibition on the use of long driftnets) that had been signed in Wellington and the Niue Treaty (on fisheries cooperation and fisheries law enforcement) that had been done in Niue, so Victor asked the members at one of their meetings after the arrangement had been concluded if they would be agreeable to attaching 'Palau' to the arrangement, thus the arrangement became known as the 'Palau Arrangement'. The irony was that Palau was one of the last members to sign onto the arrangement, and even after they had signed and were participating in it, they were also the last to accept the VDS, which was a scheme developed under the auspices of the Palau Arrangement in years to come.

The entry into force of the Palau Arrangement in 1995 represented a threshold in the evolution of the fisheries management regime in the WCPO, because for all its perceived weaknesses and shortcomings, it was the only limit in place at that time. The significance of the Palau Arrangement was not lost on the members and those who were following the evolution of the tuna management regime in the Pacific Islands. It represented a major step from the time when George Kent wrote his book *The Politics of Pacific Islands Fisheries* (Kent 1980) on the tuna fisheries in the Pacific Islands, which was largely about controlling foreign access agreements in the islands and developing control measures to gain a better understanding of the way the fisheries work. I think that when you look at the development of the Palau Arrangement in the early 1990s, it coincided with growing concerns internationally about uncontrolled and illegal fishing. The east coast (of Canada) cod fishery had just collapsed in 1992 and the Spanish-Canadian turbot fisheries war brought international attention to the plight of international fisheries (Bui et al. 2011). This also led the United Nations Conference on Environment and Development (the Rio Conference or Earth Summit) in Brazil in 1992 to call for the convening of an international fisheries conference to develop a fisheries management regime to tighten and regulate fishing for highly migratory fish stocks and straddling fishing stocks on the high seas. The Palau Arrangement was developed at this time of international concern about the environment. One could probably argue that it was both coincidental and also timely, but what it did, however, was to focus on the fact that the fish stocks

were not inexhaustible and that there are limits to the amount of fish that may be taken out of the water without causing harm to the stocks. It was a real wake up call for the international community that just flowed into the thinking at the time, including the PNA members.

The Palau Arrangement consultations coincided with international events that saw the negotiations of the United Nations Fish Stocks Agreement (UNFSA) from 1993 to 1995 (See UN DOALOS 2013). Although these were parallel but unrelated developments, they combined to change the way in which highly migratory fish stocks were managed globally and also in the region. Internationally, the UNFSA transformed high seas fisheries by ensuring that coastal states could look over their shoulders and check on what was happening on the high seas, and also to apply — in the words of the ambassador Satya Nandan, the seasoned Fijian Law of the Sea negotiator — the provisions of Articles 61 and 62 to the high seas. Articles 61 and 62 are the basic fisheries management provisions in the Law of the Sea Convention that apply to the EEZ which provide for a coastal state's sovereign right to set an allocation and then develop a system to manage that allocation. Furthermore, Article 63 provides for compatibility with adjacent waters. Fundamentally, the major responsibility under those articles is to ensure that the stocks are not endangered through overexploitation. Ambassador Satya Nandan said it is through this basic principle that the United Nations Fish Stocks Agreement (See UN DOALOS 2013) extended to the high seas. It changed the way international fisheries were viewed and conducted. More importantly, the UNFSA *qualified* the freedom of the high seas, so that the right to catch fish in the high seas was only granted to those states whose vessels agreed to comply with the conservation and management measures adopted by the relevant regional organisations that have competence over the high seas areas. This was a major transformation that the Palau Arrangement contributed towards in reshaping international fisheries law.

Many people probably do not realise that the VDS is not a stand-alone legal arrangement, but is in fact a management measure established under the Palau Arrangement, which is why it is important to contextualise its discussion against the backdrop of the development of the Palau Arrangement and the early endeavours to apply limits to the fishery. The capacity limits under the Palau Arrangement worked to a point and it could be argued to have actually constrained the growth in the fishery. I think that at least it provided some shelter against the uncontrolled growth in the fishery, so from that perspective it did have the efficacy expected of it.

The administration of the Palau Arrangement was given to the director-general of the FFA. Through the staff of the FFA Secretariat, they coordinated the licences and vessel lists and ensured that the members kept within the limits agreed under the Palau Arrangement. In actual fact the limits were set out in a schedule to the Palau Arrangement and could only be changed through the agreement of the members. Palau did not join until much later and Tuvalu only formally ratified the Palau Arrangement well after the establishment of the PNA Office in Majuro. The initial implementation of the Palau Arrangement went smoothly, and countries agreed to comply with the limits. I think the growth in the purse seine fishery had slowed, so the control in the expansion that they had seen previously had been contained by a combination of the effect that the Palau Arrangement was having on investment in the construction of new vessels. Certainly, tuna prices were not what we have seen in later years, which spurred the developments of new vessels after the VDS had become operational. Tuna prices in 1999 and 2000 collapsed to US\$450 per metric tonne, largely driven by brands in what was seen as a buyers' market. This led to the formation of the World Tuna Purse Seine Boat Owners Association and action to restrict supply to force them back to viable levels. Returning to the Palau Arrangement and the evolution of the VDS, there was also an ancillary development that would later impact on the efficacy of the VDS: the emergence of what is known as the Federated States of Micronesia Arrangement for Regional Access, more colloquially known as the FSM Arrangement.

The FSM Arrangement was developed to promote domestic development. It gives vessels that are genuinely associated with shore-based fishing companies in the islands preferential access to their respective EEZs. There was also a link that the members made to the Palau Arrangement — as the number of domestic vessels increased, they would reduce the number of licences issued to foreign fishing vessels accordingly. However, the Palau Arrangement limit of 205 vessels had in fact served to stop the construction of new vessels but it had inadvertently become an impediment to domestic development, as it left nothing for national aspirations. The rate of reduction that they had agreed to at the PNA meeting in April 1994 was 10%. Tensions in the implementation of the Palau Arrangement started to

Box 15: The Precursor to the VDS: The Palau Arrangement

'I remember coming back from my studies in Canada in August 1990 to the Ministry of Foreign Affairs to hear about this new arrangement that was being considered by the (original) PNA, how no one was really sure how it would work, but there were high hopes that we were onto something. In fact, there was no agreement and no framework, just a decision that the PNA would work on a legal framework to apply some limits.'

'The idea was simple: the arrangement would apply a limit on the total number of purse seine boats that may be licensed collectively and individually by all the PNA member countries.'

'It was agreed that an overall cap would be placed on the total number of purse seine vessels, but then they would be allocated by flags, so the US would have a certain allocation, the Japanese would have an allocation, the Koreans and so and so forth. This ... would later come back to haunt the members, because while they allocated the majority of the vessel quotas to the flag states, they limited the quotas that they could give to themselves.'

'The entry into force of the Palau Arrangement in 1995 represented a threshold in the evolution of the fisheries management regime in the WCPO because for all its perceived weaknesses and shortcomings, it was the only limit in place at that time.'

'The Palau Arrangement was developed at this time of international concern about the environment ... what it did, however, was to focus on the fact that the fish stocks were not inexhaustible and that there are limits to the amount of fish that may be taken out of the water without causing harm to the stocks. It was a real wake up call for the international community ...'

'Many people probably do not realise that the VDS is not a stand-alone legal arrangement, but is in fact a management measure established under the Palau Arrangement, which is why it is important to contextualise its discussion against the backdrop of the development of the Palau Arrangement and the early endeavours to apply limits to the fishery. The capacity limits under the Palau Arrangement worked to a point and it could be argued to have actually constrained the growth in the fishery.'

'The initial implementation of the Palau Arrangement went smoothly, and countries agreed to comply with the limits.'

'Developing an international fisheries arrangement like the Palau Arrangement involves carefully balancing the various national interests and allowing for those interests to be accommodated within a flexible arrangement, so that if and when there are changes, they can be easily made. This is because unlike a national fishery where decisions can be made by the minister, in an international fishery, there is more than one stakeholder and everyone's interest has to be taken into account.'

emerge when the members found themselves unable to increase the allocation to domestic vessels. In 1995, PNG started pushing its onshore processing aspirations, and allowed new boats to come to the region that were linked to onshore processing investments. One of the first of these ventures was RD Fishing in Madang. However, in order not to impact negatively on the Palau Arrangement limits, they were primarily restricted to archipelagic waters. Kiribati also allowed in Spanish-linked EU fleets to serve their aspirations. In theory, other existing foreign fleets were to be displaced, but the reality was that each foreign fleet fostered close relations with the respective members, so it was not a simple task to unilaterally reduce the foreign fishing fleets. Kiribati licensed 11 EU vessels in the early 2000s. The EU was new to the region, and by 1999 had started to shift some of its large purse seine fishing vessels from fishing in the eastern Pacific to the WCPO. It was understandable that Kiribati would license them, their waters in the eastern part of the Gilbert group bordered the eastern Pacific tuna fisheries so it was only natural (and also a matter of common economic sense) for those vessels to follow the fish and catch it in Kiribati's waters. The decision caused some angst amongst the members because they had to do some clever manipulative drafting to accommodate the new vessels that Kiribati had licensed.

As is typical of these fisheries management arrangements, and especially the case with Pacific Island countries, even though they disagreed bitterly about Kiribati's decision, they were broadminded enough to know that these arrangements cannot be set in stone, that fisheries challenges constantly change and therefore the arrangement, whatever it is — whether it is a quota management system or an effort allocation arrangement — has to be flexible. This is even more important when you are developing an international fisheries instrument, because there are concessions that have to be made, especially when dealing with different governments. Developing an international fisheries arrangement like the Palau Arrangement involves carefully balancing the various national interests and allowing for those interests to be accommodated within a flexible arrangement, so that if and when there are changes, they can be easily made. This is because unlike a national fishery where decisions can be made by the minister, in an international fishery, there is more than one stakeholder and everyone's interest has to be taken into account.

After 1999, the members continued to struggle to accommodate Kiribati's licensing of the EU vessels and also at the same time fit in the growth of the domestic vessels, so some creative accounting was done to keep within the cap by creating different categories. Coincidentally, the US fleet declined in numbers so that, by 2005, it had dropped to less than half of the 40 vessels allocated under the Palau Arrangement, so in terms of the overall cap for the total number of vessels that were allowed to be licensed under the arrangement, the members were still within the limits. In some ways this also reflected the vagaries of the industry, and the competitiveness of the fishery, but more broadly, it highlighted how the members struggled with the Palau Arrangement and the capacity limits, which were largely founded on the fact that the allocation was to DWFNs. This made some of the DWFNs believe that they had a right to the fishery, and if the capacity limits had not been changed, the members would have found themselves in a very difficult situation now and they would not be enjoying the benefits that they are now receiving from the VDS.

Each year, the same complaints about the capacity limits in the Palau Arrangement would be heard about how foreign fishing vessels were given preference over domestic vessels, and especially how members were not able to accommodate new domestic vessels under the capacity limits. Apart from the fact that the allocation was by flag state, the members were never really able to fulfil the agreement they made in 1994 to reduce the number of foreign fishing vessels as they increased their domestic vessels. There was, of course, a reason for this and it had to do with the revenues they were receiving. Some domestic vessels were given preference and tax breaks and were owned by smaller companies. The argument was that they were not able to compete against the foreign fishing vessels that were bigger, faster and in some cases subsidised, although I am not sure if all the foreign fishing vessels were subsidised. It was inevitable that these pressures would be brought to bear on the members. To illustrate the evolution of the VDS and its transformative power, it is worth showing, in Table 1 below, the allocations in 1994 so that the changes can be appreciated, as well as show how the nature and design of the instrument matters in getting control and securing the rights to the resources. I say this because too often, commentators think that just by working together, the countries of the Pacific Islands region will be able to get benefits. It is true that working together in numbers does have an impact, but truly transformative change in the way the PNA member countries have done in recent years is due to the nature of the instrument, plus the combination of factors that I have explained in the earlier chapters.

The design of capacity limits meant they were allocated mostly to the DWFNs, thus effectively giving DWFNs a lien in the fishing industry. I note, however, this was an inadvertent consequence of the way in which the capacity limits were set up and I would like to think that this was not really the intention at the time. The way I see it, the intention was to always keep within the cap and allow members to reduce the number of foreign fishing vessels while they increased the allocation to domestic vessels. There was a school of thought that by keeping the number of vessels capped, you would create competition amongst the vessels, thereby increasing revenues. That did not work at all, and revenues from access fees remained broadly at the same levels, with the rate of returns at around 5%. Only PNG imposed a 6% rate of return through legislation, but in reality, it was nearer 3%. The increase to 6% consequently led Japan to leave PNG waters for almost 18 years over their refusal to accept the 6% rate of return. I was working as assistant legal counsel at the FFA at that time in 1991, when we were aware that the Japanese had left PNG around 1987 because their delegation to the PNA meetings always updated the members on the status of their bilateral fishing access agreements. This was one of the features of the PNA meetings before the VDS. There was a standing agenda item for each of the PNA members to report on their fishing access agreements so we were aware of the challenges

that they faced in increasing the rate of return. This was because the DWFNs set the price and had better control over the information that was used to determine the rate of return because it was often based on the landed price of tuna in the fish markets in Japan. With the VDS and a price based on the value of a day as opposed to a percentage on the rate of return, the Japanese have resumed access in PNG. The overall value of access was around US\$60 million and had been flat for decades at the time when the new PNA Office concept was being developed. This once again demonstrated to me the importance, in both a development and economic sense, especially when working collectively, of the design of the instrument and ensuring that the power and control is retained by the right holders.

Table 1: Allocation of Fishing Days in 1994 Highlighting More Recent Marked Increases

Category	Single Purse Seiner	Group Seiner	Total	Reduction	Increase	Target April 1997
1. Multilateral access						
US Treaty	55		55			55
2. Bilateral foreign access						
Japan	32	7	39	-4		35
Taiwan	44		44	-4		40
South Korea	32		32	-3		29
Philippines	11		11	-1		10
Subtotal (1+2)	174	7	181	-12		169
3. Domestic/locally based						
All parties	23	1	24		+12	36
Total (1+2) + (3)	197	8	205	-12	+12	205

Source: Forum Fisheries Agency, 1994

The Palau Arrangement and the capacity limits were not without controversy, especially with the government of Japan, which not only sent a formal complaint, but also sent a delegation to the region to discuss their opposition to it. It was opposed to the idea that the Palau Arrangement was a management arrangement in which the members could make fisheries management decisions affecting allocations, and it also disagreed that the management measures would be binding on the members with a proviso that the members could consult with DWFNs on the development of measures under the arrangement. I had by then returned to rejoin the Solomon Islands Ministry of Foreign Affairs in 1992 and was part of the Solomon Islands delegation that met with the Japanese delegation. In fact, I explained to them both at the meeting and also in a letter to the chargé d'affaires of the Japanese Embassy in Honiara that PNA members were perfectly within their rights under the Law of the Sea Convention to develop the Palau Arrangement, and that the PNA members were not obliged to get the agreement of the government of Japan before they adopt management and conservation measures for their EEZs. This was not surprising and reflected, in large measure, the ongoing dichotomy between the interests of the DWFNs on the one hand and the coastal states on the other, which date way back to the negotiations of the United Nations Convention on the Law of the Sea and emergence of the EEZ regime. Somewhat ironically, the same leader of the Japanese delegation who had led the team to protest the Palau Arrangement said to me in Majuro at the second multilateral high-level conference in 1997 for the negotiations of the WCPFC Convention that all we needed were capacity limits in the Palau Arrangement. It was just as well that some of my friends like Bernard Thoulag had the foresight to seek to change it. There were already rumblings and the increased agitation only served to provide the impetus to explore something else, which of course led the members down the pathway towards the VDS.

The VDS, Its Efficacy and Challenges

Credit for the idea of moving towards a VDS belongs to Gerry Geen, who in 2000 was asked to review the Palau Arrangement. Originally a British national who initially came to work with the Solomon Islands Fisheries Department in the early 1980s, he returned to the United Kingdom and became a fisheries economist before working in Australia with the Australian Fisheries Management Authority as their chief fisheries economist. I had always found him forthright and visionary, but above all he understood the value of limits and what these could represent in terms of empowering right holders. In the mid-1990s when there were winds of change blowing across international fisheries, he joined the FFA as the senior economist, replacing Keith Owen, also from Australia. He was able to see first-hand the challenges of capacity limits under the Palau Arrangement and had a good appreciation of the hurdles that the member countries faced, especially in terms of the institutional and capacity difficulties. It is important to realise that development doesn't simply happen when donors pour thousands of dollars into a project. The outcome may not be what you expect, reflecting once again for me the importance of the design of an instrument. Furthermore, donors will only fund projects if it suits to foster *their* interests and aspirations. The PNA members agreed to undertake a study to look at options to replace the capacity limits. They tasked the FFA Secretariat to find someone who would be able to give them options so they could decide how to resolve the tingling problems they were facing at the time. It was not hard for the FFA Secretariat to look to Gerry Geen. Interestingly, in 2012 Gerry became embroiled in the politics of fisheries in Australia when he was given permission to bring in what would have been the largest fishing trawler in the world, the *FV Abel Tasman* (previously known as the *FV Magris*) to fish around Tasmania.

Gerry consulted with the PNA members, but it was people like Bernard Thoulag of the FSM, Albert Wata of Solomon Islands, Joel Opnai of PNG and Mariua Kamatie of Kiribati who also provided much of the thinking as to how they should improve on the existing system. Interestingly, Kiribati already ran a system of limited days in their bilateral access arrangements, so they had a broad understanding of applying some form of effort limits. Solomon Islands also applied a limited entry of around 500 days to an area north of their EEZ to US vessels under the Treaty on Fisheries, known as the Limited Area, so in terms of the concept of some kind of limited effort, there were at least two members who had a broad understanding of the nature of the concept.

Box 16: The Problems with the Palau Arrangement

'... members struggled with the Palau Arrangement and the capacity limits, which were largely founded on the fact that the allocation was to DWFNs. This made some of the DWFNs believe that they had a right to the fishery, and if the capacity limits had not been changed, the members would have found themselves in a very difficult situation now and they would not be enjoying the benefits that they are now receiving from the VDS.'

'... the members were never really able to fulfil the agreement they made in 1994 to reduce the number of foreign fishing vessels as they increased their domestic vessels ... The argument was that they were not able to compete against the foreign fishing vessels that were bigger, faster and were in some cases subsidised ...'

'The design of capacity limits meant they were allocated mostly to the DWFNs, thus effectively giving DWFNs a lien in the fishing industry ... [although] this was not really the intention at the time.'

'There was a school of thought that by keeping the number of vessels capped, you would create competition amongst the vessels, thereby increasing revenues. That did not work at all ...'

'The Palau Arrangement and the capacity limits were not without controversy, especially concerning the government of Japan, which not only sent a formal complaint, but also sent a delegation to the region to discuss their opposition to it.'

'There were already rumblings and the increased agitation only served to provide the impetus to explore something else, which of course led the members down the pathway towards the VDS.'

In his report (see Geen 2000), Gerry Geen analysed the weaknesses of the capacity limits and explored the links to other forms of management in which he had worked. What I found most useful in his analysis, though, was his understanding of the political economy of the region and the limits to what the members are able to do. In other words, he knew that designing an instrument requires careful thought about the political economy of the countries and what they can make work and what they might struggle to implement. As I see it, this is something that many people who work on development in developing countries do not always appreciate, because often they go into the developing countries with preconceived notions of the challenges, and underestimate the on-the-ground dynamics. Gerry canvassed all these issues and recommended that because of some of the perceived institutional weaknesses that they should go for effort controls. He understood that creating stronger rights with greater legal and economic clarity would contribute towards empowering the right holders. For him it was all about the right holders and ensuring that the power in the fishery should be with the right holders. This has been one of the key differences in some of the advice that the PNA members had been given in the past — in that too often, the arrangements have been actually soft on rights and have pandered towards the DWFNs. It is no wonder some of the DWFNs believe that they have a right to the fishery, which they call their 'historical rights'. A great colleague and mentor of mine who would be embarrassed if I mentioned his name called them 'hysterical rights', because it gave them the mistaken impression that they owned the fishery. This can also happen if you become dependent on others, and I have often said that in the past that even though the Pacific Island states have sovereign rights over their tuna resources, the way they structured their access arrangements prior to the VDS meant that they applied their sovereign rights for the benefit of others and not for their own peoples!

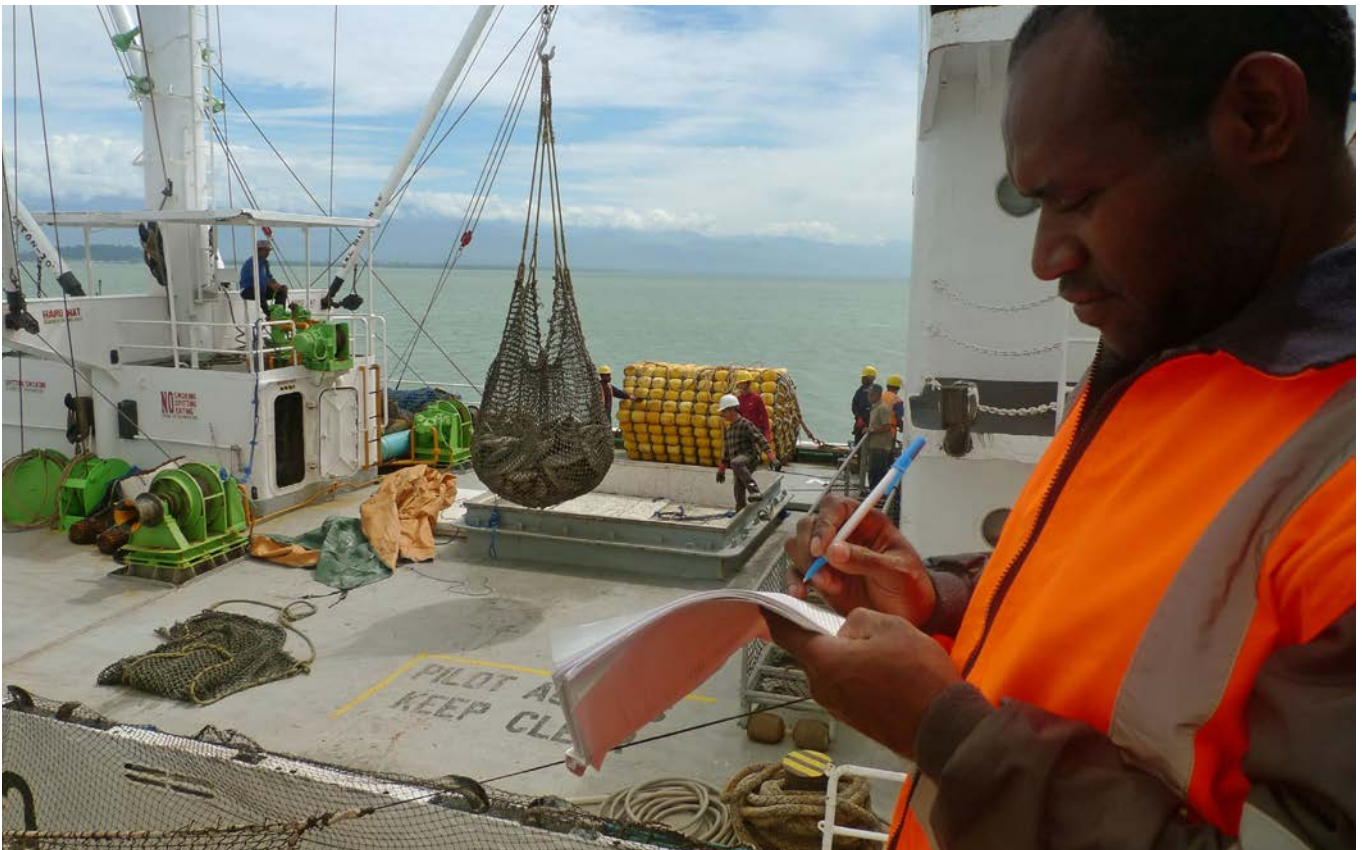
Gerry was asked to look at several things in his analysis, not only the effectiveness of the Palau Arrangement but also providing members with options on how to ensure that they could continue to control the fishery. In particular, he was tasked, amongst other things, to analyse the current limit on capacity and consider alternatives such as the potential to provide a more effective control on purse seine fishing effort; consider the adequacy of the arrangement in terms of its ability to address environmental and bycatch issues; and consider options for increasing access fees, such as creating competition for licences and altering the current method of allocating licences. It is clear from reading the terms of reference that the members were concerned about getting control of the fishery, and even though the Palau Arrangement had been established with a view to getting that, they were not really achieving the economic and conservation benefits that they were expecting from limiting the number of vessels that they licensed.

Gerry looked at what would work and then decided that a fisheries management regime based on the allocation of purse seine fishing days would be best. The features of the system would entail setting up a sub-regional total allowable number of purse seine days that controls the amount of in-zone fishing effort with sub-regionally coordinated, national total allowable effort (TAEs — the total number of days that may be fished) that are seen by all members to be fair and consistent with the draft convention on the WCPFC that was being negotiated at the time. Gerry also stated in his report that members would not be restricted in their choice of which vessels to license on a bilateral basis, or with respect to vessel numbers, which I thought was an important point, because that was part of the problem with the capacity limits where the countries were restricted by which vessels they could license. This is important from a development and economic perspective, because broader choices mean more options for members to deal with those vessels that can pay higher fees. There is no point, from a development point of view, in constraining yourself regarding which vessels you can do business with, especially when there are those who can afford to pay higher fees but are locked out because they don't have an allocation. Furthermore, Gerry's report looked at the fact that the productive effort of the members' waters varied between years (and sometimes even within a year) and an effort management system should take account of the variations in the productivity of the zones. Thus, it was also proposed that fishing days would be tradable with other members on a seasonal basis.

A management system of this nature would be both flexible in terms of allowing members to best meet their national interests, and capable of effectively controlling fishing effort for conservation and economic purposes. In some respects, this management approach differs only moderately from the direction currently being pursued by members in their development of national tuna management plans. It was pointed out at the time that at least two of the members had tuna management plans that specify limits on purse seine fishing effort. Other members were in the process of developing tuna management plans.



© Francisco Blaha



Top: Marshall Islands – Riin from Kiribati is one of the growing number of female fisheries observers

Source: Francisco Blaha

Bottom: Papua New Guinea – Transshipment monitoring in Lae

Source: Francisco Blaha

As I pointed out, the path to securing and controlling the rights over the fishery is largely dependent on the nature and design of the instrument and, from the very beginning, much thought was given to this. The proposed management system was measured against several important criteria: 1. its ability to control purse seine fishing effort; 2. its ability to facilitate increases in access fees; 3. the costs of implementation; 4. its effects on bilateral access arrangements and relationships; 5. its effects on multilateral access arrangements; 6. its consistency with the developing international legal framework for management of highly migratory fish stocks; and 7. the likely response of the international community and DWFNs.

In setting these out, Gerry recommended that the members adopt a long-term approach to the management of the purse seine fishery that limits purse seine fishing effort in zones and recognises the interactions between the purse seine and longline sectors. The origins of the VDS are thus founded on the recommendation by Gerry Geen to introduce a sub-regional limit on the number of purse seine days fished that is significantly lower than the number of days fished in 1999 (perhaps in the order of 10–20%) and introduce a system of charging bilateral access fees based on verified data on the number and location of days fished and a two-tier approach to fee setting (base fee per fishing day and a zone fee) that provides strong negotiating leverage to members. This was the genesis of the scheme, and thanks to the man whose idea it was, it has become one of the most transformative in the region, and set the members on the pathway to achieve outcomes that no one expected.

That was the easiest part, however, and credit for putting the mechanics together and for getting it off the ground is due to several different people, such as Les Clark, who coincidentally re-joined the FFA Secretariat on the day of the coup in Solomon Islands on 5 June 2000, after being away for 13 years. He had been former senior economist at the FFA and later became the deputy director-general. A New Zealand fisheries economist, he initially joined the FFA by accident, as he had been working in Solomon Islands on the development of the expansion of the international runway at Henderson Airfield. He was a part-time fisher and spent the other half of the year doing international consultancies. He just happened to come across the advertisement for a senior fisheries economist at the FFA when he went to Honiara in the early 1980s, and applied and then got recruited as the only applicant for the job. Les is a very humble and modest friend, but he more than anyone has influenced my thinking on development of the fishery in the region. I met him briefly at the FFA headquarters in early 1987 before he went on to have an illustrious career with the FAO in Oman and then Namibia. He became an adviser to the post-independence Namibian government, helping develop Namibia's highly successful rights-based fisheries management system. But before all that, at the FFA, Les helped shape the regional fisheries management landscape at the time when the region was only using development measures to control their EEZs in the 1980s. Les was instrumental in the establishment of what are now known as the harmonised minimum terms and conditions of access, and also in helping to shape what he always calls 'the smoke and mirrors' of the Treaty on Fisheries with the United States. His return to join the FFA at the time as fisheries management adviser was in fact timely, as he brought with him a wealth of knowledge and experience in designing the VDS that no one had in the region, as well as within the FFA Secretariat, where I was working at the time as legal counsel.

Les worked closely with Joel Opnai of PNG, who was recruited as fisheries management adviser at the FFA Secretariat. A fisheries biologist by training, Joel had considerable experience working with the tuna tagging teams at SPC and alongside many of the old hands in PNG who helped shape regional fisheries, such as David Doullman, Tony Lewis (who has the distinction of tagging the highest number of tunas in the world), and Andrew Wright (who eventually became deputy director at the FFA). Joel had thick glasses and a stutter that masked a bright mind committed to developing, with Les, the management framework for the VDS. He and Les worked with John Hampton and his fellow scientists at the SPC on the difficult task to develop the basic ground rules on how the TAE would work, and then be allocated to the members. I recall how confusing it was for many of us who were for the first time having to confront some of the most complex issues in the fishery. The fishery is the largest in the world and is spread across a wide span of ocean space, the productivity of which varies from year to year and even sometimes within the same year, as the fish move with the currents and the changing sea surface temperature.

But I have jumped the gun again and laboured to describe those who were involved in getting the technical components of the VDS in place before describing the steps that were taken after the report was finalised — but

I wanted to highlight, in the context of the theme of the story about lessons in development, how the experience and knowledge of those involved are such important factors. The hidden faces behind some of the technical work were John Hampton and his colleagues at the SPC who had developed the SEAPODYM model (spatial ecosystem and population dynamics model) that looked at the sea population dynamics that would help in understanding the estimate of the biomass of tuna in an EEZ. For lay readers, this is the estimated volume of tuna in the EEZ, noting of course that tuna moves so it can vary, but it gives policymakers a rough proxy of the productivity of their EEZ.

Gerry's report was well received and there was much discussion about its merits and the strengths of the recommendations. The members wanted to see a change, because the status quo was not good for them and was not giving them conservation benefits. By that I mean that the stocks continued to be exploited and the other management challenges (such as the interaction between the longline and the purse seine fishery) were not being addressed.

In developing the VDS, there were a number of issues that had to be examined, so a small working group was established to work with the FFA Secretariat, which at the time was coordinating all the major policy and technical work of the PNA, and the SPC, which had the scientists who could carry out the scientific analysis. The major challenges members were faced with when putting together the VDS structure and arrangements were:

- » needing to move to effort control (i.e. fishing day limits): needing to consider the possible effect of displacing effort into the high seas and other EEZs and encouraging greater FAD use
- » setting the regional TAEs: exploring the range of TAEs, including the original 20% cut proposed in the Geen Report (Geen 2000)
- » setting arrangements for allocations: these could include feasible alternatives such as including application of the WCPFC Convention Article 10.3 criteria; or simpler arrangements based on catch history and zonal attachment/ biomass distribution
- » applying effort limits at a national level: exploring the options — what would be the effect on existing access arrangements?
- » dealing with transferability: how to cope with the large fluctuations year to year and over time in the fishery?
- » setting the base price for access and inter-party transfers: should there be a standard price for access and transfers?
- » dealing with regional access: how to apply the principle of preferential access for regional vessels?
- » choosing a system for monitoring: will the FFA Vessel Monitoring System (VMS) be acceptable and robust enough to be used for monitoring, including domestic vessels?
- » dealing with non-compliance: what happens when a party overfishes or fails to comply in other ways?

These issues form the basic structure of the VDS, and underlie some of the tensions amongst the members, especially when it comes to allocation, which has been a perennial source of debate. However, a part of the success of development in an environment where different countries have varying interests is their willingness to compromise and make things work for them.

After four years of development, the text of the VDS was finalised by the members in 2004. It went through several iterations and changes but the core structure of the VDS remained around the major issues highlighted above. The major change introduced by the VDS was removing the *DWFNs'* allocation of vessels and replacing it with days allocated to the *members*, rather than to the flag state. This represented a fundamental shift in the structure of the fisheries management arrangement in the region up until that time, and this was one of the biggest factors in reshaping the fishery and the development success of the VDS. The rights were held by the members, and no longer were they 'price takers', but they became 'price setters', although it took them a while to get there. What I have learnt in the development of fisheries management arrangements in the region is that getting the institutional framework is one thing, but making it to work the way it was intended is another, and this was one of the reasons it was slow for the VDS to take off and have the efficacy expected of it. I like to think that sometimes it is just by sheer luck and

Box 17: Empowering the Right Holders through the Vessel Day Scheme

'[Gerry Geen, fisheries economist] understood the value of limits and what these could represent in terms of empowering right holders.'

'He was able to see first-hand the challenges of capacity limits under the Palau Arrangement and had a good appreciation of the hurdles that the member countries faced, especially in terms of the institutional and capacity difficulties.'

'... he knew that designing an instrument requires careful thought about the political economy of the countries and what they can make work and what they might struggle to implement ... this is something that many people who work on development in developing countries do not always appreciate ... they go into the developing countries with preconceived notions of the challenges ...'

'[in the past] the arrangements have been actually soft on rights and have pandered towards the DWFNs. It is no wonder some of the DWFNs believe that they have a right to the fishery which they call, their "historical rights".'

'... even though the Pacific Island states have sovereign rights over their tuna resources, the way they structured their access arrangements prior to the VDS meant that they applied their sovereign rights for the benefit of others and not for their own peoples!'

'Gerry looked at what would work and then decided that a fisheries management regime based on the allocation of purse seine fishing days would be best. The features of the system would entail setting up a sub-regional total allowable number of purse seine days that controls the amount of in-zone fishing effort with sub-regionally coordinated, national total allowable effort (TAEs).'

'... members would not be restricted in their choice of which vessels to license on a bilateral basis, or with respect to vessel numbers, which I thought was an important point ... This is important from a development and economic perspective, because broader choices mean more options for members to deal with those vessels that can pay higher fees.'

'... the productive effort of the members' waters varied between years (and sometimes even within a year) and an effort management system should take account of the variations in the productivity of the zones. Thus, it was also proposed that fishing days would be tradable with other members on a seasonal basis.'

'A management system of this nature would be both flexible in terms of allowing members to best meet their national interests, and capable of effectively controlling fishing effort for conservation and economic purposes.'

maybe a combination of other factors as well that might come together at the time. The success of the VDS did not just happen overnight. As I explain a little later in this chapter, it was what Australians called 'hard yakka' and there were several hits and misses and threats to leave, including the very first walk out that I ever saw in all my time serving in the region.

In 2004, although the PNA was still pushing the concept of the VDS, the Forum Fisheries Committee position going into the first WCPFC meeting in Pohnpei, FSM, was not to support the VDS. This was driven in part by New Zealand, whose industry believed they should be allowed to fish for free and not take licences in PNA members' waters. It was against this background that Maurice, who was part of the PNG delegation in a discussion with Japan, saw an opportunity. Japan had suggested that PNG could 'name their price' in return for backing off on public attacks on Japan over their attempts to block the building of new purse seine vessels that some of the PNA members had ordered for their domestic fleet and allow Japan to 'save face'. This was often called informally as the 'Sapporo measure', where the debate on capacity started and Japan held leverage over the Taiwan market to enforce the ban on building the new vessels. In a midnight meeting between PNG and Japanese officials, a deal was negotiated

at a third hotel and the delegations returned to their respective hotels at 3am. The PNG fisheries minister, based upon misleading advice by agents of the Taiwanese fleets (who had still been at the hotel bar on the return from the meeting with the Japanese delegation), had forbade proceeding with the deal during a breakfast meeting so that they could analyse its implications carefully. Subsequently, the commission chairman, Mr Glenn Hurry, said to Maurice, who later on recalled the series of events to me, 'I don't know what is going on, but if you don't get this sorted by noon today, the commission is dead on its first meeting'. Over lunch the PNG minister was briefed again and persuaded this time to 'try' and get a deal.

What evolved on the floor that afternoon was a three-way deal between PNG, Japan and New Zealand. PNG pushed to introduce the concept of effort control as an option to be recognised by the WCPFC. Japan and the DWFNs fleets sat in silence, as they typically did at these high-level meetings. New Zealand tried to block the measure as it was clearly not in the interest of their industry. To counter their opposition, PNG blocked New Zealand's attempts at a southern albacore conservation measure that they desperately wanted.

During the afternoon tea break, PNG offered to back down and allow New Zealand the albacore measure, but as it was a temperate species, the measure would cover areas south of 20 degrees south. New Zealand agreed and in return, the WCPFC agreed to effort controls as an option for the PNA members, allowing Japan and the DWFNs to save face. That was how the option of 'catch and/or effort' entered as a resolution of the first WCPFC meeting. The 2004 WCPFC measure (CMM 2004–04) paved the way for the VDS to be recognised as a WCPFC measure, and a 2005 WCPFC measure (CMM 2005–01) entrenched effort levels as the basis of conservation measures in the commission in respect of bigeye conservation in the purse seine fisheries, giving way for the smooth transition to the VDS.

The southern albacore measure that New Zealand wanted was eventually endorsed in the second WCPFC meeting as WCPFC measure CMM 2005–02, restricting the measure south of 20 degrees south. In reality, most of the albacore is harvested between 5 degrees south and 20 degrees south by Pacific Island country longliners. The area south of 20 degrees south is basically the New Zealand troll fishery for juveniles. The issue of a home-grown management of albacore in the Island states continues to this day, with some of the New Zealand-spawned initiatives such as the Te Vaka Moana having floundered. In 2004, after the first resolution was made, the PNG fisheries minister hosted a celebration for the recognition of all the effort and having the VDS included in the WCPFC resolution — it went all night.

I know it is difficult for non-fisheries people to understand the VDS and how it works, but I have often tried to explain it by using betel nut as an analogy. At its very core, the VDS works as a cap and trade mechanism. The PNA Office works with the SPC to determine the total allowable effort (TAE), which is the total number of days that may be fished. In 2012 this was capped at 2010 effort levels, that is the total number of days that the purse seine vessels fished for that year. You can imagine that the members come together and agree that this year, we will sell this much betel. The way in which the limits work is that they will only sell the maximum that they have agreed to, and this is what creates the scarcity. If you are going to have oversupply then that reduces the demand and with that, the price as well. In very rudimentary terms, the betel nut economics works in exactly the same way. If there is a lot of betel nut in the market, the price goes down, but if there is a shortage of supply, the price goes up. As a non-economist, this helped my understanding of the rudimentary economics behind the VDS and the importance of creating scarcity. If one area is short, for example because of drought, then more nuts are traded in from other area, but the total trade is capped.

Table 2 below gives you an idea of how the total number of days is arrived at. The base year that is used for the calculation of the annual TAE is 2010. The year 2010 was chosen by the PNA members as the base year because that is when the closure of the high seas came into effect, and all of the fishing effort of the purse seine vessels transferred to the PNA members' EEZs. (See the map at the beginning of this book.) What happens is that the log sheet — which vessel captains fill in and gets sent to the members — is used to calculate the total number of days. Interestingly, not all of the log sheets got sent in 2010 and even in the subsequent years some get lost, or maybe turn up a few years later, so what has happened is that SPC has often had to update the estimated effort from the log sheet data that they receive from the flag states (and even in some cases from the members themselves). A second factor is length adjustments (see below) within the fleet structure, impacting fishing days and total VDS days. The length adjustment

refers to the category of purse seine vessels operating in the WCPO. There are vessels that are less than 50 metres in length, some that are less than 80 metres, and the biggest ones are more than 80 metres in length. The efficiency and ability to catch more tuna depends on the various length of the vessels. For instance, a vessel that is between 50 and 80 metres in length can probably catch in one day what a vessel that is less than 50 metres can catch in two days. Thus, allowance has to be made in the calculation of a fishing day to take into account the different lengths of the purse seine vessels.

This is one of the challenges of data and how the timeliness of data can impact on the determination of the status of stocks and also the quality of the fisheries management advice. So, the total estimated number of days (or betel nuts) is based on the total number of days that are calculated from all the log sheets that are received for 2010. Table 2 is extrapolated from the meeting documents of the members in 2018 and is illustrative of the total allowable effort. Just by way of explanation, the table shows the TAE for 2017 and 2018, which had already been agreed to, and the members were being asked to approve the TAE for 2019 and then set the agreed effort levels for 2020–21. It is not necessary to go into the details of the adjustments, suffice to say that the TAE is set at 44,033 days. It might be of interest to note that Tokelau is not a member of the PNA but it is a participant in the VDS through an MoU it signed with the members to participate in the Palau Arrangement. Its days are added on top of the PNA's 44,033, so the total number of days is what is shown at the bottom for the respective years. So, you can say that the total number of 'betel nuts' that is shared collectively by all the members is the TAE. This represents some value when converted to fishing opportunities, and the fact that now vessels must buy these days (or have a betel nut) in order to fish. The table below represents the TAE; as is usually the case, there are recommendations that members will make, so I have also shown below the decision chain that follows the agreement to adopt the TAE.

Table 2: Proposed TAE for 2019 and Proposed Provisional TAE for 2020 and 2021

	Determining the TAE (Days)				
	TAE 2017	TAE 2018	Provisional TAE for 2019	Proposed TAE for 2019	Proposed Provisional TAE for 2020 and 2021
Estimated 2010 Log sheet effort	44,033	44,033	44,033	44,033	44,033
Length Adjustment factor	1.30%	0.0%	0.0%	0.0%	0.0%
PNA TAE	44,605	44,033	44,033	44,033	44,033
Tokelau TAE	985	972	972	1,000	1,000
Total VDS TAE (PNA + Tokelau)	45,590	45,005	45,005	45,033	45,033

Source: PNA Office, Majuro, 2018

- a) Noting the revised estimates of 44,158, agree to work towards revising the WCPFC CMM 2017–01 when it is next revised by the WCPFC.
- b) Agree to request SPC to provide information on how many log sheet data was still outstanding, and how much uncertainty existed with regards to that data.
- c) Adopt the provisional 2019 PNA TAE set last year of 44,033 days.
- d) Agree that the proposed provisional PNA TAE for 2020 and 2021 be set at 44,033 days.
- e) Agree that the proposed provisional 2019 VDS TAE be set at 45,033 days; and
- f) Agree that the proposed provisional VDS TAE for 2020 and 2021 be set at 45,033 days as set out in the table above.

Each of these decisions represent the agreement that the members have on the TAE for the forward years so that they don't have to revisit it annually. I guess in terms of business development you can now start to see how this simple adjustment to the management regime has been able to transform the fishery because, all of sudden, the members have become custodians of this valuable asset. What makes it more valuable is that it is *tradable between the members*, with first trade made in 2011 between Palau and PNG. This was a powerful step in reshaping Pacific fisheries and also an important lesson in the development trajectory of the PNA member countries, which is connected with the design of the instrument and also creating the enabling environment to foster scarcity.

Box 18: Steps in Implementing the VDS

'The PNA Office works with the SPC to determine the total allowable effort (TAE), which is the total number of days that may be fished. ... You can imagine that the members come together and agree that this year, we will sell this much betel. The way in which the limits work is that they will only sell the maximum that they have agreed to, and this is what creates the scarcity.'

'What makes it more valuable is that it is tradable between the members, with first trade made in 2011 between Palau and PNG. This was a powerful step in reshaping Pacific fisheries and also an important lesson in the development trajectory of the PNA member countries ...'

'The next step in the implementation of the VDS is the allocation of the days and I often say this is how each country is then given a share of the betel nut. There is a formula that is used to allocate the shares, and this was developed over several years, but I have to say it is impossible to please everyone and there are ongoing refinements ...'

'The allocation to the members is what is called the party allowable effort (PAE), and that is the allocation each party has to sell to fishing companies. The biggest change in the international fisheries structure brought about by the VDS was simply the power that each member now had to determine their destiny, because in the past, there were basically no limits that could be applied to catch.'

'... vessels had to have days in order to fish, so suddenly the tables were turned and fishing boats had to compete for their days. This is what had been thought would happen to the capacity limits under the Palau Arrangement, but it never actually happened ...'

The next step in the implementation of the VDS is the allocation of the days and I often say this is how each country is then given a share of the betel nut. There is a formula that is used to allocate the shares, and this was developed over several years, but I have to say it is impossible to please everyone and there are ongoing refinements in the process annually. Members have had to compromise at times, which is the nature of international fisheries. It was once said the success of such negotiations is when all members leave the meeting equally unhappy! The allocation to the members is what is called the party allowable effort (PAE), and that is the allocation each party has to sell to fishing companies. The biggest change in the international fisheries structure brought about by the VDS was simply the power that each member now had to determine their destiny, because in the past, there were basically no limits that could be applied to catch. The new system brought an opportunity for the PNA members to set the price on the value of a day rather than on the catch, which created incentives to misreport catches and what the DWFNs paid to the PNA members. Furthermore, vessels had to have days in order to fish, so suddenly the tables were turned and fishing boats had to compete for their days. This is what had been thought would happen to the capacity limits under the Palau Arrangement, but it never actually happened because the rights that members had were actually held by the flag states, so it had inadvertently become a flag state cartel, entrenching perceived rights in the hands of foreign fleets.

Table 3 illustrates the allocation of days to the members from 2010 to 2016. It is used here to show what the PAE represents to the respective members, which is what they then take and sell to generate revenue. These days are

tradable amongst the members, which is why they are valuable commodities. In terms of their economic value, it is the opportunity that is attached to the days to fish that makes them valuable. There is a formula which is used and it is not my intention to go through the technicalities of how the days are allocated, save to say that the formula is based on a certain percentage of catch history, and biomass. In fact, it is a hybrid formula because the members get to choose their best option and this is then standardised so the resulting PAE reflects the outcome of the PNA members' preferred choice. While there are those who like to criticise the VDS and the way in which the PAE is set, my view is that at the end of the day, the members themselves must be happy to live with the outcomes. If they are willing to compromise in order to maintain the integrity of the VDS, then it really does not matter what others — who are not members of the group — think.

Table 3: Allocation of PAEs from 2010 to 2016 and Traded Days

	2010	2011	2012	2013	2014	2015	2016
FSM	6,556	5,522	5,634	6,132	5,430	7,266	7,309
Kiribati	6,470	5,450	5,480	6,253	5,823	9,158	9,213
Marshall Is	2,652	2,234	2,234	2,234	1,935	2,753	2,769
Nauru	1,962	1,653	1,733	1,967	1,622	2,697	2,713
Palau	610	514	517	569	510	705	709
PNG	11,959	10,073	13,105	14,299	13,709	16,194	16,290
Solomon Is	2,548	2,146	2,782	3,185	2,794	3,973	3,997
Tuvalu	1,041	877	1,055	1,223	1,065	1,879	1,890
Total	33,798	28,469	32,540	35,862	32,888	44,625	44,890
Tokelau			1,000	1,000	812	985	991

Source: PNA Office, Majuro, 2018

The VDS allows for trading amongst the members and this is important because the productivity of their respective zones depends on whether it is a La Niña or El Niño year. These oscillations in the environmental conditions — in particular the changes to the sea temperatures — have an impact on where the fish can be found, and therefore the vessels can be in one zone the first few months of the year, but they may then be in another zone later on in the year.

Before going into how we were able to get the revenues to climb from US\$60 million in 2010 to US\$470 million when I left the PNA Office as CEO in August 2016, it might be worth describing some of the political debates and disagreements that the members had over the VDS and the struggles that I had to navigate in order to get the members to compromise so that they could move forward. The formula for the allocation of the PAE was never satisfactory to most members and therefore it was a constant challenge trying to get all the members to agree. It was most difficult to make everyone happy because when you put forward one option, it inevitably disadvantaged another and then when you put forward another option, you would then make the other party upset. Initially Steve Shanks at the FFA Secretariat worked with Anton to manage the VDS while it was still administered by the director-general of the FFA Secretariat. There were multiple changes and debates, and even though none of the members implemented the VDS at that stage, there were constant workshops and meetings in an attempt to address some of the core issues relating to allocation. I remember one time when I was deputy director-general at a meeting in Pohnpei, FSM, in 2007. Patricia Jack was chairing the Palau Arrangement meeting and, with Kiribati standing its ground, Sylvester Pokajam was, in my view, making it very difficult concerning PNG's demands. Steve Shanks, in exasperation, uttered something that frankly shocked me. Suffice to say it was not easy, but by the time we took over as administrator of the VDS in 2010, much of the groundwork had been resolved, but there were still problems with the allocation to the US vessels.

One of the initial gripes was that to insulate the Treaty on Fisheries, the PNA members had to subtract the days allocated to the US vessels and the FSM Arrangement vessels from the TAE and then reallocate the balance as PAEs. Effectively protecting the US fleets, this was a source of strong debate amongst the members and also amongst the broader Pacific Islands in the FFA. At the time when the VDS started, it may have been a necessary measure, as PNA

member countries learnt to deal with the mechanics of the VDS, but as they started to apply themselves and sold days to other boats, the US Treaty in particular was viewed as undermining the effectiveness of the VDS because the vessels under that treaty were seen as being protected. Most members did not mind about the FSM Arrangement vessels (that is, their domestic vessels fishing under their own multilateral arrangement) but even then, they were conscious that such an approach could represent a threat to the VDS. This was especially the case if there was growth in the FSM Arrangement fleet, which was, like the Treaty on Fisheries, open ended. The contributions of days off the top effectively reduced the proportion of each members' allocation but it did not reflect where the days might be fished. This was also because not all the vessels that fished under the FSM Arrangement were flagged to members and also because the effort by these vessels when they fished in their sponsor's waters were not discounted in the allocation. It created some tensions amongst the members. Some of these tensions came to a head in 2013, which in my view were influenced by a minister of one of the PNA members who had the propensity to be temperamental. He meant well, after all he was only promoting his country's national interest, but in the process made it very complex to arrive at mutually acceptable agreements on the PAE. For me, observing these dynamics through the lenses of the CEO of the PNA and as administrator of the VDS, it was all part of the package of institution building, and you would be mistaken to think that it is easy to put together a system simply because countries are perceived to share the same interest in the fish stocks. Creating and building a fisheries management regime is a process of compromises, disagreements and consultations, but the most important thing is that members should keep talking about their differences and, critically, agree to work their way around their differences. In 2013, Kiribati took a hardened approach to the setting of the PAE and allocation to the multilateral treaty with the US, and it came to a head twice in Palau at the annual meeting when, for the first time in my career in the region, a delegation walked out of the meeting room. As is the Pacific style and approach, other members took it in their stride and, although it was a bit of shock, no one

Box 19: Early Difficulties in the VDS

'The formula for the allocation of the PAE was never satisfactory to most members and therefore it was a constant challenge trying to get all the members to agree.'

'One of the initial gripes was that to insulate the Treaty on Fisheries, the PNA members had to subtract the days allocated to the US vessels and the FSM Arrangement vessels from the TAE and then reallocate the balance as PAEs. Effectively protecting the US fleets, this was a source of strong debate amongst the members and also amongst the broader Pacific Islands in the FFA.'

'In 2013, Kiribati took a hardened approach to the setting of the PAE and allocation to the multilateral treaty with the US, and it came to a head twice in Palau at the annual meeting when, for the first time in my career in the region, a delegation walked out of the meeting room. As is the Pacific style and approach, other members took it in their stride and although it was a bit of shock, no one said that they should not walk back in again.'

'I have always laboured the point that the best agreements are those where everyone walks away equally unhappy, because it is just so difficult to make everyone happy.'

'I think, and I say this with great respect, that some officials have a perverse sense of economics and supply and demand, because often during the negotiations of the PAE they would want more — because that is only natural, I suppose; the more days you have, the more money you can make, or so it seems according to their logic. But in a fishery where stock shifts from year to year and within a year, that might not be the best approach, because you might end up with more days than you can sell, because the fish have moved. What you in fact end up with are days that are not worth anything. Further, this oversupply just depresses the value, so all lose. That is what the VDS is supposed to avoid and this was one of the initial problems: at the outset some members did not want to trade days. This has now all changed ...'

said that they should not walk back in again. It was quite a challenging time for me as I tried to manage these hurdles in the implementation of the VDS. Somewhat ironically, Kiribati had overshot its PAE in 2012 by a huge amount without trading with Solomon Islands, which had had excess days to trade. As a result, Solomon Islands lost a great deal of money that they could have raised by trading. The Kiribati delegation apologised to the other PNA members and promised never to overshoot again. The members never penalised them, which was the standard process, but the next year they did it again. All of this exchange took place at the annual meeting of the PNA in Palau in February 2013 where I had the uncomfortable task of assisting the chair endeavour to reach a compromise.

This was one of the earlier challenges that the members faced but you have to put all of that into perspective; it was new and everyone was learning as they went along. The stakes were (and are) high and there were inevitable teething problems, as members jostled to find their way. The issue came to head again in July 2013 in Honiara at a special PNA ministerial meeting that was called because the officials were not able to agree on the PAE for 2014 and the following years. I was caught in the middle and was made a convenient scapegoat by one of the ministers who pointed his finger at me and said 'you think that just because we are quiet you can walk all over us!' He was unable to vent his anger at his fellow ministers so I was the unfortunate target of his frustrations. In fact, from my experience in the region, the process of PAE-setting brought out the worst social etiquette around the negotiating table that I had seen ever since I started working at the Ministry of Foreign Affairs. What was sad about this particular situation was the silence of the other ministers to rein that person in and calm things down. What made it worse was that it happened in the capital of my own country. I did not get flustered and in fact smiled at the minister and calmed him down. I could understand his situation. The revenues from tuna were responsible for almost 90% of all their revenue so it did not come as a surprise that this particular minister, who was known to his people as being very uncharacteristic of their cultural tendencies of showing respect, would display such behaviour. Managing the expectations and leading from the front in a quiet and non-confrontational way is something that I learnt during this challenging period, when the members were coming to terms with the sale of days and the opportunity that it provides. Somewhat ironically, a year later the same minister — who had by then realised the power and the control he had over the fisheries because he came from the country with the largest EEZ — said to me that the VDS is such a great thing! Notwithstanding the challenges, I take my hat off to him, because after many years during which total revenues for them hardly reached AU\$30 million, for the first time under his watch (and of course with the changes brought about by the VDS), in 2015 they hit AU\$200 million. I have always said that such matters depend on time and space and the grouping of people we had at the time when the new PNA Office was being discussed, and I think if we had delayed the decision by another two years, we would not have got agreement to set up the PNA Office and commercialise the administration of the VDS.

If there is one lesson I have learnt in development cooperation, it is how difficult it is to make everyone happy and satisfied, especially when it comes to such things as allocation and money. I have always laboured the point that the best agreements are those where everyone walks away equally unhappy, because it is just so difficult to make everyone happy. At least if everyone is willing to compromise and walk away with at least something, then that is better than nothing. I think, and I say this with great respect, that some officials have a perverse sense of economics and supply and demand, because often during the negotiations of the PAE they would want more — because that is only natural, I suppose; the more days you have, the more money you can make, or so it seems according to their logic. But in a fishery where stock shifts from year to year and within a year, that might not be the best approach, because you might end up with more days than you can sell, because the fish have moved. What you in fact end up with are days that are not worth anything. Further, this oversupply just depresses the value, so all lose. That is what the VDS is supposed to avoid and this was one of the initial problems where some members did not want to trade days. This has now all changed and the VDS is truly a market that has created its own demand, with trading now a key feature of the arrangement.

I have discussed the VDS and some of the political economy behind its early years to illustrate that it was not all rosy and that the path to its success was littered with difficulties and humps, threats and insults, but if we were to focus on the negativity we would not get anywhere. I took these things in my stride and always kept my mind on the bigger picture, and I did not want to leave any room for those who wanted us to fail, to say 'see, we told you so'. In fact, one of the headlines of the *Islands Business* magazine in 2012, which only two years earlier had designated the PNA as

'Organisation of the Year', carried a cover page headline stating 'Trouble in the PNA' (see 'Trouble in the PNA', *Islands Business*, May 2011). I saw all of these as a challenge and these hurdles made me even more determined for the PNA to succeed. There is no such thing as bad press!

Getting the Mechanics Right!

When setting up the new PNA Office in 2010, getting the mechanics of the VDS right was our highest priority, apart from finding out where the income would come from to pay for our salaries, with no real revenue streams. It was all so exciting to be starting on a new journey that, frankly, had an unknown destination. Glen Joseph, director of MIMRA and one of the most visionary fisheries leaders in the region, was a regular visitor to the office and he helped shape what we should be looking at and especially in trying to get the mechanics of the VDS right. We spent a lot of time on the whiteboard, and Maurice, who loved to explain how things should be organised, and put our thoughts down on the board, was our scribe. The VDS, up until that time, was not working. In fact, none of the members were actually selling days.

I should have mentioned earlier that Steve Dunn, as deputy director-general of the FFA, picked up the pieces in 2005 and 2006 after the VDS had lain dormant under the watch of his predecessor. Steve and I both applied for the deputy director-general position in 2004. I am glad I did not get it because he certainly was more experienced in change management and applied fisheries management than I was. Sometimes it can be said that these things happen for a reason. Steve subsequently recruited me as his legal counsel, as I had spent a short stint at the Pacific Islands Forum Secretariat as their legal adviser. We worked very well together in making some of the most important changes at the FFA. One of the persons we recruited to work with me was Manu Tupou-Roosen, who in 2018 became the first female director-general of the FFA. Steve saw the value of the VDS and really picked up on it. Steve and I went to PNG and Nauru to get the members to revive the VDS and start applying it. We recruited a fisheries management adviser when I was at the FFA (Steve Shanks from Australia) and we also implemented the decision of the members to have a dedicated PNA Officer at the FFA that they would pay for. Anton was recruited for the position as PNA coordinator. While we were at the FFA, I attribute the revitalisation of the VDS generally to Steve Dunn. He came from the Victorian Fisheries Authority in 2004 and he saw the enormous potential of the VDS and how the rights in the system could be used to strengthen the control the members have over the fishery. He then took it upon himself to elevate the establishment of the VDS through the annual meeting of the members and he ensured that he personally visited all the members to highlight the need for them to make the VDS fully operational. Although it was not until we transferred the management and administration of the VDS to the PNA Office and started to run it commercially that it was to have the efficacy expected of it, if it was not for the early efforts of people like Steve Dunn, we would not have gained traction from it, and perhaps we would not even have thought about it.

One of the features of a fisheries management regime, especially an international framework such as this, is that it is not often possible to get things right the first time, and this was the problem with the VDS. As we sat down with Glen and Maurice to map out how we would improve the VDS and make it work, we said that there should be no special allocations to the US and FSM Arrangement vessels, and that all vessels, regardless of their status, should be regulated under the VDS. As I have explained above, the US fleet were given special allocation off the top of the TAE which made them feel a sense of ownership, that they had a right and lien in the fishery and that they should be given special treatment. We also said that there should be no carrying forward of days from previous years. What had been happening before then was members were allowed to carry forward days that they did not use from previous years; days could be drawn from future and special allocations, and exemptions were the norm. Although it was never viewed as an issue at that time because none of the members then were selling days, from our point of view, having these flexible arrangements where days could be carried over from the previous year when they are unused would inflate a member's allocation and create difficulties in selling its days. The system was not creating any demand for days because there were excess days in the system. Further, it was a buyers' market, so the value was not being materialised. There were more days than were required by the vessels. There were also certain exemptions that were given to vessels, especially to those that fished in the archipelagic waters, which were an important geographic area for fishing vessels, especially those in PNG that were outside the VDS. Archipelagic waters are those waters found between the islands in Solomon Islands and PNG. They have what are known as archipelagic baselines drawn

across to join the islands. This means that they can claim a larger portion of ocean space as territorial waters than they would otherwise be able to if they were not archipelagic states. That was an inadvertent error on the part of Steve Shanks who was advising the members at that time when Sylvester Pokajam asked Steve if the archipelagic waters were exempted. Without thinking he nodded his head and with that gesture, one of the key fisheries management struggles of the WCPO tuna management was exacerbated. In actual fact the archipelagic waters were included in the initial design, allocations and thinking behind the development of the VDS, but it also goes to show how decisions can be impacted by moments of ignorance.

A VDS forum for members was conducted at the Majuro International Conference Centre in April 2010, where Maurice took the stage after the opening and made proposals guided by our drive and enthusiasm that there should be no special allocations, no carry forward of days and no exemptions. In order for the VDS to work there needs to be a clear and transparent process of setting days, allocating days, trading days and use of PAE by members. Most importantly, there has to be trading between the members, otherwise the days would be worthless if they cannot be traded. We were able to show members how, during the first couple of years of the VDS coming into effect while under the administration of the FFA, that with no trading, it opened up opportunities for 'creative' exemptions, leaving the true value of the fishery exposed. Further, it should be pointed out that even though members were not really selling days at that point in time in 2010, the administrator was already monitoring the utilisation of days by the members as if they were already implementing the VDS.

When the members met for the very first time as the new PNA in February 2010, and again at their annual meeting in April, we put forward a paper based upon the workshop outcomes, calling on the members to cease exemptions and imploring them to address some of the root causes that we viewed were undermining the VDS. These were that there should be:

- » No drawing on future periods.
- » No exemption of archipelagic waters, with allocations for the archipelagic waters to be drawn from the TAE.
- » No exemption of a fishing day, to be defined as any 'day out of port' at sea to be counted as a fishing day.
- » No special allocations to members.
- » No carry forwards of days.
- » No selling days beyond days allocated to a party as PAE or traded.
- » No moving of days from the archipelagic waters to an EEZ or vice versa.
- » No using days beyond allocation to any fleet, includes the Treaty on Fisheries with the US.

It was going to be necessary to fix some of these fundamental flaws and then have a hard limit on the VDS to create value. A hard limit meant setting a ceiling for the year, with no carry over or borrowing from the next year to cover the shortfall. If a member exhausted its allocation it would have to buy days. This was a necessary step towards creating the platform to trade and enhance the value of the VDS, otherwise it would just be business as usual. Incidentally, there was already provision for trading in Article 7 of the VDS text, but it was necessary to ensure that the VDS reflected all the fishing effort and that there be no exemptions and special allocations. Up until the time we took over the administration of the VDS in 2010, there were these exemptions, carry overs and special allocations that were going on. The old VDS text provided in Article 7 that any two members may agree to a transfer between each other of all or part of their PAE for a management year, provided that: i) a party may not agree to transfer to other members more than 100% of its PAE, and ii) a party may not agree to transfer any part of its PAE that has already been used at the time the request is made. The old VDS, however, offered no mechanism to trade, and because there were exemptions, and year to year transfers and special allocations, there was no impetus to trade as no one was limited.

It was not easy to try to explain these things and like rugby practice, we kept up the message at every meeting we had. In my view, Marshall Islands had one of the best fisheries ministers, the late Matt Zakhras, who was a regular visitor to the office. It was clear he shared our vision: that without hard limits we would not be able to get the VDS to give us

both the economic benefits that the PNA members wanted and the efficacy that we expected of it. Our message to the members was if they agreed to a TAE as a hard limit and also applied a hard limit to their individual PAE, market forces and the seasonality of the productivity of the respective EEZs would force members to trade, because vessels will exhaust their days and because they will need days, this will create the demand to trade. It was not complicated economics on supply and demand, but the structure of the VDS at that time was not conducive to creating such a market environment. As I have said, these initiatives take time to gestate but importantly, we learn about what works — and what doesn't — and continue to improve them. Back at the new PNA Office, we turned our entire focus on the VDS. We had two motivations, firstly to ensure that the VDS creates scarcity and in turn provide the economic opportunities that we had been talking about, but secondly I was concerned to make the VDS work because the PNA Office wanted to cost recover our expenses so that we would at least have a source of revenue.

Box 20: Getting the Mechanics Right

'While we were at the FFA, I attribute the revitalisation of the VDS generally to Steve Dunn. He came from the Victorian Fisheries Authority in 2004 and he saw the enormous potential of the VDS and how the rights in the system could be used to strengthen the control that the members have over the fishery. He then took it upon himself to elevate the establishment of the VDS, through the annual meeting of the members and he ensured that he personally visited all the members to highlight the need for them to make the VDS fully operational.'

'As we sat down with Glen and Maurice to map out how we would improve the VDS and make it work, we said that there should be no special allocations to the US and FSM Arrangement vessels, and that all vessels regardless of their status should be regulated under the VDS.'

'... even though PNA members have sovereign rights under the 1982 UN Convention on the Law of the Sea, which they had all embraced, these rights were exercised in a loose sense because there were no limits in place. ... The system was not creating any demand for days because there were excess days in the system.'

'We also said that there should be no carrying forward of days from previous years. What had been happening before then was members were allowed to carry forward days that they did not use from previous years ...'

'It was going to be necessary to fix some of these fundamental flaws and then have a hard limit on the VDS to create value. A hard limit meant setting a ceiling for the year, with no carry over or borrowing from the next year to cover the shortfall. If a member exhausted its allocation it would have to buy days.'

'This meant a shift away from the usual business of simply providing access and then licensing vessels for 12 months with no monitoring of the effort.'

'A management system of this nature would be both flexible in terms of allowing members to best meet their national interests, and capable of effectively controlling fishing effort for conservation and economic purposes.'

As my colleague Maurice said when he made one of his first presentations to the members on the need to adopt hard limits, there will be year to year as well as seasonal stock movements, giving rise to the need for a trading mechanism, which was the original premise for trading. As there had been no effective scheme developed up until the time, the PNA saw it as one of the priorities of the organisation — to establish and administer the trading of days between members. We ensured that the representatives of the members participated, and perhaps this also might have been one of the reasons why the VDS did not get the traction that it needed. There has to be a sense of ownership; a feeling by the right holders of the system that they are involved, and this too was one of the reasons we succeeded. Glen Joseph, who was a constant source of support and inspiration on what we could do to make the VDS work, shared the vision that we had to make the VDS work for them. So too was the support of the other PNA member

officials and ministers, despite differences in views. The first trades were from Palau to PNG. Palau had hardly sold a day since the start and PNG needed more days for industry demand and to build up the catch history whereby they felt they had received a poor deal on allocation. The original trade was at US\$1,250 per day, which at the time was considered fair, if not generous. Within a few months PNG was embarrassed with the value those days achieved and paid a significant top-up at the INFOFISH Pacific Tuna Forum in Palau, September 2011.

We set about proposing a system for the members to allow them to trade. Although the system has now become more complex with the emergence of a number of different markets, our initial forays into a world that was largely unknown to us set the pathway towards ensuring the success of the VDS. Originally, we proposed to the members that from the annual allocation of respective PAEs, each member shall deduct days required for domestic fleets and bilateral arrangements for the following year. Members could opt to use all their PAE. We suggested that members advise the PNA Office, as administrator of the VDS, of excess days that they envisage might have to be traded — by 1 October annually. From what we observed, subsequent trading really started when members applied hard limits towards the end of the year. We wanted the members to start treating the fishery as a business and to view the VDS as a commodity and therefore we envisaged that they would need to start undertaking some forward planning in their access arrangements. This meant a shift away from the usual business of simply providing access and then licensing vessels for 12 months with no monitoring of the effort. What we envisaged was that members would run their fisheries as a business, and institute forward projections on revenues by looking at the historical patterns of effort. We asked them to develop a process whereby they would advise the administrator of projected extra days to be used in their EEZ, by 1 October annually and where demand exceeds days available, the days shall be allocated pro rata between those members requiring extra days. We suggested that members would be able to offer or request additional days from the administrator at any time during the first six months of any year and the administrator shall ask members to make available additional days. It was also suggested that the purchase price of days by the PNA Office from members would be at a rate agreed by the members annually. In the end, the office never purchased days as such, but became a broker for days so as to avoid the impracticality of the buyer having to source funds from their treasury and the seller and buyer seeing funds assumed by their treasuries. So, the PNA Office received money from industry and credited respective accounts and apportioned these as agreed by the members themselves.

As part of the operationalisation of the VDS, our initial suggestion to the members was for them to purchase days from the PNA Office at an agreed rate. As a sign of how much things have changed from what we at that time viewed was a reasonable rate of return for a day, we said that where no rate is agreed by the members, the previous year's rate shall apply, and in the first year a default rate of US\$1,000 a day shall apply for purchase from members and a sale price of US\$1,100 to members, unless resolved otherwise. When I look back at these figures and what they are now, it is almost laughable. We would never have envisaged that days would be selling for mostly US\$10,000 to \$14,000 each, with traded days now worth US\$18,000 in some instances. More shocking was that the US fleet's contributions to access amounted to barely US\$300 per day up to then, and declared to not afford a cent more. The US government used military strategic aid to fund the extra US\$21 million a year under the treaty as aid, but not aid to support island development, but rather aid to the US tuna industry, which by then had overwhelming Taiwanese interests. I think when members look back, they certainly lost a lot of money in pre-VDS days, and our leaders were right to call for the resource owners to get a fairer share of the benefits from their resource.

We continued to push forward ideas to reshape the VDS and get some serious traction on it. Amongst the proposals that we made for members to go about the sale of their days included a suggestion for the PNA Office to retain an agreed number of days it trades for any purpose they, the members, agree upon. This may include to create scarcity, to hold back a provision for second half year adjustments between members, to onsell to conservation groups, or to be used by the PNA Office to charter boats to fish for commercial goals, or maybe for the PNA Office to trade regional or sub-regional days, including possible additional allocation to the US Treaty on Fisheries and the FSM Arrangement, which the PNA Office could do on commercial terms. Perhaps mistakenly, we also felt that we could probably (if given the opportunity) be able to generate more revenue for the members through a centralised system, whereby the office would act as the coordinating agency for the sale of days. There has always been that feeling that a centralised approach to the management and coordination of the sale of days would be better, as multizone access offered more value and took out the inherent seasonality and 'dead' days unused when fish moved. I think there

is a good case to be built around the idea of a central tender and auction house, which could perhaps yield higher economic returns because there would be none of the political and diplomatic trade-offs that are usually associated with the access negotiations. I think the collective approach to the development of the multilateral treaty with the US on fisheries and its administration provides a good precedent, but it might be argued that the political economy around the implementation of the VDS and the US Treaty are not the same and therefore such an approach would not work. There are probably two schools of thoughts on this approach but it is unlikely, given the huge economic success of the VDS and the high stakes involved for members, that they would appropriate an important revenue-generating activity to a third party, even if that entity was theirs. There is just too much risk now for them to even consider such options, but we had tried and we were keen to provide the members with as many options as possible to consider.

The Regional Trading of Days

In the early days of the office, we were fishing around for ideas, and anything that we could think of was considered and discussed on the whiteboard with Glen Joseph. We foresaw that there would be some demand for regional trading of days because we already had two regional arrangements, but we envisaged that the members might also be interested in pooling their days and run a regional pool for a different set of vessels. All these ideas were new and we were at that time just planting the seeds of these various initiatives in the minds of members on some form of regional trading of days. Although we knew that some members, such as PNG, were perceived as having no interest in regional days (that is, beyond the existing regional access arrangements at that time), the concept of regional days was an attractive option to enhance the economic opportunity for members, especially those with small and seasonal zones. At that time, PNG's EEZ was one of the most productive of all the members' EEZs, with about 50% of the PNA catch coming from its EEZ. Its EEZ was typically regarded as non-seasonal and with licensing increasingly linked to onshore processing, its EEZ was heavily fished, taking up to 25% of global skipjack. In fact, it may have been overfished as I remember telling Sylvester Pokajam that they will overfish their resources if they were not careful. I think my views have been vindicated, as the catch rates in PNG's waters, especially in the archipelagic waters, have been reduced considerably, largely as a result of the way the current VDS works compared to previously allowing very heavy fishing to take place there. The archipelagic waters are now outside the VDS and with both PNG- and Philippines-flagged vessels then given unlimited access to PNA EEZs and archipelagic waters it had a massive impact, yet little was landed to process in PNG. Previously, the larger vessels licensed to fish in PNG's waters for the domestic plants also sought FSM Arrangement licences to fish in the waters of the other PNA members. So, for a while I think the PNG EEZ was insulated from the seasonal variations that other zones suffered, especially from the effects of the El Niño oscillation, as the FSM Arrangement boats could chase fish and tranship regionally, also serving their owners' interests landing offshore. All the other EEZs are heavily affected by El Niño fluctuations and seasonal fishing patterns. We knew that historically, the members' respective zones had been able to attract access, but fishing effort in the individual zones has typically been significantly below the effort and price expected. This gave rise to the perception that some members were getting enhanced value for a day. This was the total fee paid for access divided by days actually used. It demonstrated that fleets were happy to pay more than the face value of a day if they had flexibility about where they fished. The problem that we saw was that most of the members were not able to trade days and participate in the fishery, which represented lost economic opportunity and arguably undermined their unity. The practice of carrying forward days not traded had further exacerbated the problem we had seen in the early days of the VDS.

We saw that trading was going to be one of the key elements to ensure the success of the VDS, but there could not be any trading unless there were hard limits, and until the members were able to fix some of what we came to term 'the fundamental problems' with the structure of the VDS. It was painstakingly slow at first, because it was taking some time to build up the supporting systems that we didn't have when we started out. The other fundamental thing was to stop members being played off against each other.

In April 2011, when we were in Tuvalu for the annual PNA meeting, I know that Maurice went to meet with the Tuvalu prime minister in the cabinet room in Vaiaku, the capital of Tuvalu. He told me that the prime minister had said 'Our fishery is worth nothing! What can we do?' Maurice said he held up two skipjack tuna and proposed that he was at

a cannery in Bangkok, with one tuna caught in the FSM and the other in Tuvalu, asking ‘which is which?’ ‘They are the same’, was the prime minister’s response. ‘Yes, so you accept they have the same value?’ asked Maurice. He told the prime minister that some of the fleets like the Koreans separately tell each PNA member that their own fishery is worth nothing! Maurice dug deeper and asked if the Koreans buy all the days in Tuvalu. Maurice told the prime minister that seasonally, in the last quarter of 2010, fishing on FADs in Tuvalu’s zone yielded the highest rate in PNA, which might raise suspicions about the number of actual days fished compared to those bought. Further, Maurice knew (from information that he had been told by the officials from Solomon Islands) that the Korean industry had been playing off Solomon Islands, claiming that PNG had that year sold them days cheaply, thus driving down the price. At the same time, it was known through the analysis of the catch log sheets, that Taiwanese fishing vessels had fished in the PNA members’ waters way beyond their purchased days, and with heavy fishing too it left Solomon’s with no spare days to sell, because those days had most likely already been fished elsewhere.

This and the benchmark debates discussed later came together at the PNA meeting in Samoa in July of 2011. George Ho’au, Solomon’s foreign affairs representative, bemoaned Taiwanese overfishing and Korean games. Maurice saw a simple solution, which by noon was in set in motion. Solomon Islands listed the Taiwanese and others involved in overfishing for consideration to be blacklisted for illegal, unregulated and unreported fishing (known as IUU in the industry) at the WCPFC TCC meeting due in August. In a flurry of activity, Solomon Islands acquired days from RMI and Nauru, and trades started at US\$8,000 to clear the IUU threat against the Taiwanese vessels for fishing beyond their allocated fishing days in Solomon Islands.

At the same meeting, the members agreed to a minimum price of US\$5,000 for all future foreign access to the VDS which they set as the benchmark for the value of the sale of days. So within a few weeks, after the Tuvalu prime minister had complained that they could only get US\$500 a day, they were facing the prospect of US\$5,000 a day, which has since gone to as high as US\$14,000. The prime minister (who was also fisheries minister) attended every future PNA meeting. Over the years, the minimum benchmark has risen to US\$8,000, but trading is rarely below US\$10,500 plus. It is ironic that during that time when the minimum benchmark was increased from US\$5,000 to US\$8,000 a day it was the Tuvalu-based New Zealand-funded adviser who opposed increases in the benchmark, even advocating a cut at one point. Ironically, in the same meeting, major traders advocated increases to push up fish prices and profits, and squeeze out inefficient effort.

The ‘Regional Day’ Concept – PNA Office Trading

We knew that trading was going to be critical to ensure the success of the VDS and then we tinkered with the idea of a ‘regional day’, meaning vessels could purchase a day that is contributed by the members to a pool that would be administered by the PNA Office. This was the precursor to the pooling system that a number of countries now have, but initially we had thought that this was also going to be one of the ways in which the PNA Office would be funded; through cost recovering the services rendered to the pool, or what we called at the time the ‘regional day’ concept. One did not have to be an economist to know that the members were selling an opportunity to harvest their tuna resources and therefore it had to be sold on their terms. This is what we wanted to create with the VDS, and no doubt with the increased focus on the VDS by having it administered on a commercial basis by the PNA Office, it was going to eventually have the efficacy desired of it. Up until the VDS, the members were competing against each other for vessels to fish in their EEZs, but what we saw was if we got the system right and if the VDS was going to work effectively for its members, vessels would instead be competing against each other.

We proposed to the members that they agree to a regional day to be administered by the PNA Office. We suggested that from their allocated PAE, each member must look after any domestic interests, and promote domestic aspirations as first priority. Their domestic and locally based foreign fishing vessels would get preferential and priority allocation on terms more favourable than those given to foreign fishing vessels. The PNA Office, as administrator, would buy from the members all the remaining available days after they have allocated their quotas to their domestic, locally based foreign fishing vessels and any bilateral access vessels where they considered they were due special consideration. The price per day would be premised on the principle that participating members are ‘no worse off’. At that time, we envisaged that the purchase from members would be modelled on a PAE of 29,288 days with 16,259

allocated to a pool. Increasing the pooled days would increase competition for the days and price, as it means less days available bilaterally, noting that days for domestic vessels would come out first from their PAE. The sign of how far things have changed so much in terms of the value since we started in 2010, we initially suggested that these days be purchased at a rate US\$1,000 a day in the model, but that the rate should be decided by participating members. We then suggested that US\$2,000 a day was more appropriate; however, we thought a price that high may not be acceptable to members looking for days to sell in their EEZ, with no prospect to make profit on them by selling them in the short term. These were just some of the fanciful ideas that we proposed at the time. It was hit and miss because it took time for things to really settle down. These were major transformations in the way people were used to doing business and therefore expecting them to change overnight was not going to be easy, but that was one of our challenges: slowly getting people to understand the need to change and, more importantly, to start applying these new initiatives to their fishing access arrangements.

In order to operationalise the regional day concept, we suggested that the members who wanted to participate in regional access would make all or part of their EEZs available to regional access, just as they did with the Treaty on Fisheries and the FSM Arrangement, but open for all fleets. Regional licences would be issued by the PNA Office as administrator. It was proposed that regional days would be traded in blocks of 50, a bit like mobile telephone prepaid credits, which are sold in different values from \$2, \$5, \$10 and \$25, and just like these plans, if not used by the expiry date, you lose them. Regional days would not be sold as individual days, but in blocks of 50, 100, 150, 200, 250 or 300 days. Regional days would be allocated first to domestic ventures such as boats supplying fish to a cannery where a member has equity. This could be within or outside the region. The terms of such allocation could be provided at a discount in an auction, or at pre-agreed rate. This could include FSM Arrangement vessels which may be from the pool which would in effect increase the PAE. All other days would be sold competitively twice a year in a Dutch auction to create scarcity and competition to maintain price at high levels. In respect of US vessels, which at the time had and still do have regional access, where they require extra days, they would now compete with other fleets for days but would have the rights to any additional areas under the Treaty on Fisheries. It was proposed that days would be sold to a boat, not to a fleet, and that there would be no transfers between boats which would be harder to track and easier to abuse. The days would expire at the end of the year. There would be no refunds, no extensions and no credits and the length adjustment factors that were in place at the time would be reviewed to ensure that members were not accommodating industry inefficiency. We envisaged that some DWFN boats would not be able to compete, and may have to look to domestic ventures or charters, or move out of region altogether. The thinking was, why should PNA members be burdened with old, inefficient capacity that could not compete?

When I reflect on the ideas that we put at the time and how far we have progressed, it puts a smile on my face, because seriously, we did not have a clue as to what we were doing, but we had a very strong conviction and desire to do well. Even harder was convincing PNA member country officials to make changes, not being businessmen, being risk adverse and knowing any changes would mean work! I remember the struggles I had as a kid in high school, trying to raise funds for my school fees, and the times when we had to sell small sardines that we would catch in our nets to sell at the village. I also think about what Les Clark told me once — to always remember the women who carry firewood on their backs and sell betel nut along the roadside in Honiara. It's for their sake we want to do a good job and therefore we must manage this fishery well, so that they can have a better life.

One of the ways in which we worked to ensure the success of the organisation and to support the implementation of the VDS was to reach out to those who have had a lot of experience. We were lucky as the establishment of the office also coincided with the retirement of Stan Crothers, deputy CEO of the Ministry of Fisheries in New Zealand. He was not only a very experienced fisheries manager, with a business background as a major dairy farmer, but he had helped put together New Zealand's quota management system for their domestic fisheries, which was one of the best in the world. He came to us with very strong credentials in rights-based fisheries management and so he was the logical person to approach. I had met him previously in 2004 when we were members of the FFA Reflector group, looking at setting a new strategic pathway for the FFA, so it was not difficult for me to reach out to him. More importantly — and this is why I have said that success and getting the mechanics right in regional arrangements can be dependent on a number of factors including luck — as luck would have it, Stan was a very strong supporter

Box 21: The ‘Regional Day’ Concept

‘Up until the VDS, the members were competing against each other for vessels to fish in their EEZs, but what we saw was if we got the system right and if the VDS was going to work effectively for its members, vessels would instead be competing against each other.’

‘We knew that trading was going to be critical to ensure the success of the VDS and then we tinkered with the idea of a “regional day”, meaning vessels could purchase a day that is contributed by the members to a pool that would be administered by the PNA Office.’

‘The PNA Office, as administrator, would buy from the members all the remaining available days after they have allocated their quotas to their domestic, locally based foreign fishing vessels and any bilateral access vessels where they considered they were due special consideration. The price per day would be premised on the principle that participating members are “no worse off”.’

‘Regional days would not be sold as individual days, but in blocks of 50, 100, 150, 200, 250, or 300 days. Regional days would firstly be allocated to domestic ventures such as boats supplying fish to a cannery where a member has equity. This could be within or outside the region.’

‘All other days would be sold competitively twice a year in a Dutch auction to create scarcity and competition to maintain price at high levels.’

‘It was proposed that days would be sold to a boat, not by fleet, so that there would be no transfers between boats which would be harder to track and easier to abuse. The days would expire at the end of the year. There would be no refunds, no extensions and no credits ...’

‘We envisaged that some DWFN boats would not be able to compete, and may have to look to domestic ventures or charters, or move out of region altogether. The thinking was, why should PNA members be burdened with old, inefficient capacity that could not compete?’

of the PNA members and especially of the direction that they wanted to take with the VDS. Even though he was not involved with any of their discussions, he observed what was going on from a distance and knew that from a rights-based fisheries management approach, it was the right thing to do.

I sent Stan an email to start the discussions around June 2010 in which I laid out my thoughts in detail on how the VDS might work (see Annexure 6). I have not gone into the technical aspects of the VDS here, but what I have tried to show is the struggle that we had to go through in order to make the VDS what it is today, a standout success in regional cooperative efforts. With the support of Stan Crothers and the enthusiasm of all the heads of the PNA members’ fisheries agencies, we slowly got the changes that we had sought. They agreed to hard limits, which was one of the most fundamental changes that we achieved, creating scarcity. The members also agreed to stop carry overs from the unused balances from the previous years, and to end forward borrowing and special allocations. Then in a sign of the confidence in our efforts and a desire to make things work, Nauru agreed to stop fishing later in 2010 when they reached their days limit. Even though it was towards the end of the year, the symbolism was not lost on us that the process was working. There was a serious commitment by some of the members to make the VDS work. The following year, in 2011, Solomon Islands also did the same when they reached their PAE before the middle of the year. They too decided to close off their EEZ when they reached the limits of their PAE. In fact, as described earlier, they purchased days to keep their books straight, so slowly, the ideas that we had planted were taking shape, although at that stage the three big players (PNG, FSM and Kiribati) weren’t in the game, but were in the periphery in terms of applying hard limits and also applying the same rules as everyone else.

One of the challenges that we faced early on was to get someone to do our models and run the PAEs and TAEs for us as administrator. We found the perfect candidate in Sanga’a Clark, a Kiribati national who at the time was doing her PhD in genetic modelling at Lincoln University in Christchurch, New Zealand. Sanga’a was a former officer in

Kiribati Fisheries, and had spent some time working on databases at the FFA Secretariat in the 1980s. As a Kiribati national she was just the right person to do the job of modelling for us. Ironically, she had applied to the SPC for a position there and had been turned down, so their loss was our gain. She has been instrumental in supporting the VDS and continues to work with the PNA Office as fisheries policy adviser; a role which allows her to have the best overview of the administration and implementation of the VDS. This is also testament to a message that I advocate in the management of the region's tuna resources, that our oceans should be managed to create self-reliance and job opportunities for our peoples. She eventually graduated with a PhD in genetic modelling and uses her skills and knowledge to support the VDS, which also highlights another theme of this story and that is that getting not just people, but the right people is a necessary ingredient for success.

I wish to highlight two particular instances to illustrate the challenges that I had to negotiate that almost brought the membership apart, and both of these related to the overshooting of the PAE. During a La Niña year, the waters in the western parts of the Pacific Islands become warmer and there is a heavy concentration of fishing around PNG, Solomon Islands and the FSM. In 2011 we had such a year, and Solomon Islands decided to close off its EEZ when it reached its ceiling and traded with Marshall Islands to allow fishing to continue, but PNG did not want to close its EEZ when it reached its PAE. I know from the meetings of the members that they felt that they were hard done by on the allocation of the PAEs historically and therefore those days that were fished over their PAEs were days that they were entitled to in any case. The PNG delegation consistently made those comments about the way they felt they should have a higher allocation of the PAE. Working for the PNA Office which was administrator, I was obliged to inform them that they were approaching 80% of their allocation and I sought advice from them as to what they intended to do once they reached their limits. I knew that they would react angrily to my email. I sent the email to PNG Fisheries and shut down my computer. Sure enough, when I opened my email the next day, I received a response with expletives from PNG Fisheries, including saying I had no right to ask them to stop and that they would withdraw from the PNA if that was how they were being treated. I took it in my stride, as it was part of the challenge of getting everyone's support, but as I have said before, it was also part of the regime-building process, the learning curve in the development of international fisheries law and learning to live within limits in a cooperative regional arrangement. As a result of that incident, Kiribati were left with excess days that they could have traded with PNG. Ironically, the overall TAE was not breached, but economic losses to the PNA economies resulted and foreign industry was the winner.

In 2012, the tables turned as the effects of a strong El Niño shifted the fishing to the eastern Pacific and so it was Kiribati's turn to do exactly what PNG did the previous year. I travelled to Kiribati in an effort to explain the need for

Box 22: Doubling the Value of the Fishery

'In July 2011, we had a workshop in Nadi, Fiji, to prepare proposals for the ministers who would be meeting in Apia, Samoa, in July. I remember all of the major players were present ... While we were there, the representatives from the Korean tuna industry were a bit of an inconvenience. At the Hexagon Hotel they would linger in the corridor outside the conference room, and pull each one of the ministers aside when they went out to the toilet, or for lunch. The ministers learnt later on, when they started to compare notes, how these Koreans were telling them different things about how much they were paying for fishing days, and so they came back to the meeting room one afternoon and said, "this is not on".'

'They agreed to recommend a minimum benchmark price of US\$5,000. They asked me to develop a draft, which they endorsed and recommended to ministers the following month in Apia. The minimum benchmark would only apply to foreign fishing vessels and not to domestic vessels. We prepared the text of the memorandum of understanding and gave it to ministers to sign. Thus, with just a stroke of the pen and some commitment on their part, the value of the fishery was doubled, from a top price of about US\$2,500 a day to US\$5,000 a day ... in some cases it amounted to an instant tenfold increase. They agreed that the increase would start from 1 January 2012. There are moments in history that define the course of events, and in my mind, this was one particularly momentous occasion that changed the course of the fishery forever.'

them to close off their EEZ and then to trade with those who had days to spare. It is easy to understand Kiribati's position when they felt so hard done by, especially after what PNG did to them by overshooting their PAE and not trading with them. I met with the fisheries minister and also with the secretary to government while they were still within their limits, but the PNA Office knew that there was strong fishing pressure in their EEZ and if they did not close it off when they reached their limits, they would overrun their PAE — and that is exactly what happened. Mrs Tessie Lambourne, their secretary to government, said that they were still learning the system and that was true, and members were also learning from each other as well! It was a challenging situation for me because the tuna industry was watching to see if the members would be committed to the limits of their PAEs. We also had the European Union closely scrutinising the members for what they claimed was lack of transparency, but also because they did not support the VDS. The Kiribati minister, like PNG, made the usual pitch about leaving the PNA, about how they would go on their own. I had heard all of that rhetoric before and was not flustered by it, because I knew at the time (and still believe) they might be big fishing countries in terms of their catch and EEZ, but they are not big enough to go it alone. They would not have the leverage that they think they have. They would struggle if they were to try to manage the fishery on their own.

Fisheries economists like to apply game theory, which is a branch of mathematics concerned with the analysis of strategies for dealing with competitive situations where the outcome of a participant's choice of action depends critically on the actions of other participants. When you apply game theory to the VDS arrangement, it was clear that some of the bigger countries like PNG felt that they were making sacrifices so that some of the other PNA members (who they probably felt weren't doing as much) got to enjoy the benefits. The target of their gripe was often the Marshall Islands whose EEZ was not as productive and whose catch history was low, but they had more days than PNG felt they were entitled to. Although they did not specifically mention the Marshall Islands, I knew who they implying when they complained about their PAE. This was often the way they expressed themselves, especially when it came to the determination of the PAEs. Some members were of course free-riders, not willing to sacrifice anything, but just happy to get the financial rewards from the limits that others were applying to their EEZs by overfishing their PAE and not trading. All of this was fine with me, as long as there was a willingness on the part of the members to adhere to the system despite these challenges, and that was exactly my message to them. I kept saying there was only one trajectory and that was things can only get better, but there will be hurdles that they will have to overcome.

The other challenge that we had to navigate, which took a while to smooth out, was the different way in which PNG and Kiribati applied some creativity in applying the rules relating to the counting of non-fishing days. This was a perennial problem that kept coming up at every meeting and workshop. The PNA Office and the other PNA members counted the days and non-fishing days differently from the way they accounted for them. The result was disagreements between on the one side ourselves as administrator and those members who applied the rules as they were intended and on the other, those who did not. It was difficult and often we would run into very complex negotiations. As administrator, we applied the rule that every day at sea was a fishing day, unless for some reason the vessel was not able to make a set, such as bad weather, engine breakdown or because they had to repair their net. In the early days, PNG and Kiribati counted the days differently by applying their own rules, and so this caused quite a challenge for the administrator when reporting on the days fished. What they did was to grant more discounts than were actually allowed under the VDS so that they could have more days. In some ways, the EU imposition of a warning under their IUU regulations through what is known 'yellow carding' to PNG and Kiribati helped to ensure better compliance with the VDS, but that was only one of the factors that led to improvements in compliance. The EU is the largest market for tuna and therefore they are able to use their market to impose conditions to address IUU fishing. When it issues a yellow card, that country is required to institute reforms to its fisheries regulations and compliance arrangements. If it does not undertake adequate reforms to the satisfaction of the EU, they can issue a 'red card', which would effectively prohibit the importation of tuna products from that country into the EU. For PNG, whose major export market for tuna was the EU, it was critical that they improve their systems and also conform to the agreed definitions of the non-fishing days under the VDS, because if the EU came to know what they were doing, there would be severe economic consequences for their tuna exports. At the PNA Office we understood the complexity of transitioning to the new system and also the fact that we were dealing with sovereign states that had the power and right to do what they wanted. The lesson I have taken away from all of this is that when change

is required, there is a gestation period and you have to give governments time to adjust their policies. Each member country has different national aspirations and their government officials need time to gain confidence and appreciate the changes. The most successful frameworks are those that give them latitude to do what they want within an arrangement that sets overarching limits.

When people discuss the success of the VDS, most focus on the amount of money PNA members have been making. When we started out, the total value of access fees the members were getting was only US\$60 million per annum. By the time I stood down as CEO, we were at US\$470 million. So how did we get there? Well, there were no economic models and certainly at that time we did not have a formal economic adviser who told the members how to extract benefits. The concept of hard limits was agreed to in July 2011 when PNA members attended a meeting in Apia, Samoa, after they got tired of being played around with by DWFNs. The first full year when the members applied the hard limits was not until 2012, which was when they started to see the increase that they are now enjoying.

Earlier in 2011, when we had the strategic planning workshop at Gizo, Solomon Islands, Phil Roberts (who ironically was an industry representative from Solomon Islands) suggested that members should have a minimum benchmark of US\$5,000 a day. No one offered any support for the idea except Beero Tioti, the director of fisheries in Kiribati at that time. He said that members needed to have a minimum benchmark so that no one would be worse off and to stop the vessel operators from speculating on the value of the fishing day. If I am not mistaken, the value of a day at that time was US\$2,500, which was the maximum being paid in the most productive zones.

In July 2011, we had a workshop in Nadi, Fiji, to prepare proposals for the ministers who would be meeting in Apia, Samoa, in July. I remember all of the major players were present: Sylvester Pokajam of PNG, Glen Joseph of Marshall Islands, Sylvester Diake of Solomon Islands and Patrick Mackenzie of the FSM, who took over from the late Bernard Thoulag. While we were there, the representatives from the Korean tuna industry were a bit of an inconvenience. At the Hexagon Hotel they would linger in the corridor outside the conference room, and pull each one of the officials aside when they went out to the toilet, or for lunch. The officials learnt later on, when they started to compare notes, how these Koreans were telling them different things about how much they were paying for fishing days, and so they came back to the meeting room one afternoon and said, 'this is not on'. They couldn't allow these Koreans and the fishing industry to continue to treat them like that and give them the run around. So they agreed then and there to prepare a memorandum of understanding in which a minimum benchmark price for a day would be set by the ministers at their next meeting and that this would be renewed each year. They agreed to recommend a minimum benchmark price of US\$5,000. They asked me to develop a draft, which they endorsed and recommended to ministers later that month in Apia. The minimum benchmark would only apply to foreign fishing vessels and not to domestic vessels. We prepared the text of the memorandum of understanding and gave it to ministers to sign. Thus, with just a stroke of the pen and some commitment on their part, the value of the fishery was doubled, from a top price of about US\$2,500 a day to US\$5,000 a day. As I said earlier, in some cases it amounted to an instant tenfold increase. They agreed that the increase would start from 1 January 2012. There are moments in history that define the course of events, and in my mind, this was one particularly momentous occasion that changed the course of the fishery forever. It signalled for me two things. Firstly, they had now turned the tables and for once, Pacific tuna-producing nations were now sellers of days and price setters. No longer were they price takers and no longer did they have to negotiate with fishing companies. It also opened up other possibilities, because they were now in business: their fishery was a business and the skill sets they would need to engage in a commercial sense were going to be different from the usual negotiations that they were used to. One did not expect that these changes would occur overnight, but the foundations had shifted and the door to pursuing other opportunities had opened. Secondly, their rights to the fishery were more secure, in the sense that there was greater clarity in ownership and control of their fishing rights, and that vessels had to buy days first in order to fish. Once again, this did not happen overnight, as there was resistance from some of their partners — the EU in particular, having fished in Kiribati, left the fishery because of this — but the foundation of regional trading was being set in stone. Over the same period of time between 2010 and 2011, there were ongoing negotiations on a comprehensive partnership agreement between the Pacific Island countries and the EU known as the EU-EPA (Economic Partnership Agreement) negotiations. One of the sticking points in the negotiations was the refusal of the PNA members to allow the EU to have a say in the

setting of the TAE and PAE and also in the management of the tuna in their EEZs. This was something that the EU had insisted upon during the negotiations. Regional unity was tested because some of the non-PNA members were happy to make those trade-offs. In the end, after quite a lot of discussions amongst the Pacific Islands countries led by the PNA members, regional unity was cemented by the success of the VDS, which saw the region declare 10 red lines in fisheries issues in the EU-EPA negotiations, resulting in the EU suspending the negotiations. The success of fisheries management arrangements and the effectiveness of those arrangements to limit catch and/or effort and then to increase the economic returns comes in phases, and is dependent on time and space and as I have always said, these things do not just happen. There has to be a coming together of a number of different factors and who knows, if the fishing company representatives had not lurked in the corridors of the Hexagon Hotel playing their games, the decision on the minimum benchmark may not have been taken.

In 2014, I decided after five years of administering the VDS, that we should have an independent review of its effectiveness. In a gesture of goodwill towards my former colleagues at the FFA Secretariat, I approached them and asked if they were interested in facilitating the independent review so that we could keep it at arm's length. They responded enthusiastically to my request, for which I am grateful for, because after all we were serving the same member countries. They recruited Professor Ragnar Arnason, of the University of Iceland, and perhaps one of the most prominent experts on rights-based fisheries, to undertake the review. There were of course technical issues for which they recommended changes to improve the VDS, but more broadly, he was very positive on the strategic strengths and changes that the VDS had brought about. (See Annexure 7.)

There is no doubt that the purse seine VDS has been one of the standout successes of Pacific regionalism, but it took the energy and drive of many people to reshape it, from those who started, to Les Clark, Joel Opnai and John Hampton, to people like Steve Dunn who revived it at the FFA, and Maurice, whose message of hard limits changed the way the members approached it. There were, of course, other things that happened in the periphery that also impacted on the effectiveness of the VDS, the main one being the 2010 closure of the high seas to purse seine vessels licensed by the members to fish in their EEZs. If the high seas had remained opened, it is doubtful that the purse seine VDS would have had the financial impact that it now has, nor the PNA members the impact on the fishery, but as I have argued, success has to be envisioned and in fisheries, it is about securing the rights to the fisheries.

We have done that successfully with the purse seine fishery, which is arguably wrapped up with the issue of the control that the members have over the fishery. The same cannot be said about the longline fishery in terms of the control over that fishery, although the work going on with the longline fishery also represents a necessary learning curve and a journey of reformation. The place to start was to take control of the fishery through zone-based measures, namely through the longline VDS.

The Longline VDS

Operating alongside the purse seine fishery is the longline fishery, which targets adult tuna that swim at greater depths than are generally caught in the purse seine fishery. The longline VDS is a work in progress where members have taken the initiative to restructure the fishery by instituting zone-based measures for the EEZs of the PNA members. For me, the importance of the longline VDS lies in terms of the collaborative effort amongst the PNA members in reshaping this important fishery. While the revenues collected from the longline fishery are nowhere near the values that we see in the purse seine fishery, it is nonetheless a high value fishery in terms of the dollars that are paid per kilogram for bigeye, yellowfin and albacore in the Japanese market, which is the main destination for longline-caught tuna to be used in restaurants as sashimi and sushi. The longline fishery is important to a number of PNA members that have domestically based longline fishing industries and associated jobs at sea and onshore. It has been largely unregulated, however, because most of the fishing takes place in the high seas by DWFNs and therefore, compared with the purse seine fishery, the level of compliance with conservation and management measures by longline fleets and the supply of data from observers is generally poor. The level of observer coverage is 5%, and tends to target vessels of lesser concern, whereas in the purse seine fishery it is 100% for purse seine vessels licensed by PNA members in the EEZs. These are some of the challenges that the members are going to face in terms of transforming the longline fishery, which generally has a different political economy to the purse seine fishery, but I am going to put

my reputation on the line and state that within the next 10 years, the members should have much greater control of the rights to the longline fishery too. This is not least due to growing concerns over the issues of sustainability, poor data, illegal activities and other illicit trades typically commonplace in the high seas, where management is so hard to achieve without in-zone leverage as a term of access. The following section offers some backdrop to the rationale of the longline VDS and describes some of the issues facing its implementation.

The Raison d’Être for the Longline VDS

The *raison d’être* for the longline VDS may be traced to the effect of WCPFC Measure 2008-01, which, while applying restrictions in the purse seine fishery through FAD closures to reduce bigeye mortality, also applied bigeye catch limits by flag to DWFNs (as shown in Table 4 below). This measure effectively allocated fishing opportunities for bigeye to the major DWFNs in a way that disadvantaged coastal states, especially the PNA members, because it allowed DWFNs to choose where they wanted to fish and to decide when they fished in the members’ waters, thus disadvantaging the PNA members. As can be seen from Table 4 below, the largest share of the bigeye catch is allocated mostly to fishing states, while the PNA members and other Pacific Island countries and territories only have a limit of 2,000 metric tonnes, even though there is an exemption for small island developing states (SIDS). In other words, a small island developing state would not get penalised if it exceeded its 2,000 metric tonnes catch limit. The inequity of the measure may be seen from Table 5, which shows where most of the bigeye tuna is caught by EEZ. Korea, Chinese Taipei and China, which have a very high allocation under the measure, don’t catch any bigeye tuna in their EEZs, yet their share of the allocation is higher than the PNA members where a good proportion of the longline bigeye tuna catch comes from. From the perspective of the PNA, this is unfair and so as long as the bigeye tuna catch limit is flag based, there will always have to be exemptions for small island developing states, which unfortunately can also undermine the measure. The longline VDS is aimed at reforming this fishery and eventually replacing the flag-based bigeye catch limits with the longline VDS.

One of the features of this fishery is the chartering of vessels from DWFNs to the Pacific Island countries so that they can fish beyond their catch limits, as these boats, although they were based out of the islands, were exporting their catch back to the DWFNs. The use of charters to island nations meant excess catch could be hidden, which was causing a problem in the attribution of the catch to the DWFNs. In other words, some of the DWFNs were circumventing their catch limits by having their flagged vessels chartered to the island countries, which although not illegal, was undermining the effectiveness of the catch limits for bigeye tuna. There were, however, mutual benefits, as the only way in which the Pacific Island countries could get involved in the longline fishery was through charter arrangements with DWFNs. In hindsight, the measure did little to protect mature bigeye targeted by longliners. However, purse seine FAD measures and other initiatives contributed to bringing bigeye tuna back into the green, as has been reported in some of the latest stock assessment reports by the scientific committee of the WCPFC (see Summary Report of the Fifteenth Regular Session of the Scientific Committee, 12–20 August, Pohnpei, FSM (WCPFC 2019b)). Perhaps there were ways in which this measure could have been better framed but at the time, the focus of the members was on the purse seine fishery and so not much thought was given to the structure of the management framework for the tropical longline tuna fishery, a fishery where the PNA members just do not have the leverage. But what the restructuring of the longline fishery offers under the VDS is an opportunity to strengthen measures through a more integrated and coordinated approach to the longline fishery overall. The members will have to develop strong alliances with Japan in particular, as it has the largest market for longline caught fish. On the positive side, Japan is increasingly seeing common interests; after all, it is also an island nation.

The core of the WCPFC CMM 2008-01 was a 30% reduction in overall fishing mortality to ensure that the bigeye stocks would be able to recover. This was to be achieved through the longline catch limits, the three-month FAD closure and also through the purse seine limits applied through the purse seine VDS. In layman’s terms, a 30% reduction in fishing mortality meant that the entire fleet operating in the WCPO would have to reduce the number of fish that they take out of the water by 30% in order to bring bigeye tuna up to levels where they would not be overexploited. It is easier to apply these limits in a national fishery, but there are complexities when this is required across the migratory range of the stocks, which includes EEZs and the high seas. There were two major risks to the PNA members from this measure. The first was the imposition of a conservation burden on the members, because

the WCPFC measure allowed the major fleets to take their catch limits from wherever they choose. This came with the risk that as the WCPFC 30% catch cuts are applied to the fishery, DWFNs would protect or even grow their domestic catches and substantially reduce their fishing in the members' waters in a way that would transfer a disproportionate burden of bigeye conservation to the members. This is a perverse way of looking at this but what this means is that because the allocation of catch limits under the measure are flag based, the DWFNs can decide to take those cuts by not fishing in the EEZs of the PNA members, thereby depriving them of revenues from access agreements. The reduction in revenue from access to the EEZs is what is meant as the disproportionate burden being borne by the small island states in the way the measure can be implemented.

Table 4: WCPFC Longline Bigeye Catch Limits

Commission Members, Cooperating Non-Members and Participating Territories (CCMs)	Conservation and Management Measures
	2005-01 2008-01
American Samoa	2,000
Australia	2,000
Belize	2,000
China	9,314
Chinese Taipei	16,125
Cook Islands	2,000
European Community	2,000
FSM	2,000
Fiji	2,000
France (French Polynesia)	2,000
France (New Caledonia)	2,000
Indonesia	8,413
Japan	28,100
Kiribati	2,000
Marshall Islands	2,000
Nauru	2,000
New Zealand	2,000
Niue	2,000
Palau	2,000
Papua New Guinea	2,000
Philippines	2,000
Republic of Korea	21,449
Samoa	2,000
Solomon Islands	2,000
Tonga	2,000
USA	4,181
Vanuatu	2,000
Total	129,582

Source: WCPFC-TCC4-2008/31

Note: Values for China, Indonesia and USA are in green to reflect catch limit set at 2004 catch levels.

Table 5 below shows how annual bigeye catches in the members' zones have been declining, despite growth in domestic fleets, even before the WCPFC longline cuts, while catches in other zones have been increasing. In particular, Japan had substantially increased its domestic catch while cutting its distant water catch under the WCPFC limit; and the Kiribati zone catch, which has no significant domestic fishery, and represents trends in distant water fleets, has substantially declined. The cut in Japan's distant water fishing effort in reality was driven by high fuel prices, domestic fishermen retiring, difficulty in recruiting foreign crews after 9/11 and attractive decommissioning incentives being offered by the Japanese government.

Table 5: Annual Longline Catches by Zone

Annual Longline Bigeye Catches by Zones							
	2001	2002	2003	2004	2005	2006	2007
PNA	16,262	13,771	11,985	12,949	9,611	13,185	12,935
Kiribati	7,536	7,758	3,535	6,143	2,796	3,701	4,008
Japan	5,587	6,565	8,402	8,523	9,179	12,083	11,305
USA	1,374	2,440	1,610	2,059	2,142	2,296	2,457
Indonesia	672	732	644	8,492	7,831	10,488	10,503

Source: Secretariat of the Pacific Community, Noumea, 2008

As shown in Table 5, it was clear that the exemption for small island developing states from the 2,000-tonne limit (which is what they were allowed to catch in their EEZs) was being overlooked and undermined by the DWFNs, because the DWFNs could catch their limits in the PNA members' EEZs, whereas the PNA members were theoretically only allowed to catch 2,000 in their own waters. The WCPFC longline limits, however, provided for an exemption for small island developing states so that they could, in effect if they had the capacity, be allowed to catch more than 2,000 metric tonnes of bigeye tuna in their EEZs. In a twist of irony, some members had their longline development projects obstructed by the DWFNs on the grounds that their catch was unilaterally limited to 2,000 tonnes, and there was pressure from some other WCPFC members and the WCPFC Scientific Committee to have the exemption removed. If the exemption were removed, the members would be limited to a catch of 2,000 tonnes of bigeye in their own waters, while other major fleets would be entitled by the WCPFC subject to licensing, to take more than 2,000 tonnes in the waters of any member. This is a position that PNA and FFA members have always said they would not accept as it is a limitation on their sovereign rights. Meanwhile, the US and EU (who are not on Table 5) increased their longline catch, and increased their purse seine fishing effort in the high seas with impunity. The idea to develop a longline VDS, because of the flaws in the way in which the WCPFC Measure 2008-01 was designed, did not just happen. Once again, it took my friend and mentor, Les Clark (who, as I have said, would be loath to read this as he is such a humble person and would not want people to know), to see the ramifications of the measure and to come up with a possible response. I remember how he initiated the discussions to develop a longline VDS when I was still at the FFA Secretariat by getting a small group of representatives from the members to develop some options. These were Raikon Tumoia of Kiribati, Ludwig Kumoru of PNG (who eventually took over from me as the CEO), Joseph Atkin from Solomon Islands, Samisoni Sauni from Tuvalu (who at the time was working at the FFA Secretariat as a fisheries management adviser) and Les Clark. The small group explored various options, and compared various longline management controls, namely capacity, effort and catch. Annexure 8 shows in more detail the various alternative management options that the working group evaluated against a number of objectives of the longline VDS. These were:

- » setting the value of access
- » the promotion of domestic development
- » exercising fishing rights
- » establishing equitable share
- » ensuring the effectiveness of conservation measures
- » the feasibility/complexity of implementation.

The major conclusion of the working group, based on the analysis of the options, was that a longline VDS was feasible and would address the members' economic and development goals but was generally likely to be less effective than catch limits in terms of bigeye conservation effectiveness. However, catch limits were not likely to be feasible at that point in time, since they would require high levels of monitoring arrangements such as landing and monitoring of all catch after each trip in a single zone, or 100% observer coverage.

From this perspective, a simple form of a longline VDS was perceived as a first step by members to secure control of the fishery in the same way as the purse seine fishery, which would in time give members the power to largely domesticate the tropical longline fishery in their waters. With largely domestic vessels, it would be feasible to monitor catches when they are offloaded after each trip. In addition, if members were able to secure effective limits on high seas effort, they would be able to enforce requirements on distant water vessels to come to port for inspection at the start and end of each period of fishing in an EEZ or carry an observer without the risk of significant effort being diverted into the high seas to avoid such requirements. Further high seas transshipping of catches is unrestricted and some domestic licensed fleets also allow such practices. This was an analytical overview of the situation but also highlighted the challenge that members were going to face in reforming the basic management structure of the tropical longline fishery. There were critics of the approach, and in fact later on when the FFA Secretariat promoted catch limits for the southern albacore tuna, there was some commentary from certain quarters that the longline VDS was a distraction and would not have the efficacy desired of it to manage the longline fishery. This was later proven wrong and catch-based limits for the southern albacore fishery have never been able to get off from the starting blocks.

Against this backdrop, it was not difficult to justify the development of the longline VDS. The proposed rationale for the longline VDS was taken originally from the report of the small working group who recommended that members adopt a zone-based system of fishing effort limits to manage tropical longlining in their waters for reasons that:

- a) members have always sought zone-based limits in the WCPFC and have opposed flag-based limits, because flag-based limits do not adequately reflect their sovereign rights.
- b) members only agreed to the adoption of flag-based longline bigeye catch limits in WCPFC CMM 2005-01 as an interim arrangement because of the urgent need to apply some longline limits to deter a large transfer of longline effort from other oceans to the WCPO, and the lack of time to develop a zone-based system of limits.
- c) members only agreed to the flag-based longline bigeye catch limits with the expectation that these would be effectively verified and monitored, including by a catch documentation scheme. In the event, there has been no effective verification or monitoring of longline bigeye catch limits. No major longline state has provided the operational catch and effort data which they were obliged to provide and which was essential for verification, and no progress had been made on a catch documentation scheme. This meant that the flag-based bigeye catch limits were an ineffective sham.
- d) there had also been a lack of respect for the SIDS exemption that was part of the package agreed by the members on flag-based limits in 2005. Without the SIDS exemption, the members would have been limited to 2,000 tonnes catch of bigeye in their own waters, while major flag fleets would have been allowed by the WCPFC to take greater catches than this in the members' waters, subject to licensing approval. The members have always made it clear that they would never agree to such an outcome. However, there had been systematic efforts by the WCPFC Secretariat and one WCPFC member, namely the US, to remove the SIDS exemption without proposing an alternative form of recognition of sovereign rights of members to develop their domestic longline fleets, even though they had demanded an exemption from the cuts in the limits for its own domestic fleets.
- e) in addition, the flag-based limits were transferring a disproportionate burden of bigeye conservation to the members and the purse seine fishery because the major fleets were cutting back their effort in their waters disproportionately, and in the case of Japan, seemed to be increasing catches in their own waters as domestic effort rose while cutting catches disproportionately in the members' waters and high seas.

The members considered these issues in plenary and agreed that the only way forward was to develop a longline VDS. A draft longline VDS text was prepared by Les Clark and his team and put before the members. Like many of these initiatives in the region, we should not underestimate firstly the role that ownership has in ensuring the success of the initiatives and so from the outset, there was a strong sense of participation and involvement by the members.

Les Clark and Samisoni provided the coordination, but Raikon and Ludwig provided ideas about ensuring that the longline VDS would be designed and applied in a way that would avoid some of the implementation problems of the purse seine VDS to gain efficiency and efficacy. There was one particular person who was essential in pushing the longline VDS and that was Eugene Pangelinan of the FSM. I had mentioned before that Eugene was (as with most of his colleagues from his country) invariably risk averse, but the FSM had invested in the longline fishery, had a domestic longline fishery and they could see the value of restructuring the tropical tuna fishery. After the PNA Office was established, a technical working group was established to further develop the longline VDS text and Eugene was given the task of chairing this group, which he did with a fair degree of vigour. It is always so nice to see country ownership of these initiatives and to correspond with them on how we can work together and not just be getting instructions from the secretariats. No one knows the issues and challenges better than the countries themselves and so when they are given the latitude to take the reins of an initiative and drive it, I have seen that the outcomes are positive. I don't think there were any pretensions about the challenges of the longline VDS and I would hear comments that it would not be as successful as the purse seine VDS. Of course we knew it would not have the leverage and economic outcomes that we were seeing with the purse seine VDS because it was a different fishery. The members did not have the same

Box 23: The Longline VDS

'While the revenues collected from the longline fishery are nowhere near the values that we see in the purse seine fishery, it is nonetheless a high value fishery ... It has been largely unregulated, however, because most of the fishing takes place in the high seas by DWFNs and therefore compared with the purse seine fishery, the level of compliance with conservation and management measures by longline fleets and the data from observers is generally poor. The level of observer coverage is 5% ...'

'... what the restructuring of the longline fishery offers under the VDS is an opportunity to strengthen measures through a more integrated and coordinated approach to the longline fishery overall.'

'I remember how [Les Clark] initiated the discussions to develop a longline VDS when I was still at the FFA Secretariat by getting a small group of representatives from the members to develop some options. These were Raikon Tumo of Kiribati, Ludwig Kumoru of PNG ... Joseph Atkin from Solomon Islands, Samisoni Sauni from Tuvalu ... and Les Clark. The small group explored various options, and compared various longline management controls, namely capacity, effort and catch.'

'... a simple form of a longline VDS was perceived as a first step by members to secure control of the fishery in the same way as the purse seine fishery, which would in time give members the power to largely domesticate the tropical longline fishery in their waters.'

'With largely domestic vessels, it would be feasible to monitor catches when they are offloaded after each trip. In addition, if members were able to secure effective limits on high seas effort, they would be able to enforce requirements on distant water vessels to come to port for inspection at the start and end of each period of fishing in an EEZ or carry an observer without the risk of significant effort being diverted into the high seas to avoid such requirements.'

'There was one particular person who was essential in pushing the longline VDS and that was Eugene Pangelinan of the FSM ... the FSM had invested in the longline fishery, had a domestic longline fishery and they could see the value of restructuring the tropical tuna fishery.'

'Of course we knew [the longline VDS] would not have the leverage and economic outcomes that we were seeing with the purse seine VDS because it was a different fishery. The members did not have the same leverage that they had with purse seine vessels because much of the effort was on the high seas, and these longline fishing boats could simply fish economically on the high seas without even coming to the EEZ. The dynamics were totally different and this was not lost on Eugene and members of the technical working group. This was going to be part of a long-haul process.'

leverage that they had with purse seine vessels because much of the tropical effort was on the high seas, and these longline fishing boats could simply fish economically on the high seas without even coming to the EEZ. The dynamics were totally different and this was not lost on Eugene and members of the technical working group. This was going to be part of a long-haul process. I kept emphasising that this was going to be a 10-year reform process and some of us may not even be around to see the results of these reforms and the restructuring program, but it was important to lay the foundations and plant the seeds for the future. I know certain consultants who have worked with us often get frustrated, because they feel that the members were not making hard enough decisions on the longline VDS, but I said to them that the process of reform is slow. If you tighten the screws too much, the vessels will leave, so there are other things around the fishery that have to be addressed, such as the ability of the vessels to simply fish on the seas, tranship their catch on the seas, and fish largely unmonitored. These were operational things that members had to work with other FFA countries and WCPFC to address, because for a long time, the longline fishers were the bad guys. There was a paucity of data, especially at the operational level, which made it very difficult to fully understand and manage the fishery properly and exacerbated the difficulties to carry out effective stock assessment, and the fishery was subject to a very low level of monitoring. These were issues around which the proposed management framework for the tropical longline fishery had to be addressed.

Operationalising the Longline VDS

The longline VDS operates on the same principles as the purse seine VDS. The members set a TAE and then allocate the PAE using the same formulae based on catch history and biomass of a member state's EEZ. Generally, the allocation process has not invited much debate (as with the allocation of the PAE in the purse seine VDS), the reason being that the financial returns in the longline fishery are nowhere near the scale of those in the purse seine fishery. Table 6 gives an indication of the TAE and PAEs for the period between 2019 and 2021. It is clear that the pattern of allocation in the tropical longline fishery also differs markedly from purse seine, with Solomon Islands, the FSM and Kiribati having the largest share of the days, with many allocations better classed as aspirational. The implementation of the longline VDS represents work in progress and while it is slow, it is not necessarily surprising, given the different leverage that the members have over the fishery as compared with the purse seine fishery. The longline VDS became fully operational on 1 January 2017 and is subscribed to by all the members. Initially, Kiribati chose to stay out of the longline VDS and apply a catch-based system to their longline fishery. They encountered problems developing a catch monitoring scheme that would enable them to keep track of the catch in their EEZ. From the perspective of regional cooperative effort, the development of the longline VDS was therefore not straightforward, with Kiribati deciding (as is usually the case with most of the regional initiatives) to do something else. However, they participated in all the meetings of the members on the determination of the TAE and the PAE, until in July 2018 they decided they would abandon their efforts to develop a catch-based system and got with the rest of the membership and applied the longline VDS to the tropical longline fishery.

Table 6: Longline VDS PAEs and TAE for 2019–21

Party	PAEs
FSM	30,928
Kiribati	41,597
Marshall Islands	13,730
Nauru	5,000
PNG	20,000
Palau	12,035
Solomon Islands	29,342
Tokelau	5,000
Tuvalu	7,500
Total (TAE)	165,132

Source: PNA Office, 2018

Not surprisingly, the implementation of the longline VDS has been uneven amongst the members in terms of the progress that they have made to give effect to all aspects of the scheme. Solomon Islands has been the most progressive in terms of implementing the longline VDS and has started to charge longline vessels a licence fee based on the number of days that the vessels fish in its EEZ. This has seen some losses with effort moving out. I don't expect that all the members will implement the longline VDS at the same pace and some patience will be needed to get all the members on board in respect of getting them to fully implement it. There is no doubt, though, that broadly there are strategic advantages that the longline VDS will bring to the cooperative efforts of the members to reshape the fishery. The scheme establishes a regulatory framework giving members greater control over how longline fishing is carried out in the tropical longline fishery and also provides the underpinning framework that will allow them to develop measures that they can use to promote compatible measures on the high seas through the WCPFC. A key feature of this is now that they have clear measures in place, high seas measures must not undermine them. More importantly, it gives the members a framework to ensure collective effort to promote the sustainable management of longline tuna resources. They can leverage increased fees through the longline VDS, and use it to improve the monitoring of the fishery, especially through electronic monitoring and increased observer coverage. Solomon Islands launched video monitoring to manage the fishery. Currently FSM is championing electronic monitoring with non-government organisation backing.

There has been differential implementation of the longline VDS and as evidence of the lower leverage that PNA members have over the tropical tuna longline fishery, the strict application of Article 7.2 of the longline VDS text — requiring longline vessels to register on the PNA VDS — led to a drop in the number of fishing permits sought and days required in 2017. This indicates that to support the implementation of the scheme, improved monitoring and coordination amongst the members and the administrator is necessary. It is argued that there is no need to panic, nor is there any need to infer that the scheme is not working, because in the grand scheme of things, the longline VDS will, over time, have the desired efficacy expected of it, once there is broad policy support for it in the WCPFC if this can be secured. This will require careful negotiations with the broader membership of the WCPFC.

Box 24: More on the Longline VDS

'The longline VDS operates on the same principles as the purse seine VDS. The members set a TAE and then allocate this as PAE using the same formulae based on catch history and biomass of a member state's EEZ.'

'The longline VDS became fully operational on 1 January 2017 and is subscribed to by all the members. Initially, Kiribati chose to stay out of the longline VDS ... until in July 2018 they decided they would abandon their efforts to develop a catch-based system and got with the rest of the membership ...'

'I don't expect that all the members will implement the longline VDS at the same pace and some patience will be needed to get all the members on board in respect of getting them to fully implement it.'

'The scheme establishes a regulatory framework giving members greater control over how longline fishing is carried out in the tropical longline fishery and also provides the underpinning framework that will allow them to develop measures that they can use to promote compatible measures on the high seas through the WCPFC. ... More importantly, it gives the members a framework to ensure collective effort to promote the sustainable management of longline tuna resources.'

'... as evidence of the lower leverage that PNA members have over the tropical tuna longline fishery ... [the requirement for] longline vessels to register on the PNA VDS [has] led to a drop in the number of fishing permits sought and days required in 2017. This indicates that to support the implementation of the scheme, improved monitoring and coordination amongst the members and the administrator is necessary ... there is no need to panic, nor is there any need to infer that the scheme is not working, because in the grand scheme of things, the longline VDS will, over time, have the desired efficacy expected of it, once there is broad policy support for it in the WCPFC.'

To illustrate the low level of implementation of the longline VDS, Table 7 provides a summary of the days expended in each of the member's EEZ (except for Kiribati, which at the time was using a catch-based system). These were monitored on the PNA Fisheries Information Monitoring System (FIMS) in 2017. The table shows that only 25% of the 123,535 PAEs was utilised in 2017. This was a low level of utilisation and I don't think that there has been a surge in the number of longline vessels under the longline VDS since. Again, there is no reason to panic and make critical judgements on the effectiveness of the scheme, because it is only a matter of time and patience that this fishery will be brought under the longline VDS. If fishing effort really has moved to subvert the scheme you can be assured it will come back to fish unfished areas to obtain higher catch rates.

Table 7: PAEs and Days Monitored in FIMS in 2017

Participants	Agreed PAEs and Captured Effort in FIMS			Agreed PAEs and Captured Effort in FIMS — Excluding Kiribati		
	PAE	Days EEZ	% PAE used	PAE	Days EEZ	% PAE used
FM	30,928	5,931	19%	30,928	5,931	19%
KI	41,597	120	0%			
MH	13,730	6,551	48%	13,730	6,551	48%
NR	5,000	6	0%	5,000	6	0%
PG	20,000	3,396	17%	20,000	3,396	17%
PW	12,035	4,111	34%	12,035	4,111	34%
SB	29,342	8,257	28%	29,342	8,257	28%
TV	7,500	997	13%	7,500	997	13%
PNA	160,132	29,369	18%	118,535	29,249	25%
TK	5,000	1,323	26%	5,000	1,323	26%
PNA+TK	165,132	30,692	19%	123,535	30,572	25%

Source: PNA Office, Majuro, 2018

Note: FM — FSM; KI — Kiribati; MH — Marshall Islands; NR — Nauru; PG — PNG; PW — Palau; SB — Solomon Islands; TV — Tuvalu; TK — Tokelau

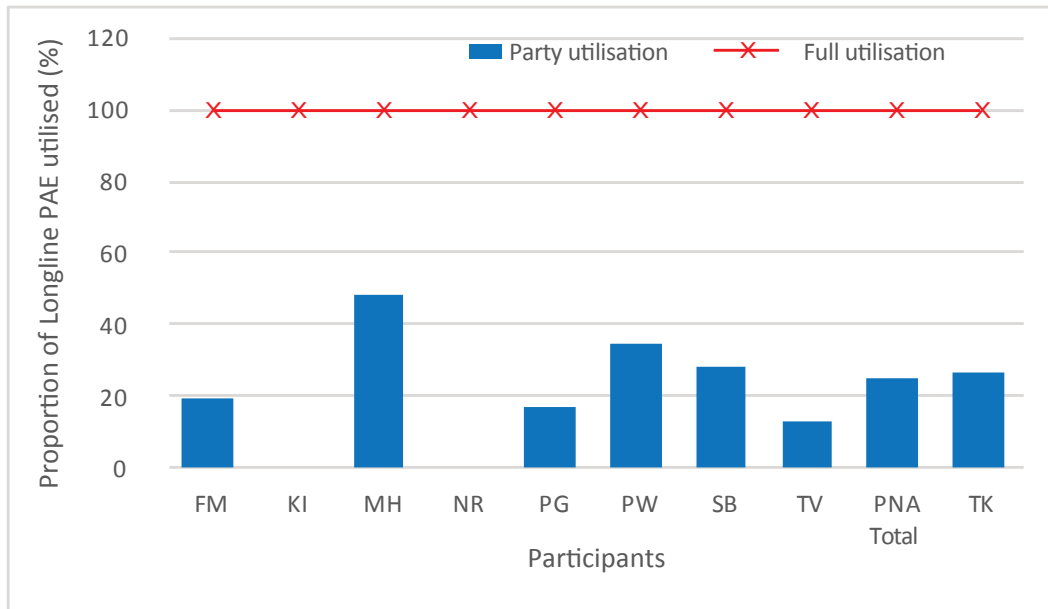
Figure 11 below shows the 2017 effort in terms of the proportion in percentage terms of the PAEs utilised, with full utilisation of PAEs represented by the red line. The graph shows that in 2017, effort in all of the PNA members EEZs were under their PAEs.

A number of reasons are attributed for this trend by the administrator: the TAE is set very high; or access to high seas has reduced fishing under the scheme; and perhaps not all fishing in members' EEZs is being covered under the scheme. A number of steps have been taken to ameliorate low levels of utilisation of days, including improving the licensing data and ensuring that all longline vessels licensed by the members are on the PNA Vessel Register. Furthermore, all licensed longline vessels are now required to be on the VMS from port to port, meaning all their fishing activities will be captured, so members will have a better picture of the patterns of fishing of vessels both in the EEZ and the high seas. There has been some concern (and in fact the 2018 administrator's report said) that the representation of effort in Figure 11 is disturbing because it indicates gaps in the longline data being provided to PNA FIMS, which is impacting on the effectiveness of the longline VDS. While I agree that there are gaps in the longline data, these operational teething issues are bound to arise as members start to adjust their fishing access arrangement and tighten the nuts and bolts of the longline VDS. The longline fishery has been the most difficult to manage, reflected in the problems being faced in the implementation of the scheme.

The overall conclusion to be drawn from members' collective efforts is that the transformation of the fishery through the VDS, both the longline and purse seine, has been remarkable. Progress made in the purse seine fishery is evidence of that. The lessons that may be drawn from these endeavours is that what is important is the power of ideas, the energy and drive of people around the scheme's development and the support of leadership, especially in refusing to

be held down by political pressures of the members. These are not ingredients that will often be found in one place and one time, but for this grouping of member countries, it just happened to come together for them.

Figure 11: Longline PAE Utilisation, 2017



Source: PNA Office, Majuro, 2018

Note: FM — FSM; KI — Kiribati; MH — Marshall Islands; NR — Nauru; PW — Palau; PG — PNG; SB — Solomon Islands; TV — Tuvalu; TK - Tokelau



Papua New Guinea — Transhipment in Rabaul

Source: Francisco Blaha

CHAPTER 6: DEVELOPING THE PNA'S FISHERIES INFORMATION MANAGEMENT SYSTEM (FIMS)

The development of the PNA's Fisheries Information Management System (FIMS) and the industry portal known as iFIMS, is about how the PNA member countries — as right holders in the fishery — have strengthened their hand and sought to develop their own fisheries management system through regional cooperation. This is not a discussion about how the system works or the technical aspects of the system supporting the VDS, but more broadly, this chapter deals with the aspects of the evolution of the system that pertain to the theme around the lessons for regional cooperation, namely the PNA members' quest to own the intellectual property (IP) in the system. Joint ownership of the IP of iFIMS brings the members together in ways that have not been done before and attain what the Forum leaders want as 'deeper and closer' regional cooperation (see PIFS, *The Framework for Pacific Regionalism* (PIFS 2014a)). The members have finally achieved this, but strong national impulses almost undid what is arguably an outstanding example of regional integration through the ownership of the IP in the system under a corporate entity in which they have equity.

Developing a Separate Fisheries Information Management System

Developing a practical, accurate information management system is critical in the effective management of fisheries. Data collected by the vessel operators and observers is fed through a system so that it can be used by scientists for stock assessment, as well as by fisheries managers to extrapolate findings from the information and turn it into policy advice. In the latter case, fisheries managers use the data to make certain management decisions, such as how much fish they should be allowed to take, how many licences they should issue and how many days they can allocate. These important decisions have significant economic impact on PNA members and are based on information that has to be processed, that is why the development of information management systems are a critical element of fisheries management. Advances in information technology have made fisheries management so much more effective than in the pre-digital age, but getting operational level data from the fishing vessels, especially from foreign fishing vessels is a challenge, although there are marked improvements in recent years.

One of the frustrations that led Glen Joseph and Sylvester Pokajam to demand the PNA establish their own organisation to administer the VDS was that they felt the FFA Secretariat was not giving enough attention to the implementation of the VDS, especially the development of an effective VDS information management system. I could understand their frustration and, in some ways, I take responsibility for the perceived shortcomings of the FFA Secretariat to give that support. I was the deputy director-general of the FFA and thus, I was responsible for the technical support programs of the FFA. Up until the PNA Office was established, the FFA Secretariat provided the system to support the VDS. The FFA had contracted an Australian company, Absolute Software, to support the information management system for the VDS in the counting of fishing days. Incidentally, Anton Jimwereiy had been recruited in 2005 as the PNA co-ordinator based at the FFA Secretariat. He literally monitored the days manually, and reported the results to the members by fax and email. He worked with Ramesh Chand and John Kelimana to extrapolate the data from the FFA VMS and would manually calculate and tabulate the data. Reflecting on those very early days, the system was obviously rudimentary and time consuming. I think PNA made the right decision in recruiting Anton, because despite being an electrician by training, he was efficient and diligent in manually calculating the fishing days. I am still amazed when I think how basic the counting of the days was when the VDS was first put together. It was not until 2006, when Steve Shanks joined the FFA Secretariat, that a business plan was developed for the system to run the VDS using the VMS. In fairness to the FFA Secretariat (and I have always made this point), it was, and still is, difficult to serve the needs of all 17 member countries, especially when the demands on the Secretariat exceed the capacity and competency available in the FFA Secretariat. Notwithstanding the perception that regional agencies are well-resourced, and their staff are well paid, their resources are often allocated to work programs that are approved for only one year. If an activity came up that was not budgeted for in a particular year and supported by a donor, you would often have to wait for the next budget cycle. This can be frustrating for members who usually need technical assistance immediately and cannot get it elsewhere. This is what happened with the development of the systems to support the VDS while it was administered by the FFA. I am not making excuses, but I too found it frustrating as deputy director-general of the FFA when I could not access information, because the data was not available in a form that could be used by policy people like myself.

Box 25: A Background to the PNA's Fisheries Information Management System

'The development of the PNA's Fisheries Information Management System (FIMS) and the industry portal known as iFIMS is about how the PNA member countries — as right holders in the fishery — have strengthened their hand and sought to develop their own fisheries management system through regional cooperation.'

'... this chapter deals with ... the PNA members' quest to own the intellectual property (IP) in the system. Joint ownership of the IP of iFIMS brings the members together in ways that have not been done before ... The members have finally achieved this, but strong national impulses almost undid what is arguably an outstanding example of regional integration ...'

'Data collected by the vessel operators and observers is fed through a system so that it can be used by scientists for stock assessment, as well as by fisheries managers to extrapolate findings ... fisheries managers use the data to make certain management decisions, such as how much fish they should be allowed to take, how many licences they should issue and how many days they can allocate. These important decisions have significant economic impact on PNA members ...'

'Up until the PNA Office was established, the FFA Secretariat provided the system to support the VDS. ... Michael Ferris, and FFA VMS officer Ramesh Chand, worked hard with Richard Bland and Ian Hayes of Absolute Software to develop a VDS reporting system.'

'I subsequently learnt that it is important in a rights-based fisheries management system that right holders in the fishery should own not only the data, but also the system as well. I think sometimes we underestimate the deep-seated resentment of member countries when they see regional agencies control the systems for their fisheries. This distrust is exacerbated when the systems are controlled from offshore.'

'By the middle of 2010, I too started to notice the unsatisfactory service from the FFA and Absolute Software; it was as if we were their clients and that we had to answer to them. This was not the relationship we wanted and so we commissioned an independent study to recommend how we could address the challenges that we were facing.'

'We contracted Stan Crothers ... He had just retired from the New Zealand Ministry of Fisheries as deputy CEO. ... Stan consulted with the members and users of the system. His report, which he presented in August 2010, was scathing. He found that the administrative systems supporting the VDS were not "fit for purpose", costly, and had poor governance and management systems.'

'In addition, the members did not have meaningful access to the raw data held by FFA and could not verify whether the information held was comprehensive or accurate. In other words, the members did not have control over key administrative systems and data for the VDS.'

The then director of operations from 2005 to 2007, Michael Ferris, and FFA VMS officer Ramesh Chand, worked with Richard Bland and Ian Hayes of Absolute Software to develop a VDS reporting system. In hindsight, we might have done things differently, but at the time, we were learning and perhaps not as driven by the need to develop a system in which the right holders own the IP. The idea of rights and zone-based approaches in the management of the fisheries had not been embedded with the key policyholders at that time. There was this underlying feeling that a centrally coordinated hub was sufficient for the VDS and PNA members. We underestimated the desire of PNA members to *control* their system, and especially have rights over the sovereign data generated from the system. Absolute Software's system involved the production of daily reports from their office in Australia in PDF form which they emailed daily to the VDS and VMS officers. The volume of reports choked their email systems. It was not an efficient system, but that was how the FFA Secretariat reported on the VDS. VMS data was used to calculate the number days a purse seine vessel spent at sea outside of port. Absolute Software was tasked to develop a software program in 2007. The design work and testing started in September that year and the system was rolled out in

April 2008. The problem from the point of view of the PNA members was it was not their system; they had no control over it, and they were simply supplied information from the Absolute Software. I subsequently learnt that it is important in a rights-based fisheries management system that right holders in the fishery should own not only the data, but also the system as well. I think sometimes we underestimate the deep-seated resentment of member countries when they see regional agencies control the systems for their fisheries. This distrust is exacerbated when the systems are controlled from offshore. After all, as resource owners, it is only natural they would want to control the system. One of the challenges was the lack of backup support service available to the members at any time of the day. Members complained about the delays. This influenced their feeling that they were not getting the support they needed from both the FFA Secretariat and Absolute Software.

We continued to use the FFA and Absolute system, when the PNA Office was established in 2010. In the meantime, PNG — because they were doing well with the revenues they were getting from their tuna resources and some visionary leadership — decided they would invest in their own fisheries information management system. They recruited Darren Saunders, Absolute's major software programmer, who had helped design the FFA system. Darren, perhaps out of frustration, decided to establish his own company called Quick Access Computing (QAC) Pty Ltd in Brisbane. QAC was contracted by the PNG NFA to develop a system suited for PNG's fisheries needs, including designing a system that would give near real time, up to date information at the press of a button on the number of days a vessel has fished in their zone. PNG was keen to revolutionise the management of their fisheries data with a modern, technologically advanced system. They had the resources and the flexibility to do that and could afford to pay for the development of a new system. Their system was home grown, developed largely from the thoughts of insightful and innovative people in fisheries, such as David Karis and Brian Kumasi. They did not have qualifications in information technology, but had enough practical experience at sea and knowledge from the management of the tuna fisheries at the NFA headquarters. They were supported by Sylvester Pokajam as managing director and the NFA board, including long-serving board member and industry leader, Maurice Brownjohn. I suppose this must have been the difference between the staff at the FFA Secretariat and those driving the development of a PNG's system. We had recruited a Samoan, my good friend Andrea Volentras, for the position of director of operations at the FFA to manage the operations division of the FFA. He was an international lawyer by qualification. Unfortunately, he had limited experience in fishing operations, and as a result it reflected on the outputs from the division. In fairness, it was not his fault. I had suggested we readvertise the position when we could not find a suitable replacement for the previous incumbent, Marcel Kroese, a gentle giant of a man from South Africa who was excellent but who unfortunately had to leave for personal reasons. Andrea would have been perfect as legal counsel, as his experience and qualifications were suited for that position. It goes to show that the impact of regionalism, efficacy and effectiveness can be influenced by those around you and those who apply to work in regional organisations. I think this might have been a contributing factor in PNG's decision to build their own system. Thus, by the time the PNA Office was established in 2010, PNG had designed and developed its own fisheries management information system that took a different trajectory to the FFA system.

At the newly established PNA Office, I had left the monitoring of the VDS to Anton, who worked with the FFA and Absolute to provide reports to the members. We had given some thought to investing in a new system, but we did not want to upset the status quo too much. We were simply monitoring the utilisation of the days because at that stage no one was applying hard limits under VDS, so we were just monitoring the general effort. By the middle of 2010, I too started to notice the unsatisfactory service from the FFA and Absolute Software; it was as if we were their clients and that we had to answer to them. This was not the relationship we wanted and so we commissioned an independent study to recommend how we could address the challenges that we were facing. We contracted Stan Crothers, who I described in the previous chapter on the VDS. He had just retired from the New Zealand Ministry of Fisheries as deputy CEO. We wanted someone independent, who had no association with the FFA and PNG, to advise us on the best system that would meet members' needs.

Stan consulted with the members and users of the system. His report, which he presented in August 2010, was scathing. He found that the administrative systems supporting the VDS were not 'fit for purpose', costly, and had poor governance and management systems. The review recommended new, enhanced administrative systems and governance arrangements to enable the VDS to deliver its full economic potential to the members, maintain

the sustainability of tuna stocks and stand up to international scrutiny. He found that the VDS was implemented using a range of administrative systems that were modified from existing FFA systems, or provided as add-ons to other members services, or developed by each member with minimal guidance on implementation. This approach, while pragmatic, resulted in a suite of systems underpinning the VDS that were poorly integrated, had inadequate standard operating procedures, and were missing key functionalities. The existing system did not have the necessary functionality to meet the requirements of a trading regime, could not adequately ensure the integrity of the VDS management regime, and was costly to operate. In addition, members did not have meaningful access to the raw data held by FFA and could not verify whether the information was comprehensive or accurate. In other words, members did not have control over key administrative systems and data for the VDS. Fundamentally, the existing system did not provide members with sufficient, timely information to allow them to manage their fisheries with confidence.

Stan recommended that developing a new system was essential for the international credibility of the VDS and to effectively manage their fisheries. New systems would demonstrate to the WCPFC that members could deliver on their undertakings. Furthermore, economic development options such as the MSC certification that was being assessed at that time would need reliable administrative systems that demonstrate the integrity of the VDS management regime. It was clear from the independent review that the integrity of the VDS, and thus the credibility of the members to manage the fisheries, was at stake. Stan recommended that the new VDS systems should meet the following design requirements:

- a) Scalable:** Systems should be able to be scaled-up to accommodate new VDSs (for example, the longline VDS or a VDS for other countries).
- b) Interoperable:** Systems should be able to be linked and work together, and interface with the existing FFA and SPC systems.
- c) Transportable:** Systems should be portable, that is, able to be transferred to new service providers.
- d) Secure:** Data should be protected from unauthorised alteration or viewing.
- e) Open:** Systems should be developed with non-proprietary software and hardware.

The recommendation to develop a new software system was put to PNA members at their annual meeting in 2011 in Tuvalu. The motion was carried by unanimous agreement. The decision meant breaking away from the FFA system and abandoning their support for the VDS, since it was established and housed at the FFA. It was a momentous decision in terms of regionalism because it was a rejection of the status quo; it cut off the umbilical cord with the FFA on the VDS. The decision was not popular with the FFA Secretariat. I was not surprised. The administration of the VDS information management system was one of the most exciting in terms of software development and so from a business perspective it represented a huge loss of business opportunity. However, the FFA continued to monitor the fishing effort of US purse seiners under the Treaty on Fisheries, which at the time was run outside the VDS. I think from a geopolitical perspective, moving the system from the FFA meant that a significant component of the tropical tuna management was taken away from the FFA. It left them with little to do with the management of the tropical tuna. This was one of the impacts of the establishment of the PNA Office. It took the core management of the tropical tuna in the WCPO away from the FFA. When the issue was discussed in Tuvalu for the PNA to set up their own system, the representative of the FFA, Wez Norris, who was director of fisheries management, expressed disappointment that the FFA Secretariat was not consulted about the change. Our response was, the people who mattered — namely the members who were the right holders in the fishery (and that meant 50% of FFA were consulted) — were the ones who wanted to see their system changed.

In the meantime, PNG had gone ahead to develop its own system with the support of Darren Saunders and QAC. In early 2011, I visited Port Moresby to hold discussions with the NFA on possibly transferring from the FFA to their system. In Tuvalu, officials agreed that rather than develop a new system from scratch, the members would build a separate portal for the PNA using the PNG information system, which was already far superior to the FFA system. There is something also to be said about the pace of the development of systems when you have in-house capacity to undertake research and development, and in the case of PNG, David Karis, Ludwig Kumoru and Brian Kumasi were

Box 26: Developing FIMS

'It was clear from the independent review that the integrity of the VDS, and thus the credibility of the members to manage the fisheries, was at stake.'

'The recommendation to develop a new software system was put to the PNA members at their annual meeting in 2011 in Tuvalu. ... It was a momentous decision to make in terms of regionalism because it was a rejection of the status quo; it cut off the umbilical cord with the FFA on the VDS. The decision was not popular with the FFA Secretariat. I was not surprised. The administration of the VDS information management system was one of the most exciting in terms of software development and so from a business perspective it represented a huge loss of business opportunity.'

'In the meantime, PNG had gone ahead to develop its own system with the support of Darren Saunders and QAC. ... In Tuvalu, officials agreed that rather than develop a new system from scratch, the members would build a separate portal for the PNA using the PNG information system, which was already far superior to the FFA system.'

'We signed a memorandum of understanding with the PNG NFA to use their system in 2011. I have to admit that even though we obtained general approval from the members for the use of the platform developed by PNG, not all the members were comfortable with the idea, even though there was unanimous agreement for the PNA to develop its own system.'

'I made a fundamental error of judgement when I signed the memorandum of understanding with QAC. I assumed that we would own the IP in the software and systems that we were going to develop with the company. ... I thought we would own it as we were the ones who put in the ideas behind the different systems, but we were all wrong — a few years later we were confronted with the challenge of having to negotiate the purchase of the IP from QAC.'

'The PNA FIMS is a far superior system than any other fisheries system in the region, and it is certainly one of the best in the world. It was not cheap developing the system and the PNA Office budget reflected this ...'

'... we wanted a system that we had developed ourselves, that we had an input into and that we controlled, and further, we wanted something that was decentralised and "fit for purpose". We had grown tired of regional agencies that had no fishery to manage, where donors dictated the way in which the members managed the data and the flow of information. There was, and still is, a sense that these regional agencies feel they own the sovereign data.'

'The final nail in the coffin of the FFA's involvement in monitoring purse seine vessels was when it was decided that the US vessels under the Treaty on Fisheries would come under the PNA VDS and FIMS. This followed an FFA report to the PNA, in which the effort data tabled showed the two best reporting boats were the two that had sunk the year before, thereby undermining whatever credibility there was with the Absolute system used to generate those reports.'

using their practical fisheries experience to think of ways to improve the flow of fisheries data and information. There was another very important factor and that was the availability of funds, of which the PNG NFA had no shortage, so they had no problems in investing in their system. We signed a memorandum of understanding with the PNG NFA to use their system in 2011. I have to admit that even though we obtained general approval from the members for the use of the platform developed by PNG, not all the members were comfortable with the idea, even though there was unanimous agreement for the PNA to develop its own system. Some of the PNA members were little uneasy that their data would now be held in a database controlled by PNG. Kiribati and FSM did not fully subscribe to the PNA system while it was being developed. It was understandable that they would have some concerns about the arrangement. It was new, it was unprecedented and for a long time, members were familiar with a certain way in which their data was being managed — and that was through the regional agencies. The idea that right holders

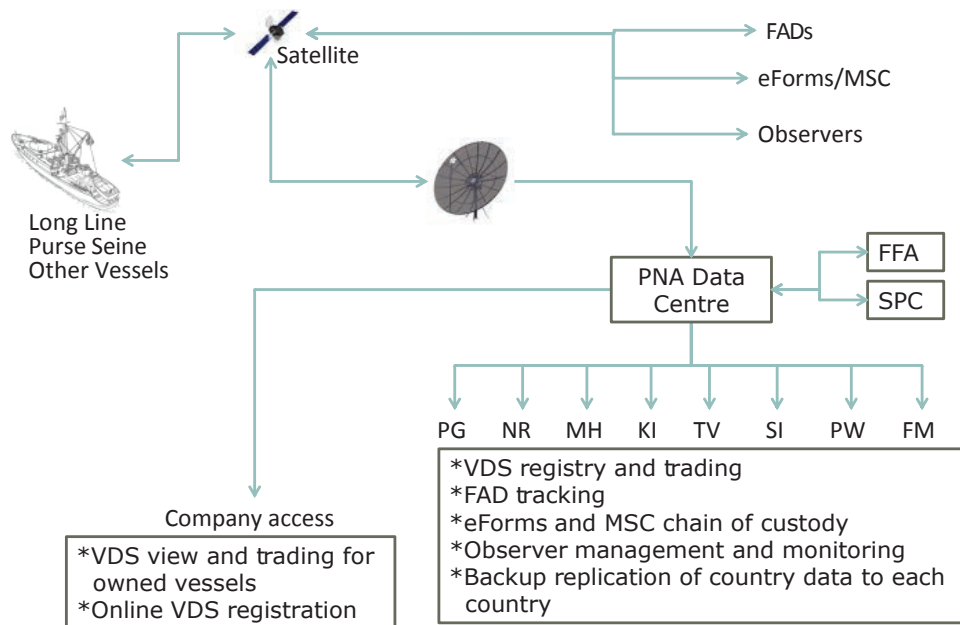
should own the system and also own the intellectual property in the system was novel, so it took some careful negotiation and confidence-building exercises over the years for all the members to integrate their fisheries data and information under the PNA system. I was not surprised, nor was I concerned, about the slow progress to get everyone on board as these were governments that were embarking on something new and therefore, they had to be given time and space. I knew that eventually, what would get everyone on board was ensuring the functionality of the system, making it user friendly and having a backup service that the members could rely that was on standby 24 hours per day, seven days a week. One particular problem for FIMS, in respect of the data for all vessels and the members waters, was that the PNG FIMS could not hold the sovereign data for all zones and flags, having been set up for an individual sovereign state.

The PNA Office entered into a memorandum of understanding with QAC to develop the PNA FIMS using the platform developed for PNG. It was made clear from the outset that this would be a PNA system and even though it was being built on the foundations that PNG had helped invest in, the system was going to be owned by PNA members. I made a fundamental error of judgement when I signed the memorandum of understanding with QAC. I assumed that we would own the IP in the software and systems that we were going to develop with the company. This was the basis upon which I had proceeded to negotiate and from our broad discussions with Sylvester Pokajam, we all thought that we owned the IP in the system. Even PNG thought that they were developing their system in which they owned the IP. I thought we would own it as we were the ones contributing the ideas behind the different systems, but we were all wrong — a few years later we were confronted with the challenge of having to negotiate the purchase of the IP from QAC. This was an exercise in itself that provided some very good lessons on regional cooperation, particularly regarding ways that could have integrated the members' relationships in a deeper way, as envisaged by the Forum leaders.

The PNA FIMS is a far superior system than any other fisheries system in the region, and it is certainly one of the best in the world. It was not cheap developing the system and the PNA Office budget reflected this, as the investment in it represented the biggest single expenditure item for the office in the annual budget. This was okay as far as I was concerned, because first of all, developing a world class system to manage the largest tuna fisheries in the world under the most complex tuna fisheries management arrangement, required substantial investment and we were not going to get a top product if we paid the developers pittance. Secondly, we wanted a system that we had developed ourselves, that we had an input into, that we controlled, and further, we wanted something that was decentralised and 'fit for purpose'. We had grown tired of regional agencies that had no fishery to manage, where donors dictated the way in which the members managed the data and the flow of information. There was, and still is, a sense these regional agencies feel they own the sovereign data. Even if that is not the case, it is certainly the way some of the members perceive the agencies.

The final nail in the coffin of the FFA's involvement in monitoring purse seine vessels was when it was decided that the US vessels under the Treaty on Fisheries would come under the PNA VDS and FIMS. This followed an FFA report to the PNA, in which the effort data tabled showed the two best reporting boats were the two that had sunk the year before, thereby undermining whatever credibility there was with the Absolute system used to generate those reports.

Figure 12 provides a general overview of the broad architecture of the PNA FIMS and the flow of information between the members. The system is web-based so can be checked from anywhere as long as there is an internet connection. All vessels are required to have an operational mobile transmission unit. These transmit to a satellite, which then projects a positional signal to a land earth station, which then feeds the data into the PNA's data centre. Separate feeds are made available to FFA and SPC, while each of the members are directly linked to the system from the PNA data centre. Fishing companies and flag states have access through their own portal known as iFIMS. The VDS/VMS officers in each of the respective members undertake the necessary analysis of the data. Access to the PNA FIMS is by login through pnaafims.com. Only authorised users are allowed access to the system, thereby protecting the confidentiality of the information and the integrity of the system.

Figure 12: General Schematic Flow of the PNA FIMS

Source: PNA Office, Majuro, 2018

The PNA FIMS today has the following features (see below for details on each):

- » the PNA vessel register
- » an online VDS registration facility
- » clients
- » the VDS
- » documentation
- » reports
- » non-fishing — Schedule 2 of the purse seine VDS Text, which contains the reporting features for when a vessel is not fishing
- » FSM Arrangement management and VDS
- » the US Treaty VDS
- » FAD tracking
- » eReports of catch logs
- » eObserver reports
- » MSC accreditation details
- » Electronic Catch Documentation Scheme (known as eCDS)



Top: Radio buoys used to track FADs

Source: The author

Bottom: The day's catch

Source: The author

The PNA online vessel register for VDS participation

All purse seine and longline vessels seeking to fish in any of the members' EEZs must register their vessels through an online vessel registration portal on the PNA website on the VDS register at <https://www.pnatuna.com/Register-Vessels>. The register is a databank housing information about the vessel. It includes technical specifications of the vessel, the gear as well as information about the owners and where it is licensed. The VDS register is linked to the FFA regional register and the WCPFC record of fishing vessels. The VDS register is more than just a register of fishing vessels. Its usefulness is that it is not only a measure of the exact number of vessels fishing under the VDS, it is also primarily a management tool, providing an integrated management solution that enables members to effectively and comprehensively manage what is going on in their EEZs and beyond. A precondition of registration is that vessels must agree to provide port to port positions, and electronic reports of catch by zone and by composition. In addition, vessels must provide a list of the radio buoys they intend to deploy and agree to keep them switched on and reporting. The latter is implemented through an agreement by PNA fisheries ministers to bring in an Implementing Agreement into national laws. An associated evolution of the information platform is the development of capacity for vessels to apply to be licensed electronically and for PNA members to process licences electronically. The goal is to streamline the administration and governance of the licensing procedure but more importantly, electronic licensing would mean all the key features of fisheries management would be under a single integrated framework.

Clients

The clients which are the vessel operators, their addresses, and the vessels licensed to operate under the VDS are recorded on the system.

The VDS

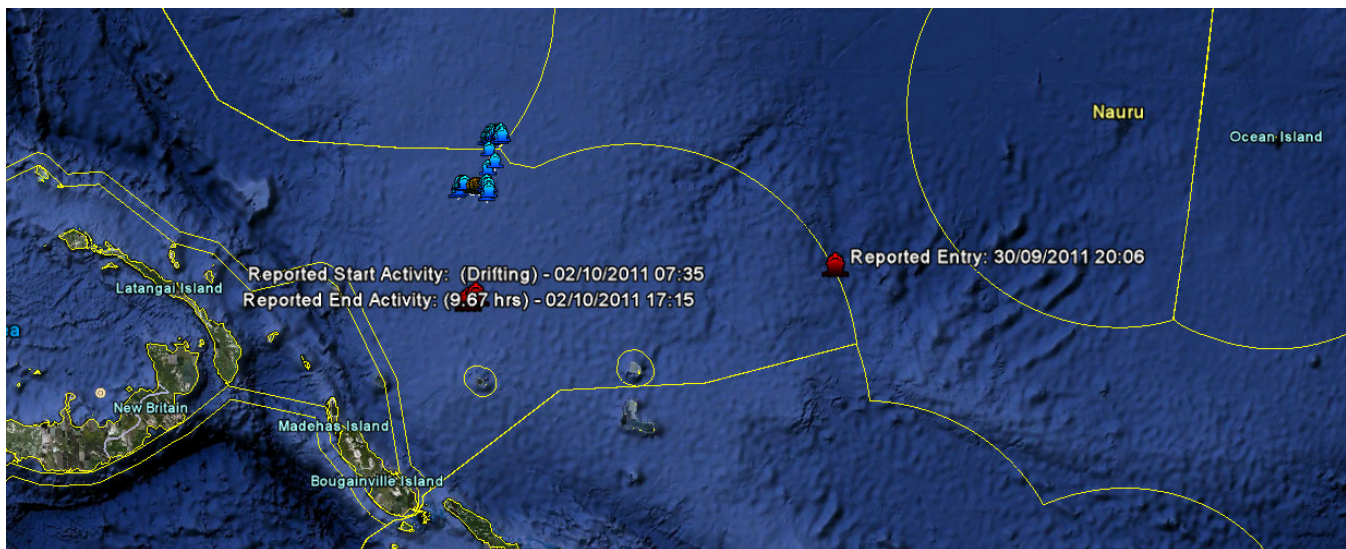
The number of days that vessels spend in each zone is monitored through the PNA FIMS. The PNA FIMS provides a summary of each trip in each zone, broken down by EEZ, territorial sea, archipelagic waters and in port, which can be validated back to every hourly position received from the vessel. The counting of days is automatically adjusted for the different lengths of the vessel under the scheme. Currently, the system counts a vessel that is less than 50 metres as 0.5 days; vessels between 50–80 metres as 1 day; and vessels larger than 80 metres as 1.5 days. Non-fishing data entry is automated through an industry portal developed under iFIMS, which is a dedicated service developed for vessel operators and companies linked to the PNA FIMS. There are multiple data entry types for global position system (GPS) positions with automatic conversion to decimal degrees, while officers can also check for non-fishing validation on Google Earth, also requiring 24 hours non-fishing to be considered. iFIMS has introduced an element of self-regulation and self-validation before non-fishing day claims are made. Prior to this, many claims were clearly fraudulent, if the track and non-fishing day claims were to be superimposed. The example below in Figure 13 shows actual tracked fishing in blue, and claimed entry and drifting in red. It shows that the vessel reported its entry into PNG's EEZ on the 30th of September. Then it does not show what it did until the 2nd of October which raises the question of what it did over the days it did not report on the system. It demonstrates the need to have the system from the vessel and the observers reporting all the time to eliminate the possibility of IUU fishing.

EReports

An important feature incorporated into the PNA FIMS is eReports (online reports) of catch logbooks. This is significant for fisheries management because it allows for verification, near real time, of catch data. Getting accurate catch data near real time is critical to good fisheries management and is a massive improvement from waiting years for the data to be compiled and fed back in management advice from SPC, as was done in the pre-FIMS days. That was like driving forward and looking at data over three years old in the rear vision mirror. For a long time, the quality and timeliness of data from the fishing vessels was poor and slow, if it came in at all. This has had an impact on the assessments of the various fisheries, especially the longline fishery, where the provision of operational level data had been particularly poor. On the other hand, the purse seine fishery has high levels of industry reporting, and 100% observer coverage. The development of electronic catch logs and video monitoring, will go a long way towards closing this data gap. Built into the PNA FIMS are eReports from observers, which are transmitted using two-way satellite communicators that

also provide additional safety and ability to seek advice at sea, if required. These eReports support those officers working on VDS monitoring to verify the accuracy of the eReports on catches sent by vessels. In other words, an officer could find the eReports on catch sent by the vessel operator and cross check it against the eReports sent by the observer, and confirm whether or not a fishing set was made and where it was made. This is in addition to tracks and other intelligence sources they use. These features of FIMS are important for the management and development of the VDS and the fishery.

Figure 13: Vessel Tracks Showing Entry and Fishing Activities



Source: PNA Office, Majuro, 2018

The PNA FIMS has become so advanced since the early design of the system and now fully integrates the catch documentation scheme: this comprises monitoring, compliance and surveillance database systems including boarding support tools and MSC tracking and FAD tracking and monitoring. It has been interesting to see the evolution of the system, which has been accepted by all members after five years, although it was not easy. PNA members felt a fair amount of pressure, because the investment was not cheap. I was getting snide comments from certain people at SPC as well as from Absolute Software about how much QAC was costing the PNA members. Yet I maintain that despite donor funding, Absolute Software failed to compete with PNA FIMS to deliver a system that was credible for the members. I took the criticisms in my stride. If I had listened to them, I do not think we would have gotten anywhere with the development of the PNA FIMS, which was already more advanced than anything that was available to the members. I had always wanted a system where the information you were getting was available to you as a fisheries manager at the click of a button. The analogy that I use when discussing this with the members was, I wanted to see a system where officials, in the same way they have a compulsion to see who has sent them an email overnight, would be able to see the number of boats fishing in their EEZ and also a breakdown of the days and catch by composition, in real time. I said that this was very important as a fisheries manager for two reasons. Firstly, one should be able to know how many days vessels they license have fished in the EEZ and they should know how many fish have been caught so they can monitor catch. Secondly, there is a very good economic reason why they should have this data available to them in near real time, and that is because they should be able to estimate how much revenue they are getting from their tuna resources. I said that these are not difficult things to want to know and that one did not have to be a rocket scientist to know that a fisheries information system should have these capabilities. I guess that this was what other organisations and the people who worked at the FFA and Absolute Software failed to appreciate. I do not blame them. It is hard to comprehend this when one is not directly involved in the management of the tuna resources and has no practical experience.

We had some challenges with FSM, which was generally lukewarm towards the PNA FIMS. I failed to understand why they were so sympathetic towards the status quo at the FFA, save for the fact the director-general, James Movick, was from the FSM. When he lobbied the PNA members to replace me as deputy director-general at the FFA, he told

the PNA members at the annual meeting in April 2010 that he would be the bridge between the PNA and the FFA. It was therefore quite ironical that under his watch they would also attempt to build a system in what we regarded at that time as competition to the PNA FIMS. Thus, with the support of the New Zealand government, an alternative system called the FFA Integrated Management System (IMS) was established by the FFA. Even more paradoxical is the genesis of the IMS system may be traced to Glen Joseph, Rhea Moss (who was at that time working as a monitoring, control and surveillance adviser to the government of the FSM) and the late Colin Brown of the Cook Islands (who was the former surveillance and fisheries enforcement adviser at the FFA). They collaborated to develop the IMS, an integrated system that would provide information at the press of button. However, the PNA were already investing in such a system, so I failed to understand why anyone would initiate a different process to the one broadly agreed to by the members.

It demonstrated to me the vagaries of regional cooperation and made me think about the confidence that you can have in the decisions that officials make at the various regional meetings. Sometimes it is hard to know if the decisions represent the officials, well thought out policies or on-the-go views of the representatives at the meetings, or otherwise guided dictation from higher levels. For a while, there was confusion amongst members, because the FFA Secretariat was signalling that their IMS system was under production. What we could not match in resources (as New Zealand had contributed NZ\$5 million), we matched with dedication, innovation and creativity, and I think what we were able to demonstrate was that with this approach you get better value for money and a 'fit for purpose' result. The FFA system was developed in-house, and I knew all the challenges they faced in trying to roll out a system when they had other priorities and a limited understanding of the fine details of the fishery. I was driven by the desire to have the best system that is owned by the right holders and so although we were viewed as competing, I knew at the end of the day, we would win because we were working to develop a system to be owned by the right holders in the fishery. More importantly, we were managing a fishery and the FFA was not, and therein lay a huge difference. I always reminded myself of the phrase that the system should be 'fit for purpose', and the PNA FIMS that we developed was fit for our purpose, namely, that it would allow for the effective administration and implementation of the VDS.

I think after a while, the FFA Secretariat and the SPC became resigned to the fact that the PNA FIMS was going to be the dominant system, and so they started to collaborate with the developers and the PNA Office, but millions of dollars were wasted in the exercise. It seemed to me that the PNA FIMS was being undermined by the development of a comparable system, and this was totally unnecessary and misguided in my view, and time and funds could have been spent elsewhere if only they had coordinated with the PNA Office and not try and compete with us. Presumably a lot of New Zealand tax payers' funds were invested in the IMS, but it certainly does not have anywhere as near the functionality of the PNA FIMS; I would argue it can't, because the right holders in a fishery know what is best for them. This is a key lesson in regional cooperation, in that too often some of our regional servants and donors assume that they know better than the members of what is best for them. In this particular instance, they made a terrible error of judgement.

Achieving Greater Integration through the PNA FIMS

For me, the development of the PNA FIMS was not just about the design of a system to support the VDS, but a much broader opportunity to bring members closer through integrated collaboration. We had regular meetings with technical officials who worked on the VDS who shared their experiences and views about the new system. We sought their help on how we could improve the system. In fact, much of the improvement to the design of the system was left largely to these officers because they were the users.

There is another outcome that potentially has huge ramifications for Pacific regionalism. The PNA members have had an opportunity to achieve greater integration of their regional cooperative efforts in a far deeper and more cohesive way through the purchase of the intellectual property in the software in the PNA FIMS. I mentioned earlier that perhaps one of my biggest failures as CEO was not securing the IP rights to the software. It is not an excuse and as a lawyer, I should have had closer oversight over the fine print of the agreement with QAC. I failed to do that and it cost the members.

Box 27: How FIMS Makes a Difference

'FIMS has introduced an element of self-regulation and self-validation before non-fishing day claims are made. Prior to this, many claims were clearly fraudulent, if the track and non-fishing day claims were to be superimposed.'

'Built into the PNA FIMS are eReports from observers, which are transmitted using two-way satellite communicators ... These eReports support those officers working on VDS monitoring to verify the accuracy of the eReports on catches sent by the vessels. In other words, an officer could find the eReports on catch sent by the vessel operator and cross check it against the eReports sent by the observer, and confirm whether or not a fishing set was made and where it was made.'

'I had always wanted a system where the information you were getting was available to you as a fisheries manager at the click of a button ... where officials ... would be able to see the number of boats fishing in their EEZ and also a breakdown of the days and catch by composition, in real time ... for two reasons. Firstly, one should be able to know how many days vessels they license have fished in the EEZ and they should know how many fish have been caught so they can monitor catch. Secondly, there is a very good economic reason why they should have this data available to them near real time, and that is because they should be able to estimate how much revenue they are getting from their tuna resources.'

'After some discussions, the members agreed to recommend to ministers that they purchase the IP [of FIMS] and ... negotiate the sale price. I thought about the implications of this decision as I could see that it was a major transformative decision.'

'The purchase was finally executed in 2019 through a loan that was obtained by the PNA Office and guaranteed by the government of the Marshall Islands ... The PNA FIMS continues to be enhanced and, in my view, is so far ahead of the FFA system that all the effort we put into shifting from the existing FFA system and to the development of a stand-alone system has been well worth it.'

In 2015, we signed an agreement with QAC to insulate the IP of FIMS while we negotiated its sale. We had been informed by PNG NFA staff that the FFA Secretariat had met with QAC and wanted to buy out the IP from them. Why they would want to do that baffled me. For me it represented a low point in regional efforts. Why would they try to undercut their own members? Why would any donor agree to fund such subversion? For me this reflected a lack of sensitivity and lack of respect for members who had developed their system. It showed a lack of understanding of regional politics. As a result, we renewed our efforts to buy out the IP and started negotiations by bringing in Deloitte of New Zealand to do a due diligence check. We got Stan Crothers to help support Richard Banks, our fisheries economics adviser, to do the groundwork to get the members back on track. We had strong support from Kathy Sisor of Palau, Mathew Chigiyal, the Deputy from the FSM, Eddie Honiwala, the director of fisheries of Solomon Islands, David Karis of PNG, Charleston Deiye of Nauru and Glen Joseph of Marshall Islands. It was very important that members were closely involved in the process of buying the IP. Stan Crothers, who represented Tokelau, brought a lot of business negotiations experience and was extremely helpful for members.

The PNA/NFA and QAC entered into a negotiation to buy the IP on 1 July 2015. This included a provision for PNA to pay SDR50,000 monthly towards a negotiated settlement within three years. But I was faced with having no mandate from members to negotiate anything. QAC had put a proposal to the PNA Office in August 2016 (just as I had vacated the position of CEO) to sell the IP for US\$36 million by 31 December 2016, with an option to sell it for US\$50 million by the end of January 2017. This put pressure on the members and perhaps it was designed to hasten the purchase. I thought it was a bad choice to put this before members, after all the goodwill that had been invested in the development of the system that they had mistakenly believed they owned. At that point in time, the members could — and perhaps should — have walked away, but there were two issues at play. First, to simply walk away would have caused a lot of disruption to the administration of the VDS. By then, the percentage increase in returns from the VDS was so huge that it would have been a poor choice to abandon it and develop a new system. Second, a great deal

of money had already been invested in the system, and some of us at least thought that if we did not contribute to its purchase, PNG would purchase the system outright leaving the rest of the PNA members exposed, or worse — a third party might buy it. We did not want that and from the perspective of the PNA Office, we wanted to see either the PNA Office hold the IP for the members or the members have some equity in the system, in whatever shape, form or proportion. With sound advice from Stan, and the guidance of Richard Banks (who served as the secretary of the steering committee), the members set about trying to get some control over the situation. What they had was the fishery. If they decided to walk away from the negotiating table, they could take the fishery away with them, and that would have been the end of QAC's business, but as Pacific Islanders, they were not mean-spirited about such things. Subsequently, my enquiries with some software program developers from the tuna industry revealed that we probably could have rebuilt the whole system for US\$2 million, but that is neither here nor there, as what was important was that there was an existing, proven system that the members were familiar with, and were willing to recommend to their ministers to agree to purchase from QAC.

After several earlier meetings, the steering committee met with Darren Saunders of QAC in Brisbane in July 2017. One of the concerns that some officials had was that QAC was a small company and they only had one programmer, Darren. He was overworked and if he got sick there would be no one who would know the codes. Also, we had heard he was keen to dispose of the company. We had invested a lot of money in the training of our nationals, which was important because the system was designed to be user friendly. After some discussions, the members agreed to recommend to ministers that they purchase the IP and that they negotiate the sale price. I thought about the implications of this decision as I could see that it was a major transformative decision. I do not think members appreciated the political ramifications of the decision that they had made, so on the plane to Fiji after the meeting, I wrote an email in which I set out the impact that this would have on regionalism, and how it would be unprecedented if they were to complete the sale and incorporate an entity to manage the IP rights in the system. No grouping of island countries had collaborated in such a way since the Pacific Islands governments jointly managed Air Pacific Airline and the Forum Line in the 1970s. My email message to the chair of the PNA is set out in Annexure 9.

This was a momentous decision and I characterised the importance of it along the same lines of my email when the PNA ministers met in December, 2017 in Manila to discuss the purchase. Meanwhile, with no clear funding stream for the PNA to purchase the IP in the PNA FIMS and iFIMS, the PNG government offered to buy out 60% of the value of the system and shares and gift 40% of the IP to the PNA Office whilst retaining 60%. The members had previously agreed to recognise PNG's investment in the original development costs in a 60% equity stake.

At the officials' meeting in early March 2018, Kiribati demanded equity in the FIMS IP and that also for PNG's equity to be reduced. PNG withdrew the offer of a grant to be allocated to the other members. The ministers met later that same week in a meeting that went past midnight. They agreed to the sale, but they could not agree to the share options for each of the members in the entity that would hold the IP. PNG wanted to have 60% of the shares, with the balance to be held by the remaining members, but Kiribati wanted PNG and it to split the 60% equally between the two of them. Kiribati even proposed to buy it out totally. Kiribati felt that they also had a major part in the fishery and they did not want to see PNG have total control of the system and probably more importantly for them, the data. In spite of their willingness to contribute their share, the other members did not want Kiribati to hold equal shares, emphasising the contribution that PNG had made to the development of the system. PNG was absent from the meeting, having withdrawn their offer. There are, of course, certain lessons that can be drawn from this and that is the system itself is by far superior to anything else that has been developed, and the members want to own the IP. The conclusion for ministers was to invite PNG to buy 100% of the equity. Perhaps with the wisdom of hindsight, the members could have agreed to the framework for the shareholding arrangements before they negotiated the price, as this would have then informed them better of what they each had to contribute. In the end, at that ministerial meeting in March, it was agreed that PNG would be asked to pay off the cost of the purchase and then they would work out the shareholding arrangements later on. That was fine, as well as it went, except that PNG was not in a position to execute the sales agreement because of foreign exchange restrictions, poor cash flow and the vendor's demand to buy the company, not just the IP. The purchase was finally executed in 2019 through a loan that was obtained by the PNA Office and guaranteed by the government of the Marshall Islands.

The deal presents great opportunities for members. As I have said, there is a gestation period for governments to fully get on board, and in any case, it has been such a long time since Pacific Island countries have come together in this way that there were bound to be some teething problems in setting up a business entity. The PNA FIMS continues to be enhanced and, in my view, is so far ahead of the FFA system that all the effort we put into shifting from the existing FFA system and to the development of a stand-alone system has been well worth it. I say this not only from the point of view of the enhanced operations of the VDS under FIMS, but also because of the improvements in the integration, sophistication and interaction, and especially the technical achievements of the members. The PNA FIMS remains world leading and 'fit for purpose'.



Kiribati — Small scale fishermen in Bairiki

Source: Francisco Blaho

CHAPTER 7: CONCLUSION

The story of the PNA has been a remarkable one, especially the success of the VDS and how its significant economic returns have made such a large impact on the development of Pacific communities. I often wonder about what would have happened if we had not done what we did, and when we did it. I also think of the luck we had by the coming together of a very motivated group of like-minded ministers and officials. There are some milestones in the annals of regional cooperation since the founding prime minister of Fiji, the late Ratu Sir Kamisese Mara, gathered the leaders of some of the Pacific Island countries in the early 1970s to establish the Pacific Islands Forum. One of the very first matters the leaders took up was the struggle against nuclear testing in the Pacific Islands, followed by another critical issue, the EEZ regime that was evolving at the United Nations in the early 1970s. Arguably though, the most important decision they made, one that had such huge economic ramifications for Pacific Island countries, was the establishment of the FFA in 1979. The FFA provided the focal point for the improvements needed to manage the tuna resources. The second most important milestone in the annals of regional cooperation that has brought about significant economic benefits to the region is, arguably, the establishment of the PNA Office and the introduction of the VDS.

The agitation by our leaders for the peoples of the region to do well for themselves is not new. The onset of nationhood, the expanded maritime zones and quest for self-reliance and self-determination has always been at the forefront of our leaders' vision. The PNA members are some of the most vulnerable in the world, with Kiribati, Tuvalu and the Marshalls often lying less than a metre above sea-level. One of the key points that I always made when I was CEO of the PNA was that we should think big, and not be apologetic about our size and vulnerability, but instead, look at the single largest geographic feature that surrounds the islands — the ocean. I am always reminded of what the late Professor Epeli Hau'ofa wrote in 'Our Sea of Islands', where he reminds us of the importance of the ocean and where:

'Oceania' connotes a sea of islands with their inhabitants. The 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. People raised in this environment were at home with the sea. They played in it as soon as they could walk steadily, they worked in it, they fought on it. They developed great skills for navigating their waters, and the spirit to traverse even the few large gaps that separated their island groups

(Eric Waddell, Vijay Naidu and Epeli Hau'ofa, eds, *A New Oceania: Rediscovering Our Sea of Islands*, 1993, p. 8)

For a long time, the Pacific Islands have been viewed as lacking in resources, dependent on other countries and restricted by the sea. Hau'ofa encouraged people to change their perceptions by reintroducing the term 'Oceania' to English-language scholarship of the Pacific, describing the resource-rich environment of the Pacific Islands where the ocean is a pathway rather than a barrier. We are not a region lacking in resources. I said, we needed to have a different mindset and take a more positive approach towards ourselves, that we are in fact the custodians of the largest tuna stocks in the world, and we manage and have responsibility over the largest ocean space in the world. We therefore have a special responsibility and duty, not only to ourselves but also to the international community, to ensure that we prevent the overexploitation of the region's tuna stocks. For businesses, the health of the tuna stocks is a matter of profit margins, but for some of the PNA members, it is a matter of survival. The salaries of health workers, teachers and civil servants depend on the revenue generated from the sale of days from the VDS.

The impact of the revenues from the VDS is more obvious in the smaller PNA member countries because the funds are channelled through areas that are tangible and visible to the public. In 2019 the Marshall Islands Marine Resources Authority (MIMRA) opened a three-story headquarters building that overlooks the Majuro lagoon. This building is testament to the financial power base in the Marshall Islands that MIMRA has become because of the VDS. MIMRA was able to pay for the US\$3 million building entirely from the revenue that it received from the VDS. In Tuvalu, the government allocates 20 days to each of the local village councils to meet their recurrent costs of meetings and other administrative fees. These days are sold by the Tuvalu Ministry of Natural Resources

for AU\$10,000 each, which is AU\$200,000 for each council. This is a significant amount for councils that previously had almost no allocation from the national budget. In Kiribati, in addition to meeting the salaries of civil servants, the government has helped subsidise the price of copra in the outer islands, ensuring that the revenues from the VDS are used to uplift social and economic conditions throughout the country. It gives me a great sense of pride when I hear these stories being narrated by ministers and officials from these countries because I always remember the challenges that we faced initially.

One of the lessons I have learnt is that Pacific Island countries are not always going to succeed in all the endeavours they attempt. For Pacific Islanders, there needs to be a 'common currency' surrounding regional projects, so the various countries are able to work together cooperatively. Specifically, this is a willingness to pursue something when it does not appear to encroach on matters that members feel should be done by them individually, and not collectively. If this aspect is missing, then failure is to be expected. Some examples of the things that they endeavoured to collaborate on but did not succeed was an initiative to get a minimum of 10% PNA member nationals in the crewing program on all purse seine vessels. If they could not meet the requirement, the vessels would have had to pay a crewing waiver which would have gone into a fund that would have contributed towards the training of PNA member nationals. The crewing program we proposed would also have entailed increasing the minimum PNA members' nationals to constitute 20% of the crews over 5 years. The reason for the mandatory crewing program was not just to increase the number of PNA member nationals working on foreign purse seine vessels, but more importantly, it was aimed at integrating all of the economic activities in the members' EEZs into their domestic economy. Tuvalu strongly supported the initiative and agreed to have it coordinated through a crewing co-ordination office that we had proposed to establish in Kiribati, but ironically Kiribati and PNG did not support the idea of having it centrally coordinated. They already had their own crewing requirements and they did not want to see the regional initiative undermine the placement of Kiribati and PNG nationals on foreign purse seine vessels. I mention this because it goes to show that countries also think carefully about their national interests as well as their cooperative efforts, and where they feel that they are better off pursuing their interest on their own, they would do that as a matter of policy.

We were also slow to get other initiatives, such as FAD tracking and monitoring, off to the start that we had envisaged back when we had first put it down on Maurice's whiteboard in the early days, although we eventually got them off the ground, as discussed in chapter two. It took a long gestation period of almost nine years from when we first discussed FAD tracking and monitoring to getting the ministers to agree to a new measure to make FAD tracking and monitoring a requirement for all purse seine vessels from 2020. These experiences demonstrate that it is not always possible to succeed straight away in everything you attempt. As I said earlier, too often we assume that the Pacific is a homogenous grouping of countries with shared values, but this is not always the case, as I have shown in the preceding chapters. It has to be said that the most successful achievement of the PNA, for both the PNA Office and the member countries, has been to capitalise the value of the tuna. The progress made in the VDS demonstrates that the members have a common currency in the surface skipjack fishery where they have been able to leverage their control over the fishery by closing off pockets of high seas, as well as institute other measures such as the three-month FAD closure. To do it, they needed a bit of luck and at the same time, dogged determination as well as the support of other Pacific Island countries, and the WCPFC. The WCPFC has been a positive influence on the PNA members because they have used it to get through their conservation and management measures, including getting the VDS accepted by the WCPFC. In looking at the success of the new PNA, and the VDS, one cannot ignore the importance of the broader geostrategic environment of the WCPO and the role that other institutions like the WCPFC play in helping to support the implementation of PNA initiatives such as the VDS.

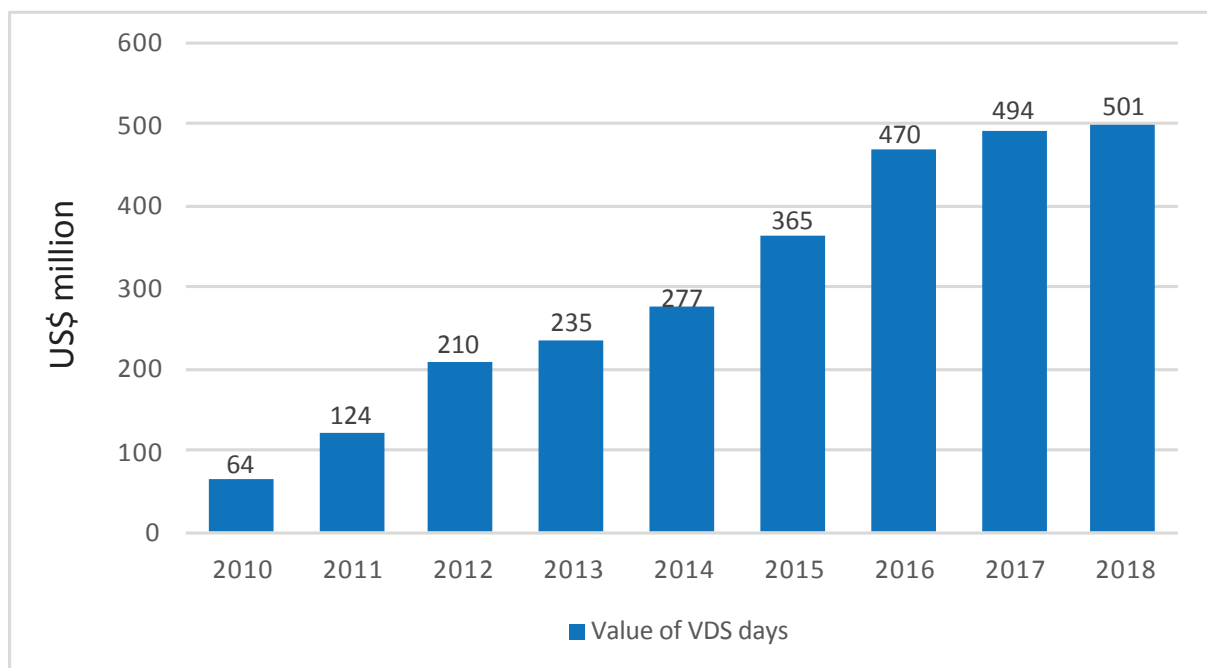
Regional fisheries cooperative engagements have had far-reaching implications for global tuna and the role the PNA members and Pacific Island countries have played in the development and management of the tropical tuna in the WCPO cannot be underestimated. The region's lucrative tuna resource is at the centre of a geopolitical tussle between the richest and most powerful states in the world, and some of the smallest and least developed countries. The setting up of the stand-alone PNA Office, achieving MSC certification and establishing Pacifical, the POA, the VDS, FIMS and iFIMS, must be one of the most successful development stories in regional cooperative engagements in recent years in the WCPO. PNA members have managed to take control of their tuna fishery. They instituted a rights-based fisheries management instrument through the VDS, which set a limit on days in which vessels can fish,

increasing scarcity and making access to fishing in PNA waters more valuable. I often think back to when we started out on in 2010, when the PNA members established the PNA Office with instructions that it be self-funded, with no support from members and donors. It gives me great pride and satisfaction to see the increase in the value of the fishery through our hard work. When the office was established, the value of a fishing day was around US\$1,500 to US\$2,500 a day. Today it is worth an average of over US\$10,000 a day, with traded days' worth up to US\$18,000 a day. The total value of fishing access in 2010 was around US\$60 million. Today, it is estimated to be around US\$500 million (see Figure 14).

Through PNA initiatives, the members have instituted innovative conservation and management measures, including:

- » imposing FAD closures — which have resulted in reducing the purse seine catch of bigeye tuna which is the species that has been threatened by overexploitation;
- » introducing area closures such as the prohibition on fishing on pockets of the high seas, which reduces the area over which purse seine vessels fish, thus minimising the pressure on bigeye tuna;
- » introducing mesh size regulations which ensures that smaller-sized fish are not taken, allowing them to grow older and bigger;
- » catch retention, which creates an incentive for vessels to avoid catching smaller-sized tuna because it is uneconomical for them, this ensuring that they are more economical about their decisions when they make a set;
- » prohibiting setting on whale sharks to protect an endangered species that tends to aggregate tuna and therefore attract vessels to set around them;
- » requiring 100% observers on all purse seiners to collect data and also to ensure that purse seine vessels do not set on FADs during the closure and do not fish on the high seas; and
- » pushing through the adoption of limited reference points for all tuna stocks and target reference points for skipjack tuna thereby ensuring a robust fisheries management framework for tuna stocks to prevent their overexploitation.

Figure 14: Revenue from the VDS from 2010 to 2018



Source: PNA Office, Majuro, 2019

PNA members also managed to get the FAD-free purse seine skipjack tuna fisheries certified under the global standard for ecolabels, the MSC; a first for any purse seine tuna fishery. Through its marketing and retailing platform Pacifical, PNA members have been able to respond to their leaders' demands for vertical integration and co-branding, and in doing so extract a premium from retailers for Pacifical MSC canned tuna, which is now found in the supermarkets of Europe, Australia and New Zealand.

This has been their story and the contribution that we have been able to make towards the development journey of the PNA members. They have been able to demonstrate what a group of small islands developing states can do on their own — without donor support. They were able to do this because they leveraged access to their EEZs by imposing conditions on all purse seine vessels that fished in their EEZs to recognise their rights. They also ensured that the design of the legal instruments that underpin these rights empowered them as 'right holders' and created a 'sellers' market' which forced other global players to recognise those rights. Their journey has not been easy and the PNA constantly had to fend off efforts by industrialised fishing nations to work against the VDS, trying to claw back the gains and control that PNA members now have over their fishery. We saw earlier how the EU tried to use the negotiations of the comprehensive EPA to try to dictate the way the Pacific Islands, and the PNA in particular, manage their tuna fisheries. They wanted a specific fisheries chapter in the EPA that would have required the Pacific Island countries to consult with the EU first before they adopted any conservation and management measures for their own EEZs! (See 'The "Regional Day" Concept — PNA Office Trading'). We also saw the US attempts to use the Treaty on Fisheries to limit the application of the VDS and curtail the control of the PNA over the fishery (see 'The VDS, Its Efficacy and Challenges') by seeking exemptions specifically for their fleet from some of the rules applicable to all the other fleets that fished in PNA members' EEZs. I found it quite paradoxical, because these countries are major donors to the region but their behaviour towards the PNA members and the VDS showed a lack of coherence between their stated development aid and their fisheries policies. Most surprisingly for me personally was that, of all countries, New Zealand — a Forum member — pushed for the VDS to be replaced by a catch-based system, in what seemed to be an attempt to limit the gains made by the PNA members. I am not really sure if I may be characterising their motivations but they could have been misguided in their genuine endeavour to be helpful. I believe that they may have been motivated by genuine reasons because of their experience with catch-based limits in their quota management system, but they did not even apply their quota management system to tuna in their EEZ. It was surprising that they would seek the Forum leaders' support to replace the PNA VDS, which was not even a Forum-mandated instrument, with a catch-based system. While the position of the US and the EU was understandable because of the impact of the VDS on their fleets, New Zealand's opposition to the VDS, especially when the VDS was bringing about significant economic benefits to the members, was rather confusing. New Zealand invited a number of fisheries ministers from the PNA members and other Pacific Island countries in May 2016 to visit Wellington to have a look at their quota management system. In preparation for that meeting we commissioned a study by Tom McClurg, to do a comparative analysis of quota versus effort controls for the tropical tuna fishery. We also asked Michael Arbuckle, a former World Bank Fisheries specialist from New Zealand to undertake a small analysis for us on the political economy of the tropical tuna fishery. It was not coincidental that we used New Zealanders to undertake the analysis for us. Both of them found that a quota management system would not work in a multizone, multispecies fishery where there would be incentives to for vessel operators to underreport their catch. We knew that this was the case, because the system that I was familiar with when I started getting involved with bilateral access agreements was based on an estimate of the rate of return on the landed catch, and we were entirely dependent on the data provided by vessel operators of their catch. The PNA ministers gave their full endorsement for the VDS, after all, it was their scheme.

The PNA members have proven that, through their own initiative and in establishing the VDS, they have an instrument for creating self-reliance and independence — this is what is important about their development story and their success. Development partners should take notice of what works and should support the PNA and the VDS.

The key imperative for regional cooperation should be economic self-reliance. We in the Pacific are confronted by the challenges and opportunities of being relatively young nation states. It is clear from the two organisations that were established in the 1970s and 1980s, namely the FFA and PNA, that our leaders had economic independence on their radar. If there is a key lesson for those interested in development, it is about creating self-reliance and reducing dependency on aid. It is about the development of instruments that are rights-based, and ensuring the interests of

resource owners are above those of outsiders. For a long time, we have been bystanders in the development of our resources, and were price takers, rather than price setters. We have demonstrated the value of economic instruments and how they empower right holders, as evidenced by the increased returns from our tuna resources. Economic growth and stability are important for all of us and instead of looking to work against us and the instruments that we created, development partners should support, rather than undermine our efforts.

There is, however, a price to be paid for regionalism in that there are trade-offs that often have to be made between the national interests of individual members and those of the region. I would argue that regional cooperation does not necessarily mean subjugating the broader national interest of a country. Even where national leaders are bent on promoting their national interest, the overriding impulse for cooperating should be to exercise their rights in ways that improve the wellbeing of their people. The goal of regional cooperation should be to reduce aid dependency, not perpetuate dependency on others. Hopefully the PNA members have successfully demonstrated that it can be done. We need more support for economic institutions that create self-reliance.

I am honoured to have been pioneer CEO of the PNA Office. I am proud of our achievements especially going in with no secure source of funds to establish the PNA Office. We put the PNA on the map and through our resolve and determination turned it into a highly regarded global brand in the tuna fishery. We have been able to project the PNA to the world and radiate internationally that a group of small island developing states can do something for themselves without relying on donors, building a cost-effective organisation with low administrative overheads that has been able to cut above its weight. When I gave my opening statement at the opening of the humble office in the Marshall Islands, I believed that the inauguration of the PNA Office was not about the size of the office, but an assertion of the self-determination and self-reliance of a grouping of small island states. I recalled in my statement what a prominent Kiribati academic Dr. Neemia Ueentabo said to me in Tarawa in October 2009 when the PNA ministers agreed to set up the office in the Marshall Islands. He said that the decision to establish the PNA Office was as transformative, as it was significant, to the regional architecture of the Pacific Islands because of the shift of the geopolitics of Pacific fisheries from the south to the northern Micronesian region, and also because of the fact that major donors would no longer have a direct role in the way the tropical tunas were being managed.

When I reflect on the flak that I had to go through and look at the success of our story, I think it was all worth it. I was chosen by PNA ministers in October 2009 to take on the role of interim director of the new PNA Office, no doubt orchestrated behind the scenes by my good friend Glen Joseph. I humbly accepted their decision and took on the challenge, because I knew that we were breaking new ground; we were embarking on something that had never been done before. It was visionary and innovative, and above all, we were doing something for ourselves — something meaningful for our peoples. I was joined by Anton Jimwereiy of Nauru, who had been PNA co-ordinator to continue in that role at the PNA Office, and Maurice Brownjohn, as interim commercial manager. We had no contracts, no financial regulations, no staff regulations, no strategic plan, no business plan and no source of revenue to do the things the PNA members wanted. The committee on the establishment of the new PNA Office had a long wish list of things that it wanted this new body, which had no source of funds, to do. The discussion paper by Kiribati helped inform the debate, focusing the conversation on priority areas such as inter-party trading of VDS days, pooling/selling of VDS days, the establishment of a PNA Vessel Register, PNA crewing, having an integrated observer and placement agency, establishing fishing and processing joint ventures, and proposals for fishmeal/catch retention. There was no limit to our imagination for the things we wanted to do, but there was no revenue stream through which these things could be achieved. Nonetheless, we were armed with a strong sense of purpose and a fervent desire that the VDS in particular had to be run on a commercial basis, that the successful operation of the VDS must be a cornerstone of PNA collaboration and that this required the trading of days between members in response to variations in demand for access to members' zones. Up until that time when the decision to have a separate secretariat was being mooted, inter-party trading had not worked, in part because of the lack of institutional arrangements and support capacity and this had lessened the benefits of the VDS to the members. The members recognised that additional benefits could likely be derived from the VDS if arrangements for the pooling of days were made available to potential buyers. They knew that such arrangements would allow for the provision of more flexible and valuable access and enable them to create a more competitive market for selling access. While various proposals had been put forward before, there was

a feeling that the best people to develop them were the members themselves, which says something — we should never forget those who are impacted.

We faced many challenges and the success did not come easily and quickly. Exacerbating these challenges were the consequences of establishing a separate PNA secretariat on external relationships, not from within the PNA membership, but from outside, although some of our own members were somewhat apprehensive about the changes, conscious of duplicating the functions of existing organisations and fearful of the lack of a financial support stream for the PNA Office. When we went to Palau for the Presidential Summit in February 2010, we met with some of the representatives of the World Bank who were interested in investing in the tuna fisheries in the region. It was an interesting meeting because they were not sure about the PNA, and this was not surprising to me because none of them had actually ever dealt with the PNA before. They only knew of the FFA. It was during our discussions that they questioned the legality of the PNA and the initiative to embark on a more independent posture. Indeed, my colleague director-general of the FFA sought legal advice from the FFA legal counsel to try to show that the establishment of the PNA Office was in violation of international law and violation of the Vava'u Declaration on Regional Fisheries Resources and various Forum communiqués that advocated regional solidarity. Glen Joseph told the representatives of the World Bank at that meeting in Palau that all we were trying to do was to get a fairer share of the benefits from our tuna resources, now surely there cannot be anything wrong with that!

No stone was left unturned to try to stop the members from establishing the PNA Office. My own personal and professional involvement in the establishment of the PNA Office could not have been more controversial, as I was at the time the deputy director-general of the FFA. Not only was I responsible for the technical work program of the FFA, but I was responsible for writing the paper that PNA ministers considered in Busan in December 2008 to plan the establishment of the PNA Office. I was heavily involved in the drafting of the subsequent reports of the committee established to oversee the establishment of the office under the capable leadership of Justin Ilakini of PNG, including drafting the Bikenibeu Declaration.

I was viewed as somewhat of a traitor in some quarters, but as an international lawyer and a scholar of international fisheries law, I had studied the legal and political instruments surrounding the fisheries cooperative arrangements in the region, including having led the development of some of these arrangements. I was therefore fully aware of the legal constraints and opportunities that were available to the members and therefore did not see anything illegal, threatening nor untoward about what the PNA wanted to do. For all intent and purposes, the PNA was already an independent body and was not answerable to anyone except the members about the decision to have their own secretariat. Thus, I did not see any problem at all in the PNA establishing their own secretariat and pursuing their vision of securing greater control and strengthening their rights in the fisheries, as these are core objectives that the founders of this august body have had since 1981. The success of the VDS and the PNA is one of most successful fishing stories in Pacific regionalism.

There is something to be said about having a small office, and ensuring that it is lean and efficient. We showed that you do not need to have major investments of money to be able to achieve the required efficacy. Much can be done using the resources that are already available in the member countries and in the region. The new PNA Office was probably the only regional organisation that outsourced some of the key functions of a secretariat to a program of secondment to commercial service providers as well as our own members to build capacity. These are important lessons for the development of institutions in the region.

I always think about the challenge of opening a bank account for the office with the Bank of Guam in Majuro. We had difficulty convincing the bank about our business. It was not really clear to the bank what we were doing. We had to use MIMRA's bank account for the first 12 months in 2010, until after all the diplomatic work and the headquarters agreement had been signed, by which time it was nearly the end of the year. By the time I vacated the position of CEO at the end of July 2016, we were one of the largest investors with the bank, with holdings close to US\$100 million. That included a surplus of around US\$7 million in office finances from savings that we had made. The fact that the PNA Office was able to rise from initially not having a bank account to being one of the largest investors with the Bank of Guam reflects the journey that we had in creating the largest capitalised tuna fishery in the world.

We should manage our oceans, including our tuna resources, to create self-reliance. Above all, we need to empower our peoples so that they take ownership of what is theirs. Tuna is the single largest shared resource of Pacific Islanders. PNA member countries have created the largest capitalised tuna arrangement in the world by asserting their strong property rights through the VDS. The PNA journey for me has in essence been about the 'Pacific Islandisation' of the tropical tuna fisheries of the WCPO.



Papua New Guinea — Learning to catch dinner near Nago Island, Niu Irian

Source: Francisco Blaha

ANNEXURE 1: THE SIZE OF THE WCPO TUNA FISHERY

2018 Tuna Catch*		
Provisional global tuna catch	5,017,567 metric tonnes (mt)	Included for comparison. Highest on record, 80,000 mt higher than previous record global catch in 2014.
Total Pacific Ocean catch	3,460,458 mt	Included for comparison.
Provisional WCPO total tuna catch	2,790,859 mt	Represents 81% of the total Pacific Ocean catch above, and 55% of the global tuna catch.
Skipjack	1,842,147 mt	66% of the total catch, 3rd highest at around 165,000 metric tonnes less than the record in 2014 (2,008,934 mt)
Yellowfin	690,207 mt	25% of the total catch was the second highest recorded (only 15,000 mt lower than the record catch of 2017); the past three years have been the highest annual yellowfin catches.
Bigeye	147,895 mt	5% of the total catch was lower than the previous 10-year average, but around 18,000 mt higher than in 2017.
Albacore	110,520 mt	4% of total catch was amongst the lowest for the past 20 years, and nearly 40,000 mt lower than the record catch in 2002 at 147,793 mt
Provisional purse seine	1,895,873 mt	This was the second highest on record, at nearly 165,000 mt less than the record in 2014 (2,059,008 mt).
Purse seine skipjack	1,459,442 mt	The 2018 purse seine skipjack catch (77% of total catch) was the third highest on record, 180,000 mt lower than the record in 2014 (1,639,791 mt).
Purse seine yellowfin	369,571 mt	The 2018 purse seine catch for yellowfin tuna was over 100,000 mt lower than the record catch in 2017 (480,176 mt) but still amongst the highest annual catches for this fishery.
Purse seine bigeye	63,836 mt	The 2018 purse seine catch estimate for bigeye tuna was the highest since 2014 and slightly higher than the past 10-year average.
Provisional pole and line	219,313 mt	The 2018 pole and line catch was the highest since 2013, mainly due to increased catch in the Indonesia fishery. However, the catch from this fishery has declined considerably over the past decade.
Provisional longline	256,602 mt	The catch for 2018 was at the average level for the past five years.
Albacore longline	86,392 mt	34% for 2018 was the lowest for 10 years, and around 15,000 mt lower than the record of 101,820 mt attained in 2010.
Bigeye longline	68,518 mt	27% of total longline catch for 2018 was higher than the recent five-year average, but well down on the bigeye catch levels experienced in the 2000s (e.g. the 2004 longline bigeye catch was 99,705 mt).
Yellowfin longline	97,548 mt	38% of the total catch. This was at the average level for the past five years and around 28,000 mt less than the record for this fishery (1980: 125,113 mt).

Note: * The latest data at the time this monograph was drafted is from 2018.

Figures 1 and 2 below illustrate the catch by gear type and species in the WCP-CA (Convention Area of the Western and Central Pacific Fisheries Commission).

Figure 1. Catch (mt) of Albacore, Bigeye, Skipjack and Yellowfin in the WCP-CA, by Longline, Pole and Line, Purse Seine and Other Gear Types

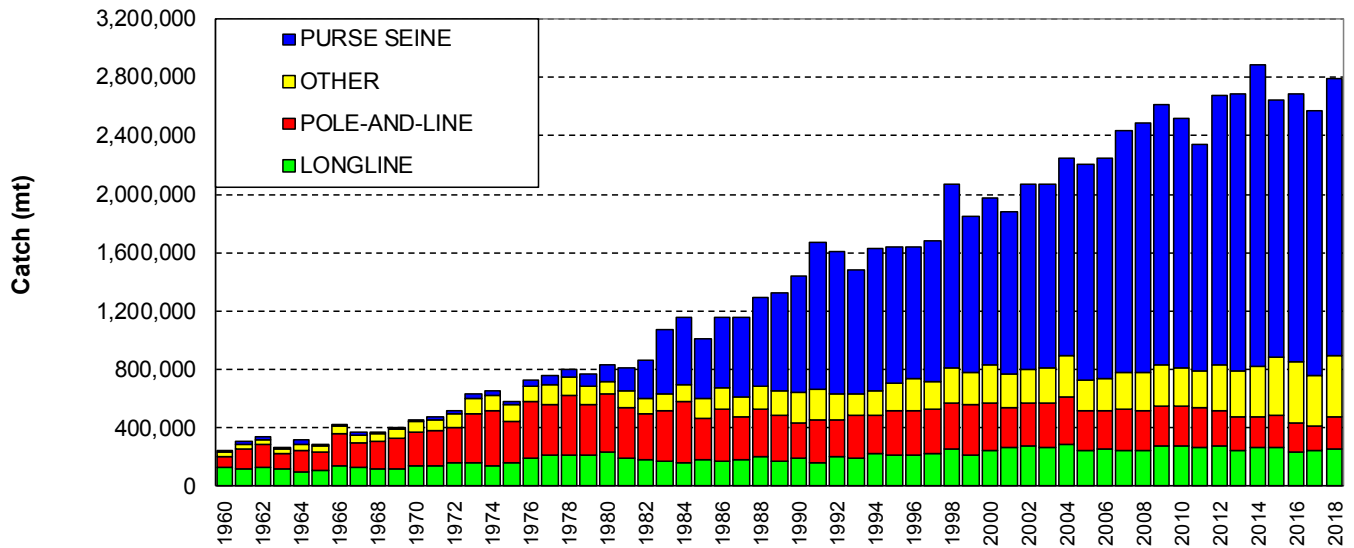
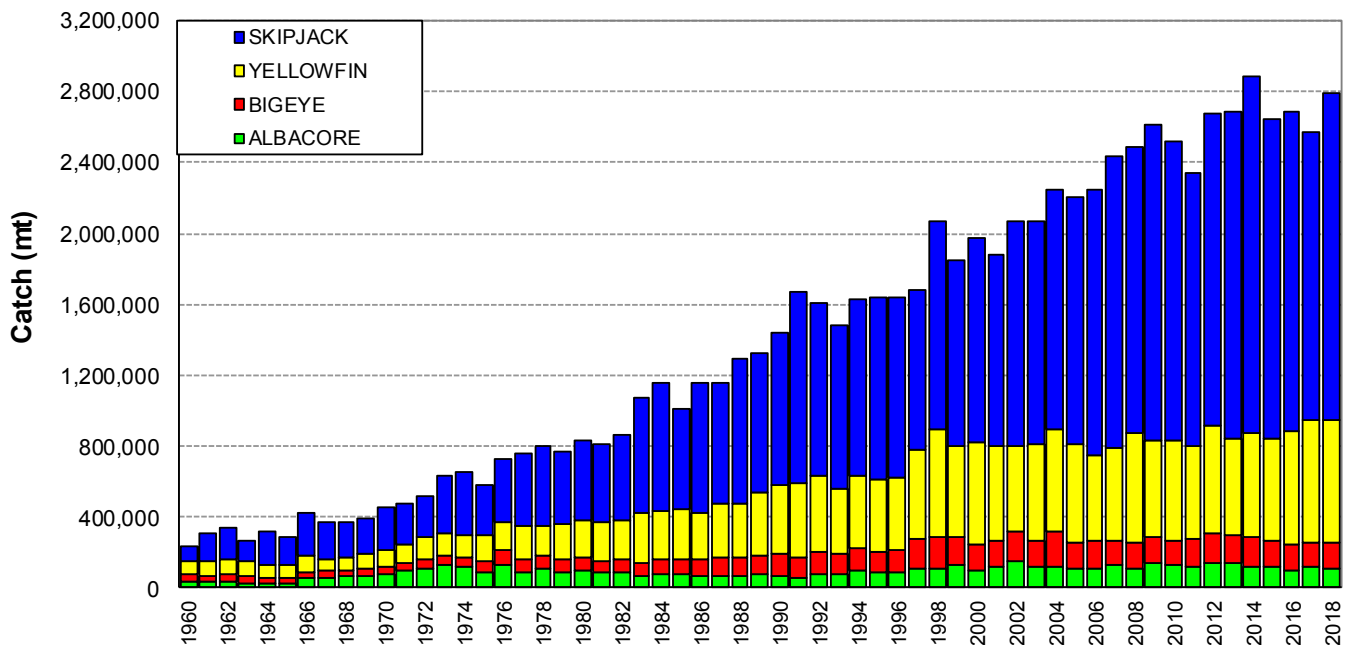


Figure 2. Catch (mt) of Albacore, Bigeye, Skipjack and Yellowfin in the WCP-CA



Source for statistics: WCPFC, *Summary Report*, Fifteenth Regular Session of the WCPFC Scientific Committee (WCPFC 2019b, pp. ii and iii).

ANNEXURE 2: LIST OF INTERNATIONAL FISHERIES LAWS, ARRANGEMENTS AND AGREEMENTS

This list of international fisheries laws, arrangements and agreements represents the major instruments that regulate and govern the way in which the tuna resources are managed and conserved. These instruments set out the basic rights, duties and obligations of the PNA members as well as the DWFNs whose vessels operate in the PNA members' waters. They also set out certain minimum rules relating to the conduct by fishing vessels of their operations in the EEZ and also in the high seas. Some of these instruments are global in nature and set out general rules that apply globally to all states. Others like the WCPFC are regional and apply both to PNA members as well as to DWFNs. The other arrangements are classified as sub-regional, and apply to the PNA members. These sub-regional arrangements set out the rules that are then applied by PNA members to fishing vessels through licence conditions.

Year	Agreement Name	Parties	Description
1982	United Nations (UN) Convention on the Law of the Sea	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu	This is a global instrument that establishes the EEZ regime, sets out the breadth of the territorial sea and EEZ, and the obligations, rights, duties and responsibilities of flag states and coastal states. There are 168 state parties to the convention. (see https://www.un.org/Depts/los/reference_files/status2019.pdf)
1982	Nauru Agreement	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu. Tokelau is an Observer to the Meeting of the Parties to the Nauru Agreement	Sets out the objectives of the parties, which is to maximise the economic returns from the tuna resources. The agreement obliges parties to cooperate by developing common licensing conditions, have a centralised licensing system, and establish joint programs for monitoring and surveillance of fishing vessels in their respective EEZs.
1983	First Implementing Arrangement (IIA)	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu. Tokelau is not a signatory to the IIA, but it is committed to uphold it.	The IIA establishes the Vessel Register, which requires all vessels to have good standing on the register as a precondition of license, and all vessels to be licensed and to provide data on catch, entry and exit from the EEZ, and weekly positional data in the EEZ.
1988	Treaty on Fisheries	Australia, Cook Islands, FSM, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, United States	The treaty provides the terms and conditions for US-flagged purse seine vessels to fish in the EEZs of the parties. It allows US-flagged purse seine vessels to fish in multiple EEZs. The administrator of the treaty is the director-general of the FFA. The US-flagged vessels are licensed by the administrator.
1993	Second Implementing Arrangement (2IA)	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu. Tokelau is not a signatory to the 2IA, but it is committed to uphold it	The 2IA sets out obligations on members to prohibit transshipment at sea by purse seine vessels, and requires all transshipments to take place in designated ports of the members. The 2IA also requires foreign fishing vessels to submit their catch data to the party for a trip, including catch on the high seas.

Year	Agreement Name	Parties	Description
1995	Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu. Tokelau is a signatory to the Palau Arrangement through a memorandum of understanding and participates as if it were a party to the Palau Arrangement	The Palau Arrangement allows members to develop conservation and management measures for the tuna fishery that apply in members waters. These measures include area closures and effort limits. The purse seine and longline VDS are both instituted under the auspices of the Palau Arrangement.
1995	UN Fish Stocks Agreement (UNFSA)	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu.	The UNFSA is a global instrument that clarifies the duty of states to cooperate through the establishment of regional fisheries management organisations or arrangements. The duty also includes requiring conservation and management measures for the high seas to be compatible with those adopted by coastal states for the respective EEZs. The UNFSA sets out more explicit flag state and coastal state responsibilities for fishing vessels in the high seas. There are 90 state parties to the agreement (see https://www.un.org/Depts/los/reference_files/status2019.pdf).
1995	Federated States of Micronesia Arrangement for Regional Access (FSM Arrangement)	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu. Tokelau is not a signatory to the FSM Arrangement, but has opened its EEZ to vessels licensed under the Arrangement through a memorandum of understanding with the parties	The FSM Arrangement sets out the terms and conditions of access by fishing vessels that are flagged by PNA members and are foreign owned but locally based that meet the criteria set out by the members. The arrangement provides for preferential access terms for these vessels to the EEZs of the members.
2000	Conservation and Management of Highly Migratory Stocks for the Western and Central Pacific Convention (WCPFC)	Australia, Canada, China, Cook Islands, European Union, FSM, Fiji, France, Indonesia, Japan, Kiribati, Korea, Indonesia Marshall Islands, Nauru, New Zealand, Niue, Palau, PNG, Philippines, Samoa, Solomon Islands, Tonga, Tuvalu, United Kingdom, United States, Vanuatu	The WCPFC Convention establishes the WCPFC. Role of the WCPFC is to develop conservation and management measures for tuna, and also provide a framework for coastal states and DWFNs whose fishing vessels operate in the WCPO to cooperate in the conservation of the tuna stocks. The WCPFC Convention establishes a scientific committee whose task it is to provide management advice to the WCPFC and also a technical compliance committee which reviews the technical and compliance of parties. The WCPFC was established in 2004, and is based in Pohnpei, in the FSM. The WCPFC adopts conservation and management measures known as CMMs which stand for 'conservation management measures'. These are legally binding on the members.

Year	Agreement Name	Parties	Description
2008	Third Implementing Arrangement (3IA)	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu. Tokelau is not a signatory to the 3IA, but it is committed to uphold it	The 3IA imposed additional requirements on foreign fishing vessels licensed by PNA members. These were the closure of the two high seas pockets bordering between PNG, FSM, Solomon Islands and Palau, and the pocket between Nauru, Tuvalu, Marshall Islands and FSM to vessels that they licensed. It also imposed a three-month prohibition on fishing on FADs between July and September each year, and required all purse seine vessels to carry a fisheries observer. Additional measures included having minimum mesh size for all purse seine sets and no setting within one nautical mile of any whale shark.
2009	Bikenibeu Declaration	FSM, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands, Tuvalu.	The declaration adopted by PNA ministers in Tarawa in October 2009 provided for the establishment of the PNA Office from 1 January 2010. The declaration also committed the members to develop innovative commercial initiatives to broaden the participation of the members in the supply chain.
2010	HQ Agreement (see Annexure 3)	PNA Office and the Government of the Marshall Islands	The HQ Agreement sets out the diplomatic status of the PNA Office in the Marshall Islands. It provides for the immunities and privileges and the technical staff of the office, and confers on the office the ability to open bank accounts, and own and lease property in the Marshall Islands. It sets out the obligations of the government of the Marshall Islands.

ANNEXURE 3: FIRST EMAIL TO PNA MEMBER STATES AT THE ESTABLISHMENT OF THE NEW OFFICE

Colleagues,

Greetings from the wonderful, and beautiful Island of Majuro. I have taken up residency in Majuro and look forward to working closely with you all over the next few months and years to develop the office and strengthen the PNA's role in the management and conservation of the region's lucrative tuna resources.

Our hosts have done an excellent job in providing a very nice and functional office, fully furnished with all the necessary tools and equipment needed to operate. It is indeed a beautiful setting with the flags of the respective PNA members now providing a very nice backdrop to the conference room. Accommodation arrangements have also been well organised and so we have been able to start work immediately. I am sure that you will all take pride and have a great sense of joy when you come to Majuro for the annual PNA meeting in April. Welete from PNG has also been to Majuro and they will be providing additional equipment for the office. Two vehicles have also been provided to the office. We are also working on equipping the office with the ability to monitor all fishing vessels through SmartTrack and monitor fish price movements (more on this later).

Of course, there are a lot of things that still need to be sorted out to get the office fully operational. On the institutional and administrative front, we still have to get the amendments to the Nauru Agreement and the HQ Agreement signed, but the former should precede the latter. The texts of the amendments have been agreed to and will be notified by the RMI to the depository to circulate to members. The key amendment is to Article V. The amendments just need unanimous decision of the members to bring into force, and not ratification but I understand that each party has its own internal procedures for the adoption and approval of amendments. It is critical that we get the amendments through because the HQ Agreement also hinges on the amendments. More importantly, the office cannot operate its own bank account etc. until our status is clarified through the amendments. In the meantime, we are operating a bank account with MIMRA [Marshall Islands Marine Resources Authority] which is ok for now but the sooner we get to have our own operating account, the better it will be for us, and of course release MIMRA of the additional responsibility which they carry. I therefore cannot impress enough the importance of getting the amendments to the Nauru Agreement adopted by the members at the earliest possible opportunity.

In terms of regulations for the office, we are operating with the FFA staff and financial regulations as default regulations for the moment, and using the administrative manuals for the operations of the office. Terms of references will have to be developed for all three positions, with MIMRA to provide support initially (1 year) for the position of office secretary/supervisor and liaison officer. These have been put on hold temporarily until terms of reference for the three technical positions in the office are developed.

In this respect, I would like to request that the steering committee that was identified in Tarawa be activated to manage the process of getting the institutional and administrative arrangements in place and overseeing the process of finalizing the terms of reference, etc. I think to the best of my recollection, the steering committee would consist of Kintoba (chair), Charley (Nauru), Glen (RMI) and Justin (PNG).

A more comprehensive report will be provided to the members later this month at the Palau PNA-related meetings on the office and work that is going on with respect to some of the proposed things that the PNA wants to do.

You will be aware by now that there will be a series of meetings in Palau later this month and we have been working with Nannette to finalise the details of the meeting, in particular the agenda for the presidential summit to be attended by the PNA member state leaders and heads of governments. Information on the exact dates of the series of meetings have been circulated. However, if anyone has missed them, they are from Feb. 22-25. The 22nd will be a national symposium and I understand that we do not necessarily have to participate in the symposium. On Tuesday, the national symposium will take on a more regional focus, and there will be presentations from the PNA Office on what is happening with PNA, its initiatives and I understand that there will be a presentation from the FFA on development options. The meeting with the processors is scheduled for Wednesday 24 and I also understand that you have received communication on the proposed meeting, with a list of processors who have been invited. It is intended that it will be a one-on-one meeting between PNA and the processors on what they plan to do in terms of investments etc.

It is planned that we will have an official's meeting that will precede these series of high-level meetings on 20, 21, 22, and the afternoon of the 23. A draft agenda for these series of meetings will be circulated this week. At this point in time, we are thinking of having a meeting also with the World Bank/International Finance Corporation on Monday. The purpose of the meeting is to establish links with the World Bank and discuss ways in which the World Bank/IFC [International Finance Corporation] can assist the PNA endeavours, in particular on the commercial aspects of the PNA initiative.

The annual PNA meeting has been scheduled for the week of the 12-16 April. In respect of agenda items and focus of the work of the PNA, the longline VDS, additional conservation and management measures, the Regional Observer Placement Agency, and developing mechanisms for trading of days are very much on the radar. Of most significance is being able to make economic gains from the fishery and I wish to reiterate what I said in one of my earlier emails, that we have to address what appears to be too many vessels being able to access excess days and so the scarcity that we intended to create with the VDS is not giving us the results that we had expected. Addressing this and ensuring that we have a well and effectively managed fishery (which is what I believe we already have) that delivers on doubling of returns from the fishery as a target for us, should be our priority.

Controlling this fishery and securing the rights to the fishery remains a central plank of the PNA's desire and to this extent, work on the LL [longline] VDS will be progressed through the technical working group under the chairmanship of Eugene. Other members of the TWG are Ludwick, Raikon and Joseph Atkin from Solomon Islands, with support from Samisoni of FFA, Les, PNA Office and SPC. The next meeting of the TWG will be in Honiara from March 29 to April 2 but in the meantime, there have been some discussions between FFA/SPC on the TAE /PAE [total allowable effort/party allowable effort] setting (i.e. the analytical work). Getting this in place is priority and so will be the development of additional measures, especially the closure of the additional high seas areas.

As I said in my previous email, I am keen to ensure that the members remain close to the issues, in particular taking a lead in directing and actually developing these, and so I can see that the use of these technical working groups will become an important part of our strategy. The development of a PNA Observer Program is also key, and in this respect, I would like to see a TWG to advance the work on this. Already I have seen several complaints about the way in which observers are placed currently. I know that this is one of the business units identified by the TWG on the establishment of the PNA Office but with the 100% observer coverage, there is a sense of urgency in addressing this issue at the earliest possible opportunity.

Funding for PNA activities to enable these TWGs to meet and other related aspects of the PNA work is of priority, and in this respect, we will be seeking your quick approval for the VDS Register to be increased (as has already been discussed by the TWG on the PNA Office) to provide the PNA with funding support. The funding support is not necessarily to fund the PNA Office but to fund PNA members, and give members the flexibility to fast track matters that they want addressed. Already, (and I say so with respect), we are having some difficulties being able to secure funds from the FFA Secretariat to support the TWG on the LL VDS (to fund three people) and to fund Kwame Mfodwo to prepare a paper on natural resource cartels, lessons learnt etc. for the presidential summit. This is also one of the priority areas, and I will ask that this support is not viewed as supporting the office but broadly to support PNA members to be able to do what they want. The commercial aspects of what PNA members want to do is also being developed and we will be hearing from the World Bank/IFC on what they can do for PNA.

I will circulate an agenda for the officials meeting of the PNA in the next few days and also one for the April meeting.

Komol,

Dr. T

[Message dated 3 February 2010]

ANNEXURE 4: CONDITIONS OF THE PNA'S MSC CERTIFICATION

Conditions

The assessors require six conditions to be implemented.

Harvest strategy (1.2.2) requires that there are well-defined and effective harvest control rules in place.

Condition 1: PNA must adopt harvest control rules for the exploitation of skipjack tuna in their waters, including archipelagic waters, that are consistent with the harvest strategy and act to reduce the exploitation rate, as limit reference points are approached (within 2 years of certification). Furthermore, this should include further assessment of the main uncertainties e.g. the fishing mortality in areas outside PNA waters in order ensure that the exploitation rate is reduced as limit reference points are approached. PNA must also promote the adoption of appropriate harvest control rules by the WCPFC at annual meetings. PNA must also commission an independent report that the tools available are appropriate and effective in achieving the exploitation levels required under the harvest control rules (within 4 years of certification). In the event that these tools were to substantially change, then their effectiveness should be re-evaluated within one year.

Management Strategy (Bycatch species) (2.2.2) requires that there is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations.

Condition 2: There are two elements to this condition:

1. The PNA conduct a review of all available data (observer, logsheet) to provide the necessary level of confidence that the shark bycatch management strategy will work. The review should be completed within two years of certification.
2. The implementation of those elements of the Pacific Islands RPOA [Regional Plan of Action] for sharks that have 'a high likelihood, in aggregate, of delivering improved conservation outcomes for sharks' if information including the review required in para 1, indicates that this fishery has a significant impact. (i) the release of all live sharks, (ii) that sharks to be landed with fins naturally attached, allowing for fins to be partially severed and folded back against the carcass for storage; and (iii) the prohibition of dumping carcasses after landing. These should become binding to the unit of certification within two years of certification.

Status of endangered, threatened and protected (ETP) species (2.3.1) requires that (i) it is highly likely that the effects of the fishery on whale sharks are known and are highly likely to be within limits of national and international requirements for the protection of this species and (ii) the direct effects are highly unlikely to create unacceptable impacts to whale sharks.

Condition 3: Requires that the PNA fleet adopt both the RPOA for Shark's recommended prohibition on schools associated with whale sharks as well as the subsequent PNA decision to prohibit sets on whale sharks (from 1 January 2011) in the form of an Implementation Arrangement. This should be validated by written and agreed rules to implement this, as well as a review of the level of whale shark interactions after a reasonable period of implementation.

Decision-making processes (3.2.2) requires that the fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives.

Condition 4: The link between the VDS TAEs and WCPFC requirements and the scientific advice needs to be clearly established by the PNA. Minutes of meetings should demonstrate discussion on VDS TAEs, that scientific advice is incorporated into the decision-making process, and that PNA actions are being agreed upon and implemented.

Monitoring and management performance evaluation (3.2.5) requires that there is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives; and that there is effective and timely review of the fishery-specific management system.

Condition 5: Explanation of decisions by PNA, particularly relating to the operation, monitoring and reporting of the VDS needs to be improved. An administrator's report must be prepared annually (as opposed to on an ad hoc basis)

summarizing the uptake of VDS across the sectors, the PAE shares and transfers and developments and concerns. The document must be at a level consistent with the existing PNAO report (2010) but also including details of PAE transfers.

Condition 6: The PNA must establish a system of external and regular internal reviews monitoring and evaluating the VDS (focusing on monitoring & management); the performance of the PNA Office relating to the VDS and management of the purse seine fishery more generally; and national implementation of the VDS and other PNA processes related to the purse seine fishery. Internal reviews should be annual, an external review should be undertaken within 3 years of Certification.

(Richard Banks et al., *Assessment Report for PNA Western and Central Pacific Skipjack Tuna (Katsuwonus pelamis) Unassociated and Log Set Purse Seine Fishery*, Version 5, Public Certification Report, published 21 December 2011, Moody International, Ref 8112/v. 5 (Banks et al. 2011))

ANNEXURE 5: STATEMENT TO THE INDEPENDENT ADJUDICATOR, NEW YORK, 2018

Statement to the Independent Adjudication in the Matter of the PNA Skipjack/Yellowfin Non-Associated Non-FAD Set Purse Seine Fishery, New York, 14–15 January 2018

Your Honour,

I bring warm greetings to these cold wintery conditions, from the peoples of the Pacific Islands, who are members of the PNA, from their governments, from the scattered communities; the men, women and children who are spread out across millions of square miles of the Pacific Ocean in whose waters these tuna resources, whose management is being contested, are found. I am pleased to note that we share at least in one respect, a common heritage that notwithstanding the fact you are from Scotland, as the attorney general of Anguilla, you live and work in an island community and therefore you will be able to relate to smallness and the vagaries of being small island states. The territory of Anguilla is larger than some of our member nation states.

I carry with me to these proceedings the hopes, aspirations and burdens of our peoples for whom stewardship of these tuna resources is not a matter of bread and butter, dollars and cents, but life and death. For whereas these tuna resources may represent for some simply rewards on their balance sheet, their profit and loss accounts and their share of the shelf space in supermarkets, for us in the Pacific, they have a far deeper meaning and significance that transcend the broad commercial narrative that we fervently believe underlines our presence here. Tuna is not only a source of food security for us in the Pacific Islands that has sustained us from time immemorial, it provides often the only safety net through which important services are provided that allow us to live decent lives as global citizens. The salaries of our teachers and nurses and others, who provide vital services that human beings need, are increasingly being met from the revenues that we generate through the careful management of our tuna resources.

It would be impetuous of us, as peoples whose survival and livelihoods are dependent overwhelmingly on the sustainability and good health of our tuna resources, to choose an irresponsible path to its management. Yet, we find ourselves at great expense in this cold place far removed from where the fishery is located, having to justify the way we manage our tuna resources. Is it not evident, that we for whom tuna means so much, would be so selfish so as to manage it irresponsibly? That is not a path that we would ever wish to tread. Indeed, our leaders have had the foresight and vision for 36 years since coming together as a union under the umbrella of the PNA to sustainably manage these tunas for the best of their peoples. In the past 36 years, these small, disparate, developing nations have shouldered a heavy responsibility far beyond measure, in proportion to their size, scale and economies by leading the way and making the hard decisions to ensure that their tuna resources are managed effectively and sustainably. The fruits of those efforts are now flowing to our people from tuna stocks that are the healthiest in the world.

I have no inkling of doubt that we have been responsible stewards and custodians of our tuna resources over the past 36 years; that the high standards that we have set are motivated by the need to ensure our survival as nations and peoples, and that our leaders desire in 2010, to subject the PNA skipjack fishery to an MSC assessment was merely an extension of that sense of responsibility that we must strengthen and enhance the way we manage our tuna resources through the international tools and standards available through the MSC. We were assessed, not once but twice. The initial assessment was even preceded by a pre-assessment. Our tuna fishery has undergone a previous independent adjudication, annual audits, an expedited audit under three certification assessment body's (CABs), six peer reviews and in spite of this high level of scrutiny have been endorsed to have met the MSC standards. We elected to subject ourselves to the high standards of the MSC because we are of the fervent belief that they are the gold standard bearers of eco-labels.

The MSC certification that we have carried now since 2011 has motivated us to further improve our fisheries on several fronts, including instituting very important reforms to the structure of our tuna management framework. We have led the way in the development and adoption of limit reference points (LRPs) for the four key tuna stocks by the Western and Central Pacific Fisheries Commission (WCPFC); we have been at the forefront of the development of an interim target reference point (TRP) for skipjack tuna in the WCPFC. We have been strong advocates for the adoption of harvest strategies and supported the development of harvest control rules (HCR) through the WCPFC.

I grew up with the pole and line industry in Solomon Islands. This is a fishery that is now well over 40 years old, and although it has declined in size, at one stage it was the largest in the south west Pacific. Indeed, the industry is located on my tribal land. I doubt that those who espouse the interests of the pole and line fishery grew up in one, let alone have seen the deck of a pole and line boat. We opened our homes and kitchens to Okinawa fishers who operated bait boats. These were the net boats that would set out at night to the nearby reefs to catch baitfish for the pole and line boats. The pole and line fleet has been reduced to five boats from 30 boats at the height of this fishery, but there is a bustling purse seine and longline industry that is now operating in its place. In fact, each morning at 4 to 5 am, I am awakened by the noise of the bus taking the workers down to the cannery and the port which is situated about 30 minutes' drive from where I live. The importance of tuna and the tuna industry is brought home to me every day because I have cousins, aunts, uncles, nieces and nephews who work in the cannery and the port at Noro, the tuna capital of Solomon Islands.

I have also been on a purse seiner on not one, but two purse seiners and have seen FAD fishing, and free school fishing. I have seen the ripples on the surface of the ocean when there is a large school of tuna, and how the birds flock above the water signalling that there is tuna around somewhere.

The various shades and ramifications of what we are doing here is brought home to me every day when I am back home. I have not come from the luxury of comfort to these hearings; I have had to borrow warm clothes to be here, but I have come from the harsh realities of our tropical conditions where we must struggle to survive, where we must make a living to eat; where tuna has more meaning to us than many others because for us it is a matter of survival.

Upon reflection on what has brought us here, I am less convinced that it has been motivated by sustainability concerns than it has by commercial interests; interests driven by competition. That is what this is about. It has got nothing to do with sustainability, but contestation for commercial shelf space. After all, our free school purse seine fishery has been shown to meet the MSC standards since 2011. This does not occur outside the Pacific.

It is not our place here to debate the unit of certification, unit of assessment, the objector's interpretations and philosophy. I sincerely believe that these are all matters for the MSC to decide.

We have nothing but the highest regard and respect for the integrity, skills, knowledge and experience of the assessors. They are amongst the best in their field. We have no doubt whatsoever that they applied the MSC standards as they were intended by the drafters and arrived at their conclusions as any reasonable independent assessors and their peer reviewers would have done.

We sincerely hope that you too will share that same conclusion.

ANNEXURE 6: EMAIL TO STAN CROTHERS, DEPUTY CEO OF THE NZ MINISTRY OF FISHERIES ON THE VDS

Kia Ora Stan,

I am delighted to see your name associated with the development of the trading mechanism for the PNA purse seine VDS. I know you are meeting with Les later next week and will have an opportunity to discuss the work in greater detail with him. When do you think you can do some work on this? We have two windows of opportunities before us. The first is late next month when the PNA will be meeting with the US in Honolulu, and the second is in Nauru in the second week of August when PNA is meeting with the Koreans. There is only a flight once a week into and out of Nauru so I am hoping to use the opportunity for the PNA to also meet on the VDS. There is a Technical Working Group under the Chairmanship of Solomon Islands also reviewing the VDS which I hope will also meet in Nauru.

There is a lot of work that needs to be done with the VDS. There have been a lot of discussions in the first six months of this year on pooling and trading, and following a workshop in April, members agreed to set a hard limit of 28,469. I was hoping that members would meet informally in Nadi last month on the hard limits and options for trading set out below, but I think they did not have enough time. Here are some thoughts that I had on what I believe should be the start of a simple trading system:

a) if the VDS is a hard limit, members will have to have a mechanism in their access agreements to cease fishing either for each fleet or the zones as a whole. Members may wish to discuss what is in their current access agreements, the application of days allocated under their access agreements and discuss ways in which the hard limits may be implemented. This might involve examining current access agreements and the allocation of days under existing agreements, and mechanisms to apply hard limits, i.e. either through regulations or licence conditions etc. The significance of this discussion is that members are now in the process of preparing for their bilateral access agreements and hence some plan of action on how they go about applying the had limits might be useful.

b) Development of trading mechanism options. There might be two options which the members may wish to discuss: -

i) Option 1 may be the trading/pooling mechanisms discussed in Palau and Majuro, i.e., up front allocation of days to domestic, locally based foreign fishing and foreign fishing to members with the remainder of days to be allocated to the regional pool administered by the PNA Office, with the US Treaty and FSM Arrangement coming off the bottom;

ii) Option 2 — short term 2011 arrangements for specific trading at agreed prices e.g. Palau, RMI and Tuvalu to make available (x) no. of days at (x)\$\$\$\$ to be divided between PNG and Nauru, (or whatever variation is suitable). In addition to the agreement on trading, a trial pooling arrangement with each Party committing 10% of their respective PAE or make a voluntary contribution to the pool.

If 28,469 is now the hard limit, it will be necessary to discuss these options.

As I indicated above, there were no discussions and I think that is where your name came up in terms of someone able to assist the PNA Office.

I would really like to take this issue forward and discuss with you on the contractual terms for the work. I know that you also mentioned Leslie Campbell's name to Maurice. I don't think the attachment you sent to Maurice on her contacts got through. I would be happy to discuss contractual arrangements with you at the earliest possible opportunity.

I met yesterday with New Zealand's Ambassador to Marshall Islands, (Robert Kwawai). I will be writing to him separately on current initiatives but I did mention to him that we have been in contact with you with regards to assisting PNA develop a VDS trading scheme.

I would like to move this work as quickly as possible and would appreciate hearing from as soon as possible.

Dr T.

[Message dated June 2010]

ANNEXURE 7: EXCERPT FROM PROFESSOR RAGNAR ARANSON'S REVIEW OF THE VDS

The PNA purse seine Vessel Day Scheme (VDS) represents an attempt by eight Pacific States, whose EEZs cover a large fraction of the distribution area of the WCPO tuna resources, to install a management system for this fishery capable of conserving the resource and securing the flow of net economic benefits from the fishery on a sustainable basis. Given the complexity of the fishery and the number of nations involved, this may be the single most ambitious attempt of this kind seen in the world so far.¹

There is overwhelming evidence that the VDS has been highly successful. Under the VDS, two of the largest tuna stocks; skipjack and yellowfin, have been maintained in a very healthy state. The main target species in the fishery, skipjack (accounting for some 70% of the total catch) is currently underexploited, while yellowfin (accounting for some 25% of the total catch) is close to fully exploited (WCPFC, 2013). Only the third stock, that of bigeye tuna (accounting for some 5% of the total tuna catch), which constitutes hard-to-avoid bycatch in the purse seine fishery, is overexploited in the sense of being below the MSY level (WCPFC, 2013). Apparently certain advances in or modifications of the application of the purse seine fishing technology are needed to bring the fishing mortality of this tuna species into line with that of skipjack and yellowfin. The net economics benefits of such efforts are unclear.

The economic success of the VDS has been even more impressive. Since the introduction of the Scheme, the fishing fee revenues collected by the VDS-partners have increased dramatically.² At the present they amount to a significant part of the landed value of the catch³ and are still increasing. It moreover appears that a good part of these gains represents an overall improvement in the net economic benefits generated by the fishery; there are no signs that the profitability of the fishing fleets has been reduced by anything like the increase in the fishing fees.⁴

(Ragnar Aranson, *Hagrannsoknir SF Review of the Purse Seine Vessel Day Scheme*, 13 October 2014 (Aranson 2014))

ANNEXURE 8: COMPARISON OF LONGLINE MANAGEMENT CONTROLS (CAPACITY, EFFORT & CATCH) AGAINST PNA OBJECTIVES

PNA Objective	Capacity Limit (Vessel Nos. by Flag)	Effort Limit (Vessel Days by Party)	Catch Limit (by Party)
Value of access	Maybe not if vessel numbers reduced	Flexibility likely to add value.	Price sensitive; provides national quota adding value to the fishery.
Promotion of domestic development	Not very effective, likely to lock in foreign fleets;	More effective because of greater flexibility; enable domestic decisions between access agreement and domestic fleet.	Also effective but less than effort limit because of less flexibility, especially with multispecies allocations; enable domestic decisions between access agreement and domestic fleet.
Exercise of sovereignty and sovereign rights	Flag limits undermine exercise of rights, capacity limits lock in existing foreign fleets	Catch and Effort limits equally effective in providing for the exercise of sovereignty/sovereign rights; enhance government authorities roles and responsibilities.	
Equitable share	Tends to lock in foreign fleets	Catch and Effort limits equally effective in enabling PNA to secure an equitable share of the fishery.	
Conservation effectiveness	Least effective because of effort creep through technology, transshipment etc.	More effective than capacity limits, but generally less than catch limits because of potential effort creep in terms of catch/day; but can be more directly related to fishing mortality.	Generally, most effective but doesn't directly control fishing mortality, which reduces effectiveness when stock size fluctuates and catch limits can't be adjusted quickly.
Implementation feasibility/ complexity	Simple — can limit no. of boats	Feasible with VMS on vessels; allow automatic adjustment of registered fishing days & link to VMS database; flexible for additional functional specifications. to suit the scheme; may be monitored regionally; requires complex allocation scheme	<i>Seems not currently feasible to monitor/ verify catches, especially on distant water vessels — likely to need onshore landing (domestic fleets) & inspection offloading; or 100% observer coverage;</i> requires complex allocation scheme, especially for multispecies allocations

ANNEXURE 9: EMAIL TO CHAIR OF THE PNA ON THE PURCHASE OF THE IP OF FIMS AND IFIMS

lakwe Chair,

I want to share some insights into what I view as the political ramifications of the agreement to recommend to ministers to purchase the IP in FIMS and iFIMS because I fervently believe that they are significant, not only from a geopolitical perspective but from the view also of the new regional architecture for regional cooperation.

The step that you have taken is going to reverberate around the region and create a new regional framework in which the relationship between the members will become integrated and intertwined even more closely in ways that Forum leaders have been struggling to canvas since the previous regional co-operative endeavours in Air Pacific and the Forum Line, but which still allows you to make your own choices and pursue your own national interests.

Here is why I think the agreement to recommend to ministers to purchase the IP in FIMS and iFIMS has more far-reaching political ramifications than people might otherwise realise:

a) *The establishment of the PNA office in 2010 was the first time in the political history of the region that a small grouping of developing countries established their own organisation without any donor support. This was unprecedented in the political annals of regional co-operative ventures in the region. The agreement to collectively purchase the asset such as the FIMS and iFIMS, valued at millions of dollars by a group of developing countries that are willing to invest their own resources into the purchase, is unprecedented. I have never come across any precedents where countries in the region, let alone developing countries, have collectively pooled their resources to invest in this way. This is totally without precedent and reflects the huge returns in investments that members have expended on the VDS, the PNA office and in the relationship with each other.*

b) *The VDS, but more so owning the IP and iFIMS through investing your own resources, brings your relationship even closer by having it integrated and interwoven through the management corporation that you will be establishing to manage your FIMS. Not only will you still be individual countries developing your respective fisheries, but you will become shareholders in the common platform that you will be using to support the management of your fisheries. Your interest will be defined by your common business goal, which could arguably be to ensure that you have a robust and secure system that you own and bought with your own money. This is going to further elevate your co-operative efforts and increase and diversify the nature of your engagement across different streams from policy, legal, technical and operational.*

c) *The fact that there is a general willingness to consider drawing on your own resources to fund the purchase also reverberates because it comes at a time when donors are investing more resources into fisheries. It sends a very strong signal to donors and other regional agencies that you do not need their funds to support your fisheries development and while there is a role for them in supporting capacity development, they should stay clear of the core business of managing the tuna fisheries in the region and leave it to the owners of the fish and the right holders to decide on how they manage their natural resources.*

d) *The decision sends out a clear signal that by investing in your own system, you will be less amenable to use other systems in the market, but will probably be more disposed to marketing your system. You manage the largest tuna fisheries in the world and own the most complex tuna management arrangements in the world and no doubt this will incentivise you to continue to improve it and market it to other regions in the world, thus making the PNA a truly global brand.*

e) *I was very impressed by the willingness of the members to work together, to test each other, to question the value of the sale and to discuss the various options. This was a forum where countries were not just getting together to have a talkfest. There were millions of dollars at stake here. I observed you all, watched peoples' body movements, analysed every interaction and while naturally members were apprehensive and perhaps uncertain given the level of usage of the system across the membership, everyone understood the opportunities and unique regional co-operative venture that was playing out. This will no doubt reshape the way you interact with each other in the way sought by Forum leaders for deeper engagement. You cannot go any deeper than the way you have decided to own your own system and purchase it.*

f) *The powerbase of the fishery has already shifted, but this step will increase your control over the fishery and perhaps also somewhat change the relationship you have with the FFA, SPC and the WCPFC. You will now not only entrench your*

rights as owners of the data, but also in the intellectual property rights in the data and in the system that generates the data. This is a powerful position to be in, not only as right holders in the VDS, but also as owners of the data management system making you a very powerful fisheries management and data management grouping. The natural progression from this development would be a VDS Trading House and VDS stock market and I have no doubt these will one day come to fruition. I sincerely hope I have cast my eyes correctly over the likely implications of the decisions you took. T

[Message dated April 2017]

REFERENCES

- Aqorau, T. 2009. *Draft Concept Note on the Establishment of a PNA Secretariat*. Paper prepared for the PNA Ministerial Meeting, Niue, 3 March 2009 (Honiara: Parties to the Nauru Agreement) (copy with author).
- Aqorau, T. 2010. PNA Tuna Planning the Way for Creating Wealth and Opportunities from Our Tuna Resources: Making Waves and Finding a Possible Way Forward. Opening Speech to the First PNA Presidential Summit, Koror Palau, 25 February 2010 (Majuro: PNA Office).
- Aranson, R. 2014. *Hagrannsoknir SF Review of the Purse Seine Vessel Day Scheme*, 13 October 2014 (Majuro: PNA Office) (copy with author).
- Banks, R., L. Clark, T. Huntington, A. Lewis and A. Hough 2011. *MSC Assessment Report for PNA Western and Central Pacific Skipjack Tuna (Katsuwonus pelamis) Unassociated and Log Set Purse Seine Fishery*. Version 5, Public Certification Report, 21 December 2011. Moody International, Ref 8112/v. 5.
- Bui, A.O.V., M. Castonguay, P. Ouellet and J.M. Sévigny 2011. 'Searching for Atlantic Cod (*Gadus morhua*) Spawning Sites in the Northwest Gulf of St Lawrence (Canada) Using Molecular Techniques'. *ICES Journal of Marine Science* 68(5):911–18.
- Dorney, S. 2014. The Biggest Pacific Business Story is PNA, Says Leading Pacific Correspondent. ADB Pacific Business Media Summit, 25–26 March 2014.
- Geen, G. 2000. *Review of the Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery*. Report prepared by Fisheries Economics, Research and Management Pty Ltd (FERM) for the Parties to the Nauru Agreement, April (copy with Author).
- Hardin, G. 1968. 'Tragedy of the Commons'. *Science*, n.s., 162(3859) (13 December 1968):1243–48.
- Islands Business* 2011. Trouble in the PNA. May 2011.
- Hau'ofa, E. 1993. 'Our Sea of Islands'. In Vijay Naidu, Eric Waddell and Epeli Hau'ofa (eds), *A New Oceania: Rediscovering Our Sea of Islands* (Suva: School of Social and Economic Development, The University of the South Pacific).
- Kent, G. 1980. *The Politics of Pacific Islands Fisheries* (Boulder, Colorado: Westview Press).
- McClurg, T. 2012. *PNA Business Plan, 2010* (Majuro: PNA Office).
- Mfodwo, K.S.B. 2009. *A New Approach to Maximize Economic Benefits from Tuna Resources - Development of the Concept*. Noumea, New Caledonia: Secretariat of The Pacific Community (SPC) Coastal Fisheries Programme.
- Ministry of Natural Resources 2009. *Kiribati Paper for Discussion by PNA on a PNA Secretariat and PNA Tuna Corporation*. Paper prepared for for the 27th Special Meeting of the PNA, SPNA27, 15 October 2009 (Honiara: Parties to the Nauru Agreement).
- MSC (Marine Stewardship Council) 2017. Teeming with Life: A Summary of the Marine Stewardship Council's Strategic Plan, 2017–2020. <https://www.msc.org/about-the-msc/our-strategy>.
- Naime, Q. 17/9/2015. 'PNA Happy with Finalist Selection in Industry Competition'. *Loop PNG*. <http://www.looppng.com/content/pna-happy-'finalist'-selection-industry-competition>.
- Neemia, U.F. 1986. *Cooperation and Conflict: Costs, Benefits, and National Interests in Pacific Regional Cooperation* (Suva: Institute of Pacific Studies, University of the South Pacific).
- Philipson, P. 2009. *Development of a Regional Strategy to Maximize Economic Benefits from Purse Seine Tuna*. FFA Report, DevFish (Honiara: Forum Fisheries Agency).
- PIFS (Pacific Islands Forum Secretariat) 2014a. *The Framework for Pacific Regionalism* (Suva: Pacific Islands Forum Secretariat).
- PIFS 2014b. *Pacific ACP States Technical Response Fisheries Conservation and Management Issues*, December 2014 (Suva: Pacific Islands Forum Secretariat).

- PNA (Parties to the Nauru Agreement) 2010a. *2009 Bikenibeu Declaration by Ministers for Fisheries of the Parties to the Nauru Agreement – Securing Greater Value from their Common Fisheries Wealth*, 21 October 2009 (Majuro, Marshall Islands: PNA Office).
- PNA 2010b. *Establishment of the Secretariat for the Parties to the Nauru Agreement – Securing Greater Value from their Common Fisheries Wealth*. Paper prepared for the 28th Special Meeting of the PNA, SPNA28, Working Paper 1 November 2009 (Majuro: PNA Office).
- PNA 2010c. *Memorandum of Understanding on Continuity of Transboundary Observer Coverage of PNA Observers and Development of a PNA Observer Programme and Placement Agency*. PNA29, 22 April 2010 (Majuro: PNA Office).
- PNA 2010d. *Development of Strategy for Increasing Employment of PNA Nationals on Fishing Vessels Operating in PNA Waters*. SPNA30, Working Paper 13 September 2010 (Majuro: PNA Office).
- PNA 2011. *Strategic Plan, 2011* (Majuro: PNA Office).
- PNA Observer Agency 2011. Paper prepared for the 30th Annual Meeting of the PNA, PNA30, Funafuti, Tuvalu, 12 April 2011 (Majuro: PNA Office).
- UN DOALOS (United Nations Division for Ocean Affairs and Law of the Sea) 2013. *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 (in force as from 11 December 2001) Overview*. Updated 2/11/2019. https://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm.
- WCPFC (Western Central Pacific Fisheries Commission) 2019a. *Conservation and Management Measures (CMMs) and Resolutions of the Western Central Pacific Fisheries Commission (WCPFC)*, compiled 22 January 2019 (WCPFC: Pohnpei).
- WCPFC 2019b. *Summary Report of the Fifteenth Regular Session of the Scientific Committee, 12–20 August 2019, Pohnpei, Federated States of Micronesia* (WCPFC: Federated States of Micronesia).
- Williams, P. and C. Reid 2019. *Overview of Tuna Fisheries in the Western and Central Pacific Ocean, including Economic Conditions — 2018*. WCPFC-SC15-2019/GN-WP-01. Paper presented at the Fifteenth Regular Session of the Technical and Compliance Committee, WCPFC, Pohnpei, Federated States of Micronesia, 25 July–1 October 2019.
- World Bank and FAO (Food and Agriculture Organization of the United Nations) 2009. *The Sunken Billions: The Economic Justification for Fisheries Reform*. Washington DC: World Bank.

ABOUT THE AUTHOR

Transform Aqorau is from Solomon Islands and has been working on tuna management in the WCPO for 30 years. He started his career as a legal officer in the Solomon Islands Ministry of Foreign Affairs, before being seconded to the Pacific Islands Forum Fisheries Agency (FFA), an intergovernmental fisheries advisory organisation based in Solomon Islands as assistant legal counsel. He spent 10 years with the Solomon Islands Ministry of Foreign Affairs. He was the first Pacific Islander to hold the position of legal counsel and then later as deputy director-general of the FFA. He also served as international legal adviser to the Pacific Islands Forum Secretariat in Suva, Fiji. He was pioneer CEO of the PNA Office in the Marshall Islands and administrator of the purse seine and longline vessel day scheme.

The author did his primary and secondary education in the Solomon Islands. He has a Bachelor of Laws degree from the University of Papua New Guinea, a Master's of Law from the University of British Columbia, Canada, and Doctorate in Law from the University of Wollongong, Australia.

He is CEO of iTuna Intel, a Solomon Islands-based international fisheries law research and consultancy firm. He is founding director of Pacific Catalyst, a research consortium established to help develop the capacity of Pacific Islands nationals in fisheries. He is an adjunct fellow in the School of Government, Development and International Affairs (University of the South Pacific, Fiji) and Visiting Fellow at the Australian National Center for Oceans, Resources and Security (University of Wollongong, Australia)

His achievements and awards include United Nations/UNITAR Fellow in International Law (1988); International Centre for Ocean Development Scholarship to Study in Canada (1989); Forum Fisheries Agency Research Fellowship (1990) and University of Wollongong Overseas Postgraduate Research Award and University of Wollongong Postgraduate Research Award (1994); ANU Doctor of Laws honoris causa in recognition of his exceptional contribution to the promotion of marine resource sustainability in the Pacific Islands region and the empowerment of Pacific Island countries to control and benefit from their ocean resources.

The author has published widely on fisheries in the Pacific Islands region and development issues in the Solomon Islands in a number of peer-reviewed journals, magazines, newspapers, and for international and regional conferences.

The author lives at Rakutu in Munda, New Georgia Island in Solomon Islands. He has been appointed as Solomon Islands Ambassador to the United States of America, High Commissioner to Canada, and Permanent Representative to the United Nations. He enjoys reading, writing, singing and watching soccer.

Email: transform@itunaintel.com



The author roughing it out

Source: The author



'I remember the struggles I had as a kid in high school, trying to raise funds for my school fees, and the times when we had to sell small sardines that we would catch in our nets to sell at the village. I also think about what Les Clark told me once — to always remember the women who carry firewood on their backs and sell betel nut along the roadside in Honiara. It's for their sake we want to do a good job and therefore we must manage this fishery well, so that they can have a better life.'

Transform Aqorau



This book articulates the remarkable journey of commercial innovation and ingenuity, transformation of power structures against the odds, and how a group of eight countries, considered to be small, vulnerable and dependent on others, managed to establish the most sustainable and profitable tuna venture in the world.

At its core, the Parties to the Nauru Agreement (PNA) emerged from a shared vision for self-determination through an unwavering commitment by 'the right set' of personalities who had a clear understanding of the regional environment and its culture to ensure that this collective fishing initiative not only took hold, but thrived.

Dame Meg Taylor

Secretary General to the Pacific Islands Forum