



Proceedings of Islands and Oceans Net 1st General Meeting

25-26 May 2015

Ito International Research Center, University of Tokyo

Tokyo, Japan

Supported by  日本 THE NIPPON
財団 FOUNDATION

 THE SASAKAWA PEACE FOUNDATION

 THE OCEAN POLICY RESEARCH INSTITUTE



This publication was produced under the patronage of the Nippon Foundation from the proceeds of motorboat racing.

Proceedings of Islands and Oceans Net 1st General Meeting

March 2016

Ocean Policy Research Institute, The Sasakawa Peace Foundation

1-15-16, Toranomon, Minato-ku, Tokyo, 105-8524 Japan

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<http://www.spf.org>

ISBN978-4-88404-334-6

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Foreword

The oceans, which cover 70 per cent of the earth's surface, have in recent years been experiencing various changes. The small island countries dotting the oceans are of course significantly affected by such changes and are now struggling to deal with them. Furthermore, the sustainable development, use, conservation and management of small islands and their surrounding ocean areas are not problems restricted to the island States alone, but are also challenges facing the international community as a whole, an idea that has come to be shared worldwide since the adoption of Agenda 21 at the Rio Earth Summit.

OPRF, the forerunner of OPRI-SPF, recognizes these difficulties, and from 2009 began collaborating on research with ANCORS and experts from Pacific States that resulted in the joint policy recommendation, "For the Better Conservation and Management of Islands and Their Surrounding Ocean Areas", which we submitted as a contributory paper to the Rio+20 Secretariat, the SIDS 2014 Preparatory Meetings and the Open Working Group for the SDG. The proposal focuses on three areas, namely (i) Conservation and Management of Islands, (ii) Management of the Surrounding Ocean Areas, and (iii) Response to Climate Change and Variability. Furthermore, based on the assessment and analysis of the current situation in each area and considering the issues identified, we have also made recommendations on Capacity Building and Institutional Strengthening to more effectively facilitate necessary measures.

In September 2014, 21 Heads of State and about 3,500 delegates attended SIDS 2014 and adopted an international action plan entitled "Small Island Developing States Accelerated Modalities of Action [S.A.M.O.A.] Pathways." We were happy to see that many points of our recommendations were included in S.A.M.O.A. Pathways. OPRI (OPRF) organized jointly with ANCORS a side event in order at SIDS to discuss concrete actions for policy implementation. We had the honour of His Excellency Tommy Remengesau, Jr., President of the Republic of Palau, attending along with about 80 persons from various countries, organisations and groups with an interest in these issues, to discuss concrete measures to implement our joint recommendations. On this occasion, OPRI (OPRF) proposed to establish the Islands and Oceans Net as an international collaborative multi-partner network with the voluntary participation of international and regional organisations, governments, academia, businesses and individuals from civil society who are in agreement with the aims of our recommendation. Our proposal was unanimously supported by all the participants of the side event.

Pacific island States and international organizations, as well as universities, research institutes, and NGOs in the Pacific region conveyed to us their keen interest in and support of the IO-Net. Many organizations and individuals associated with the Japanese government, industry, academia, foundations and NGOs also expressed their interest.

Based on these responses, and in commemoration of the 7th Pacific Islands Leaders Meeting (PALM 7), hosted by the Japanese government in May of 2015 in Iwaki City, Fukushima Prefecture, the 1st General Meeting of the IO-Net was held in Tokyo on May 25-26 in Tokyo. The meeting began with remarks by our distinguished guests, Mr. Kazuyuki Nakane, Parliamentary Vice Minister for Foreign Affairs, Japan, and Mr. Anote Tong, President, the Republic of Kiribati, and a keynote speech by Mr. Yohei Sasakawa, Chairman of the Nippon Foundation. After these, the 190 people in attendance, including 27 from abroad, heard lively discussions of IO-Net's aims, operating principles, as well as concrete project proposals. It was confirmed at the meeting that organizations and individuals would come together around various themes of common interest and develop and carry out projects that contribute to the implementation of the Joint Policy Proposal. It is hoped that organizations and individuals from government, industry, academia, foundations and NGOs from both the Pacific island States as well as the larger international community will voluntarily participate in the development of this network as an international collaborative partnership.

Ocean Policy Research Institute, The Sasakawa Peace Foundation

Acknowledgement

Islands and Oceans Net (IO Net) 1st General Meeting was made possible by the generous support of the Nippon Foundation from the proceeds of motorboat racing. We would like to express our sincere gratitude for this support and also acknowledge the Foundation's understanding of marine and terrestrial environmental issues and the life of people living on islands.

Brief Overview

Meeting

Islands and Oceans Net (IO Net) 1st General Meeting

Date

May 25 and 26, 2015

Venue

University of Tokyo
Ito International Research Center – Ito Hall

Organizer

Ocean Policy Research Institute, The Sasakawa Peace Foundation
– Islands and Oceans Net Secretariat

Co-organizer

Australian National Centre for Ocean Resources and Security
University of Tokyo Ocean Alliance

Participants

About 190 participants including government officials of participating countries

-High level international participants:

H.E. Mr. Anote Tong, President, the Republic of Kiribati
H.E. Ms. Teekoa IUTA, Ambassador, Embassy of the Republic of Kiribati to Japan
Hon. Ralph Regenvanu, Minister of Land and Natural Resources, Republic of Vanuatu
Mr. Asipeli Palaki, Chief Executive Officer, Ministry of Lands and Natural Resources,
Kingdom of Tonga

-International Organization:

Ms. Jihyun Lee, Environmental Affairs Officer for Marine and Coastal Biodiversity,
Convention on Biological Diversity (CBD) Secretariat
Prof. Yutaka Michita, Vice Chairman, Intergovernmental Oceanographic Commission,
United Nations Educational, Scientific and Cultural Organization (UNESCO)

VADM (ret.) Shin Tani, Chairman, IHO-IOC Guiding Committee for General Bathymetric Chart of the Oceans (GEBCO)

Prof. Akifumi Iwabuchi, Representative of Japan, International Council on Monuments and Sites (ICOMOS) - International Committee on the Underwater Cultural Heritage (ICUCH)

-Countries:

21 countries

-Pacific Island States:

Melanesia (New Guinea, Solomon Islands, Fiji, Vanuatu)

Micronesia (Kiribati, Micronesia, Palau, Marshall Islands)

Polynesia (Samoa, Tonga, Cook Islands, Tuvalu) , Timor-Leste

-Other States:

Japan, Australia, New Zealand, France, United States, Canada, South Korea, South Africa

-Participants from Japan:

Academic experts (7), Researchers (27), Businesses (38), NGO/NPO(29), Media (6), Individuals (8), Governments (12), etc.

Programme

Monday 25 May	
10:00 – 11:00	Opening Ceremony
	<p>Opening remarks: Mr. Hiroshi Terashima, President, Ocean Policy Research Institute, The Sasakawa Peace Foundation Prof. Toshiyuki Hibiya, Director, University of Tokyo Ocean Alliance and Professor, University of Tokyo Graduate School of Science Prof. Stuart Kaye, Director, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong (Video message)</p>
	<p>Guest remarks: Mr. Kazuyuki Nakane, Parliamentary Vice Minister for Foreign Affairs, Japan H.E. Mr. Anote Tong, President, the Republic of Kiribati</p>
	<p>Keynote speech: Mr. Yohei Sasakawa, Chairman, The Nippon Foundation</p>
11:00 – 11:20	Break
	Islands and Oceans Net 1st General Meeting Plenary
	<p>Co-chairs: Mr. Hiroshi Terashima, President, Ocean Policy Research Institute, The Sasakawa Peace Foundation Prof. Alistair McIlgorm, Capacity Development Coordinator, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong Mr. David Sheppard, Director General, Senior Management Team, Secretariat of the Pacific Regional Environment Programme (SPREP)</p>
11:20 – 12:00	Session 1: Islands and Oceans Net Activities for Promoting the Implementation of the Joint Policy Recommendations
	<p>“Islands and Oceans Net – Objectives and Operational Guidelines” Mr. Hiroshi Terashima, President, Ocean Policy Research Institute, The Sasakawa Peace Foundation</p>
	<p>“Joint Policy Recommendations ‘For The Better Conservation and Management of Islands and Their Surrounding Ocean Areas’ and Islands and Oceans Net Partners’ Collaborative Project Proposals” Dr. Keita Furukawa, Senior Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation Mr. Masanori Kobayashi, Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation</p>
	– Discussions –
12:00 – 13:00	Lunch
13:00 – 15:00	Session 2: Development of Activities Plans for IO Net
	Part I (1) “Conservation and Management of Islands – Development and

	<p style="text-align: center;">Implementation of Management Strategies”</p> <p>“Management Strategies of Pacific Islands and Their Development and Pilot Project Proposals” Mr. Masanori Kobayashi, Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation</p> <p>“Promoting the Implementation of Island Management Strategies in Tuvalu” Mr. Temate Melitiana, Permanent Secretary, Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour, Tuvalu</p> <p>“Progress and Challenges in Implementing Island Management Strategies in Marshall Islands” Ms. Lani Milne Chief of Coastal, Land and Conservation Division, Marshall Island Environment Protection Authority (RMI-EPA)</p> <p>“Island Management Strategies in Tonga and International Partnership” Mr. Asipeli Palaki, Chief Executive Officer, Ministry of Lands and Natural Resources, Kingdom of Tonga</p> <p>“Island Management in Cook Islands and Challenges” Mr. Vaitoti Tupa, Director National Environment Service, Cook Islands</p> <p>“Local Community Actions for Managing Islands in Timor Leste and Challenges” Mr. Demetrio de Carvalho, Founder Haburas Foundation, Timor Leste</p> <p>“Ecological Engineering for Land Conservation and Its Applicability in Island Countries” Prof. Hajime Kayanne, Professor, University of Tokyo Ocean Alliance and Graduate School of Science Dr. Hiroya Yamano, Director, Center for Environmental Biology and Ecosystem Studies (CEBES), National Institute for Environmental Studies Prof. Toru Yamaguchi, Professor, Faculty of Letters, Keio University</p> <p>“ Destruction or Persistence of Coral Atoll Islands in the Face of 20th and 21st Century Sea Level Rise: Implications for Future Management” Prof. Paul Kench, Professor, School of Environment, Faculty of Science, University of Auckland</p> <p style="text-align: center;">– Discussions –</p>
15:00 –15:20	Break
15:20 –16:50	<p style="text-align: center;">Session 2 (cont.)</p> <p style="text-align: center;">Part I (2) “Conservation and Management of Islands – Coral Reef, Mangrove and Ecosystem Conservation”</p> <p>“Integrated Coastal Management and Its Replicability to Small Island Countries” Dr. Keita Furukawa, Senior Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation</p> <p>“Biodiversity Conservation and Protected Areas in Palau” Dr. Yimnang Golbuu, Chief Executive Officer, Palau International Coral Reef Center</p>

	<p>“Integrated Terrestrial and Coastal Management and Local Development in Papua New Guinea” Mr. Kenn Mondiai, Executive Director, Partners with Melanesians Inc. (PWMPNG), Papua New Guinea</p>
	<p>“Sustainable Forest Management and REDD+ in Solomon Islands” Mr. Jointly Sisiolo, Principal Conservation Officer, Environment and Conservation Division, Ministry of Environment, Climate Change, Disaster Management and Meteorology, Solomon Islands</p>
	<p>“Micronesia Challenge – Progress and Challenges for Conservation in Micronesia” Mr. Rickey Carl, Deputy Director of External Affairs, The Nature Conservancy (TNC) Micronesia Ms. Aya Mizumura, Policy Advisor, The Nature Conservancy (TNC) Australia</p>
	– Discussions –
16:50 –17:25	Session 2 (cont.)
	Part I (3) “Conservation and Management of Islands – Promotion of Renewable Energy”
	<p>“Promoting Renewable Energy in Samoa and Challenges” Ms. Josephine Fiu, Assistant Chief Executive Officer, Legal Services, Ministry of Natural Resources and environment, Independent State of Samoa</p>
	<p>“ Renewable Energy in Island States” Mr. Hirofumi Ishizaka, Senior Researcher, PC-Institute for Global Environment Research (PC-IGER), Overseas Division, Pacific Consultants Co., Ltd.</p>
	– Discussions –
17:25 – 17:50	Session 2 (cont.)
	Part I (4) “Conservation and Management of Islands – Improvement of Transport among Islands”
	<p>“Turning the Tide: transitioning to low carbon transport futures ” Dr. Peter Nuttall, Research Associate, University of the South Pacific (USP) Pacific Centre for Environment and Sustainable Development</p>
	<p>“Research for Sustainable Sea Transport for Remote Islands in Fiji ” Mr. Hiroaki Terashima, Management Advisor and Senior Consultant, IC Net Inc.</p>
	– Discussions –
17:50 –18:00	Wrap-up for the day
18:20	Reception

Tuesday 26 May	
9:30 –10:05	Session 2 (cont.)
	Part I (5) “Conservation and Management of Islands – Waste Management”
	<p>“J-PRISM as an Example of Regional Cooperation in Solid Waste Management in PICs” Mr. Yutaka Fukase, Director, Environmental Management Team 1, Global Environment Department, Japan International Cooperation Agency (JICA)</p>
	<p>“Waste and Hazardous Substance Management in Cook Islands” Ms. Imogen Ingram, Secretary-Treasurer, Island Sustainability Alliance CIS Inc. (ISACI), Cook Islands</p>
	– Discussions –
10:05 –10:25	Session 2 (cont.)
	Part II (1) “Management of the Surrounding Ocean Areas – Establishment of Baselines and Maritime Limits”
	<p>“Establishment of Maritime Jurisdictional Area and the Chart - Challenges and Prospect” VADM (ret.) Shin Tani, Chairman, IHO-IOC Guiding Committee for General Bathymetric Chart of the Oceans (GEBCO)</p>
	– Discussions –
10:25 –11:20	Session 2 (cont.)
	Part II (2) “Management of the Surrounding Ocean Areas – Fishery Resource Management and Conservation and Sustainable Use of Marine Biodiversity”
	<p>“Sustainable Fishery Resource Management and Partnership with the Pacific Island Countries” Mr. Masanori Miyahara, President, Fisheries Research Agency (FRA), Japan</p>
	<p>“ Marine Protected Areas, Marine Spatial Planning, Oceanscape: Challenges to Their Replication” Prof. Richard Kenchington, Professorial Fellow, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong</p>
	<p>“Supporting Pacific Island Countries for Conserving Coastal and Marine Biodiversity and Promoting Sustainable Use of Biological Resources” Ms. Jihyun Lee, Environmental Affairs Officer for Marine and Coastal Biodiversity, Convention on Biological Diversity (CBD) Secretariat</p>
	– Discussions –
11:20 –11:40	Break
11:40 – 12:15	Session 2 (cont.)
	Part II (3) “Management of the Surrounding Ocean Areas – Marine Mineral Resource Exploitation and Marine Environment Conservation”
	<p>“Capacity Development for Marine Mineral Resource Exploitation and Marine Environment Preservation in the Pacific Islands”</p>

	<p>Mr. Akuila Tawake, Head of Geo-survey and Geo-resources Unit, Geoscience Division, Secretariat of the Pacific Community (SPC)</p> <p>“Environmental Impact Assessments for the deep-sea mineral resources development under the cooperation between Japan, French and Pacific Island States.”</p> <p>Dr. Tomohiko Fukushima, Assistant Director, Research and Development Center for Submarine Resources, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)</p> <p>– Discussions –</p>
12:15 –13:15	Lunch
13:15 – 13:55	Session 2 (cont.)
	Part III “Response to Climate and Variability – Adaptation to Climate Change and Variability”
	<p>“Adaptation to Climate Change and Variability and Disaster Reduction – Lessons and Challenges in Vanuatu”</p> <p>The Hon. Ralph Regenvanu MP, Minister for Lands and Natural Resources, Vanuatu</p>
	<p>“Monitoring Climate Change and Variability and International Cooperation”</p> <p>Prof. Yutaka Michita, Vice Chairperson, Intergovernmental Oceanographic Commission, United Nations Educational, Scientific and Cultural Organization (UNESCO) and Professor, Laboratory of International Research Cooperation, Atmosphere and Ocean Research Institute, University of Tokyo</p>
	Part II (2) (cont.) “Management of the Surrounding Ocean Areas – Marine Mineral Resource Exploitation and Marine Environment Conservation”
	<p>“Underwater Heritage in the Pacific Island Countries”</p> <p>Prof. Akifumi Iwabuchi, Representative of Japan, International Council on Monuments and Sites (ICOMOS) - International Committee on the Underwater Cultural Heritage (ICUCH) and Professor, Tokyo University of Marine Science and Technology Graduate School for Marine Science and Technology</p>
	– Discussions –
13:55 –15:25	Session 2 (cont.)
	Part IV “Capacity Development and Institutional Strengthening”
	<p>“Capacity Development for Small Island Developing States and Regional and International Cooperation – The Role of SPREP and International Partnership”</p> <p>Mr. David Sheppard, Director General, Senior Management Team, Secretariat of the Pacific Regional Environment Programme (SPREP)</p>
	<p>“Human Resource Development and Regional Cooperation”</p> <p>Dr. Anjeela Jokhan, Associate Professor and Dean, Faculty of Science, Technology and Environment (FSTE), University of the South Pacific (USP)</p>

	<p>“Sustainability Science and Leadership Development for Pacific Island Countries” Prof. Alistair McIlgorm, Capacity Development Coordinator, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong</p>
	<p>“Samoa’s NGO Network and Stakeholder Partnership” Ms. Nele Leilua, Representative, Member Wake Up Samoa / The Samoa Umbrella for Non-Governmental Organisation Inc. (SUNGO)</p>
	<p>“Pacific Youth Council – Activities and Proposals” Ms. Ina Vakaafi, Vice Chair, Pacific Youth Council (PYC)</p>
	<p>– Discussions –</p>
15:25 –15:45	Break
15:45 – 16:45	<p>Session 3 “Islands and Oceans Net – Development of Future Activity Plans”</p>
	<p>– Discussions –</p>
16:45 – 17:00	<p>Wrap-up and concluding Session</p>
	<p>Concluding remarks: Mr. Hiroshi Terashima, President, Ocean Policy Research Institute, The Sasakawa Peace Foundation</p>
17:00	Closing

Contents

Foreword

Acknowledgement

Brief Overview

Programme

Proceedings

Session1 : Islands and Oceans Net Activities for Promoting the

Implementation of the Joint Policy Recommendations 1

Mr. Hiroshi Terashima 3

Islands and Oceans Net – Objectives and Operational Guidelines

Dr. Keita Furukawa and Mr. Masanori Kobayashi 7

Joint Policy Recommendations ‘For The Better Conservation and
Management of Islands and Their Surrounding Ocean Areas’ and
Islands and Oceans Net Partners’ Collaborative Project Proposals

Session 2 : Development of Activities Plans for IO Net

Part I (1) : Conservation and Management of Islands – Development and

Implementation of Management Strategies 13

Mr. Masanori Kobayashi 15

Management Strategies of Pacific Islands and Their Development and
Pilot Project Proposals

Ms. Lani Milne 19

Progress and Challenges in Implementing Island Management Strategies
in Marshall Islands

Mr. Demetrio de Carvalho 24

Local Community Actions for Managing Islands in Timor Leste and
Challenges

Prof. Hajime Kayanne, Dr. Hiroya Yamano, and Prof. Toru Yamaguchi 25

Ecological Engineering for Land Conservation and Its Applicability
in Island Countries

Prof. Paul Kench 30

Destruction or Persistence of Coral Atoll Islands in the Face of 20th and 21st
Century Sea Level Rise: Implications for Future Management

Part I (2) : Conservation and Management of Islands – Coral Reef,	
Mangrove and Ecosystem Conservation	31
Dr. Keita Furukawa	33
Integrated Coastal Management and Its Replicability to Small Island Countries	
Dr. Yimnang Golbuu	37
Biodiversity Conservation and Protected Areas in Palau	
Mr. Kenn Mondiai	42
Integrated Terrestrial and Coastal Management and Local Development in Papua New Guinea	
Mr. Rickey Carl	47
Micronesia Challenge – Progress and Challenges for Conservation in Micronesia	
Part I (3) : Conservation and Management of Islands – Promotion of	
Renewable Energy	51
Ms. Josephine Fiu	53
Promoting Renewable Energy in Samoa and Challenges	
Mr. Hirofumi Ishizaka	54
Renewable Energy in Island States	
Part I (4) : Conservation and Management of Islands – Improvement of	
Transport among Islands	59
Dr Peter Nuttall	61
Turning the Tide: transitioning to low carbon transport futures	
Mr. Hiroaki Terashima	65
Research for Sustainable Sea Transport for Remote Islands in Fiji	
Part I (5) : Conservation and Management of Islands – Waste Management	69
Mr. Yutaka Fukase	71
J-PRISM as an Example of Regional Cooperation in Solid Waste Management in PICs	
Ms. Imogen Ingram	75
Waste and Hazardous Substance Management in Cook Islands	

Part II (1) : Management of the Surrounding Ocean Areas – Establishment of	
Baselines and Maritime Limits	81
VADM (ret.) Shin Tani	83
Establishment of Maritime Jurisdictional Area and the Chart - Challenges and Prospect	
 Part II (2) : Management of the Surrounding Ocean Areas – Fishery Resource	
Management and Conservation and Sustainable Use of Marine	
Biodiversity	87
Mr. Masanori Miyahara	89
Sustainable Fishery Resource Management and Partnership with the Pacific Island Countries	
Prof. Richard Kenchington	95
Marine Protected Areas, Marine Spatial Planning, Oceanscape: Challenges to Their Replication	
Ms. Jihyun Lee	102
Supporting Pacific Island Countries for Conserving Coastal and Marine Biodiversity and Promoting Sustainable Use of Biological Resources	
 Part II (3) : Management of the Surrounding Ocean Areas – Marine Mineral	
Resource Exploitation and Marine Environment Conservation	111
Dr. Tomohiko Fukushima	113
Environmental Impact Assessments for the deep-sea mineral resources development under the cooperation between Japan, French and Pacific Island States.	
 Part III : Response to Climate and Variability – Adaptation to Climate Change and	
Variability	121
The Hon. Ralph Regenvanu MP	123
Adaptation to Climate Change and Variability and Disaster Reduction – Lessons and Challenges in Vanuatu	

Part IV “Capacity Development and Institutional Strengthening”	125
Mr. David Sheppard	127
Capacity Development for Small Island Developing States and Regional and International Cooperation – The Role of SPREP and International Partnership	
Dr. Anjeela Jokhan	128
USP’s Role in Human Resource Development in the Pacific Region	
Prof. Alistair McIlgorm	131
Sustainability Science and Leadership Development for Pacific Island Countries	

Annex

Islands and Oceans Net (IO Net) 1st General Meeting Outcome Highlights	
Islands and Oceans Net (IO net) TOR	
Declaration “Renewing a dialogue for the better conservation and management of islands and their surrounding ocean areas”	
For the Better Conservation and Management of Islands and Their Surrounding Ocean Areas (Full Text)	

Session1 :

**Islands and Oceans Net Activities for Promoting the
Implementation of the Joint Policy Recommendations**

Islands and Oceans Net – Objectives and Operational Guidelines

Mr. Hiroshi Terashima, President, Ocean Policy Research Institute, The Sasakawa Peace Foundation

IO-Net was established to facilitate the implementation of the “Joint Policy Recommendations” of 2014. IO Net is an international collaborative multi-stakeholder network. The IO-Net is expected to be a network that will operate with integrated, ecosystem-based, inter-disciplinary and participatory approaches. It must employ multi-faceted structures as it needs to bring together local and global processes, policy processes and field activities, local communities, practitioners and experts, and natural and social sciences. IO-Net has a mission to bring together all of these factors to support sustainable development in small island developing countries and sustainable conservation, use and management of their surrounding oceans. The Joint Policy Recommendations have multiple components namely (i) conservation and management of islands, (ii) management of surrounding ocean areas, (iii) response to climate change and (iv) capacity building and institutional strengthening. The IO-Net TOR provides its key principles. It is expected to share information and exchange ideas for building partnerships towards facilitating the implementation of our Joint Policy Recommendations, and that many proposals will be laid out for such a purpose.

Islands and Oceans Net – Objectives and Operational Guidelines

Session 1: Islands and Oceans Net Activities for Promoting Implementation of the “Joint Policy Recommendations”

Mr. Hiroshi TERASHIMA
President

Ocean Policy Research Institute
The Sasakawa Peace Foundation

Islands and Oceans Net (IO-Net) 1st General Meeting
25 – 26 May 2015
Ito International Research Center, University of Tokyo
Tokyo, Japan

1



Ocean Policy Research Institute



- 1975: Established as “Japan Foundation for Shipbuilding Advancement”
- 1990: Renamed as “Ship & Ocean Foundation”
- 2002: Established the “Institute for Ocean Policy ” in SOF
- 2005: Announced SOF as “Ocean Policy Research Foundation”
- 2008: Granted UN NGO consultative status at UN-ECOSOC
- Participated in 2002 WSSD (World Summit on Sustainable Development), 2012 Rio+20, SIDS 2014, UNICPOLOS (United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea), SPLOS and so on
- Conducts research on the oceans & presents Policy Proposals
- Publishes “Ocean Newsletter” (2000-2015), “Ocean White Paper” (2003-2015) on regular basis
- Organizes “Ocean Forums” on ocean related hot topics
- Outreach activities and information dissemination
- Merged with SPF and began operating as “OPRI,SPF” from April 2015

2

Ocean Policy Research Institute and Development of Ocean Policy in Japan

- OPRF produced the “Proposal for a 21st Century Ocean Policy” in 2005 in order for Japan to realize its role as an ocean state
- OPRF formed a study group to discuss and draft the Basic Act on Ocean Policy in 2006
- Based on this result, the Basic Act on Ocean Policy was established in 2007
- OPRF and ANCORS, in collaboration with PIFS, SPC-SOPAC, commenced a study on management of islands and surrounding ocean areas in 2010, and launched “Joint Recommendations” in November 2011 and a revised version in January 2014



3

International Seminars on Islands and Oceans (2010 - 2014)

- Seminars convened since 2010 including those held 20 - 21 August 2013 and the latest one 18-19 June, 2014
- Co-Chairs:
 - Mr. Hiroshi TERASHIMA
 - Prof. Martin TSAMENYI (1st Seminar)
 - Prof. Richard KENCHINGTON (2nd Seminar)
- Participants:
 - ANCORS
 - PIFS
 - SOPAC Division of SPC
 - Universities (from AUS, NZ and Japan)
 - Related organizations
- Outcome:
 - Joint Recommendations adopted and plans for the SIDS 2014 side event discussed.



4

OPRF and Its Contributions to SIDS 2014

- Joint Recommendations were developed and submitted to Rio+20 Secretariat in November 2011 and revised in January 2014
- Submitted to the Preparatory Committee for the Third International Conference on Small Island Developing States (SIDS 2014)
- Submitted to the UN-Open Ended Working Group on Sustainable Development Goals (SDG-OWG) in 2014



For The Better Conservation and Management of Islands and Their Surrounding Ocean Areas

January 2014

Ocean Policy Research Foundation
Australian National Centre for Ocean Resources and Security at the University of Wollongong



OPRF and Its Contributions to SIDS 2014

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

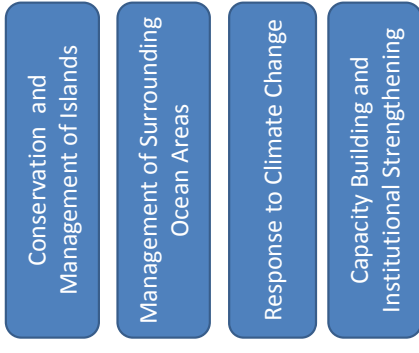
Contents

1. Purpose of This Policy Proposal
2. Priority Issues and Directions toward Solution
 - 2-1. On Conservation and Management of Islands
 - 2-2. Management of the Surrounding Ocean Areas
 - 2-3. Response to Climate Change and Variability
3. Capacity Building and Institutional Strengthening
4. Suggestions for Responding to the Challenges
5. Toward Realization of This Policy Proposal

6

Joint Recommendations and IO-Net

Joint Recommendations



IO-Net

Facilitating the implementation of the Joint Recommendations



OPRI

Serving as secretariat and supporting as a lead member in key activities

7

OPRI/ANCORS Joint Recommendations

OPRI/ANCORS Joint Recommendations

Conservation and Management of Islands

- Development of Island Management Strategies (2-1.a)
- Increased Safety and Resilience of Island Communities (2-1.b)
- Implementation of Waste Management (2-1.c)
- Development of Renewable Energy (2-1.d)
- Conservation of Coral Reefs and Mangrove Forests (2-1.e)

Management of Surrounding Ocean Areas

- Establishment of Baselines and Maritime Limits (2-2.a)
- Implementation of Practical Fisheries Management Policies (2-2.b)
- Maintenance and Securing of Shipping Services (2-2.c)
- Exploitation of Marine Mineral Resources and Preservation of Marine Environment (2-2.d)
- Conservation and Sustainable Use of the Marine Environment and Marine Biodiversity (2-2.e)

Response to Climate Change and Variability

- Adaptation to Climate Change and Variability by Island Societies (2-3.a)
- Responses to International Law Issues Related to Climate Change (2-3.b)

Capacity Building and Institutional Strengthening

Projects



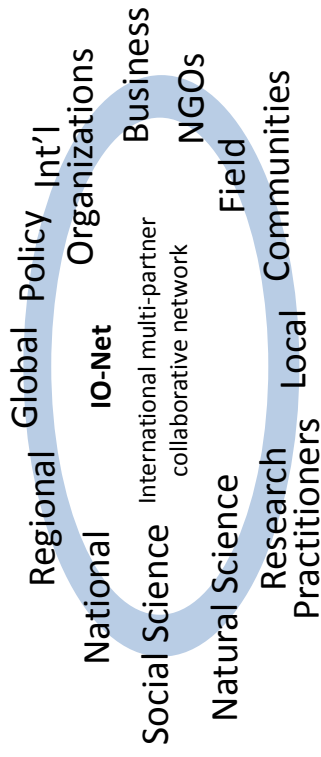
IO-Net

OPRI, ANCORS
Members/Partners

8

Expectations of IO-Net

Integrated, ecosystem-based, inter-disciplinary and participatory approaches



9

IO-Net Terms of Reference (TOR)

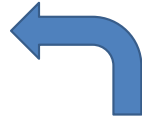
1. IO-Net is an international collaborative network for the organisations and individuals (called “Partners”) who support the Joint Policy Recommendations “For the Better Conservation and Management of Islands and Their Surrounding Ocean Areas” and collaborate and cooperate on a voluntary basis to implement them.
2. IO-Net is a basis on which the aforementioned Partners provide their respective capabilities and mutually collaborate to launch and implement concrete projects towards implementing the Joint Policy Recommendations.
3. To achieve its objective, IO-Net is to facilitate the collection and sharing of relevant information and the development and implementation of projects to be undertaken by the Partners.
4. The specific projects will be formulated through the discussion of the interested partners. Upon the formation of a project, its members will manage it autonomously.
5. OPRI will serve as a secretariat for IO-Net until otherwise determined. 10

IO-Net and OPRI

OPRI Priority Projects

- Development of Island Management Strategies (2-1.a)
- Increased Safety and Resilience of Islands Communities (2-1.b)
- Development of Renewable Energy (2-1.d)
- Conservation of Coral Reefs and Mangrove Forests (2-1.e)
- Establishment of Baselines and Maritime Limits (2-2.a)
- Maintenance and Securing of Shipping Services (2-2.c)
- Conservation and Sustainable Use of the Marine Environment and Marine Biodiversity (2-2.e)
- Climate Variability and Scientific Research (2-3.a)
- Education and Capacity Development (3)
- Others (Waste Management, Fisheries Management...)

IO Net



Inputs by Other Partners

11

Joint Policy Recommendations ‘For The Better Conservation and Management of Islands and Their Surrounding Ocean Areas’ and Islands and Oceans Net Partners’ Collaborative Project Proposals

Dr. Keita Furukawa, Senior Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation

Mr. Masanori Kobayashi, Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation

The joint policy proposal “For the better conservation and management of islands and their surrounding ocean areas” has been compiled based on deep discussion between islands States and international communities since 2009. This our guiding document has identified a range of globally interlinked issues whose resolution is fundamental to the future sustainability and development of small islands. It was submitted as contribution paper to secretarial of Rio+20, the Third International Conference on SIDS in 2014 and the preparatory working group for the Sustainable Development Goals. The 2nd and 3rd section referring specific needs and recommendations. In the Section 2, priority issues and directions toward solution are described with three viewpoints. That is: 1) conservation and management of islands, 2) management of the surrounding ocean areas, and 3) response to climate change and variability. In the Section 3, capacity building and institutional strengthening are described. The purpose of this proposal is to draw the attention of the international community to the need for more effective means to address these growing problems. In the Section 4 and 5, guiding principles for responding the challenges and realization of the proposal are highlighted. Especially, in the Section 5, the importance of establishment of implementing institutions and organizations are recommended, and it is one of the base for the IO Net establishment. IO Net Core Group members have developed project proposal concept notes, some other organizations also submitted proposals in December 2014. In Jan 2014, IO Net Core Group members exchanged views on the concept notes, and other organizations indicated their project ideas in the IO Net application forms. It is proposed that OPRI will facilitate the formation of project groups to develop and materialize the project proposals.

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”



1

Keita Furukawa and Masanori Kobayashi
OPRI-SPF

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”



2

Contents

1. Purpose of This Policy Proposal
2. Priority Issues and Directions toward Solution
 - 2-1. On Conservation and Management of Islands
 - 2-2. Management of the Surrounding Ocean Areas
 - 2-3. Response to Climate Change and Variability
3. Capacity Building and Institutional Strengthening
4. Suggestions for Responding to the Challenges
5. Toward Realization of This Policy Proposal

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

2-1 On Conservation and Management of Islands

Development of Island Management Strategies(2-1.a)

Increased Safety and Resilience of Island Communities(2-1.b)

Implementation of Waste Management(2-1.c)

Conservation of Coral Reefs and Mangrove Forests(2-1.e)

Development of Renewable Energy(2-1.d)

Conservation and Sustainable Use of the Marine Environment and Marine Biodiversity (2-2.e)

3

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

2-2 Management of the Surrounding Ocean Areas

Establishment of Baselines and Maritime Limits(2-2.a)

Implementation of Practical Fisheries Management Policies(2-2.b)

Maintenance and Securing of Shipping Services(2-2.c)

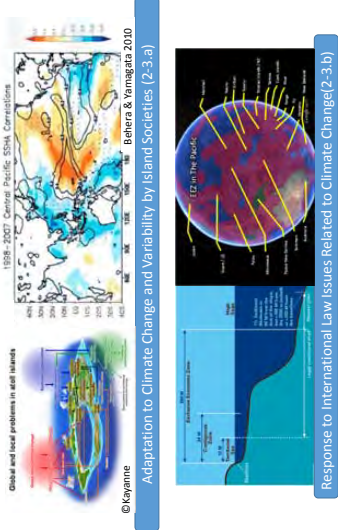
Exploitation of Marine Mineral Resources and Preservation of Marine Environment (2-2.d)

Conservation and Sustainable Use of the Marine Environment and Marine Biodiversity (2-2.e)

4

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

2-3 Response to Climate Change and Variability



5

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

3 Capacity Building and Institutional Strengthening

- ✓ Implementation through needs analysis and targeted trainings
 - recognising and addressing different requirements
 - strengthening mechanisms to involve and empower stakeholders
 - coordinating Donors

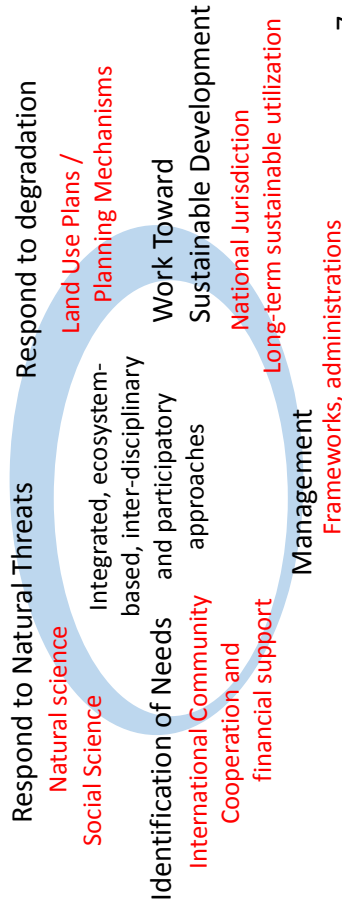


- ✓ Example of area of capacity building
 - Establishing a network
 - Knowledge management

6

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

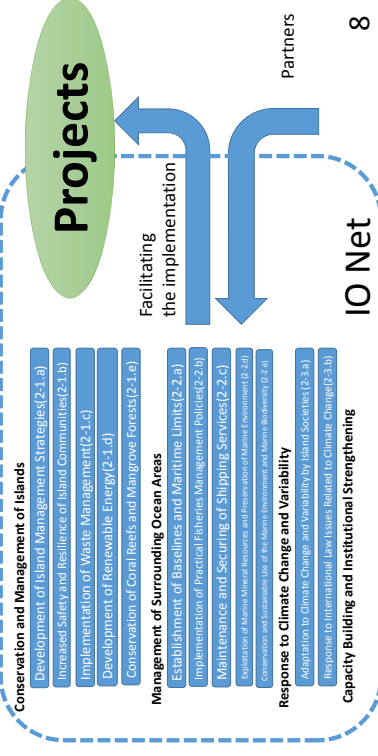
4 Suggestions for Responding to the Challenges



7

Joint Recommendations “For the better conservation and management of islands and their surrounding ocean areas”

5. Toward Realization of This Policy Proposal



8

IO Net announced at SIDS Action Platform

<http://www.sids2014.org/index.php?page=view&type=1006&nr=2793&menu=1601&template=919>

9

S.A.M.O.A. Pathway Oceans and Seas Para 58

- a Support national, sub-regional and regional efforts to assess, conserve, protect, manage and sustainably use the oceans, seas and their resources
- b Sustainably develop their ocean resources and generate increasing returns for their peoples.
- c Implement regional sea programmes
- d Address marine pollution
- e Urgent action to protect coral reefs and vulnerable marine ecosystems - International Coral Reef Initiative Framework for Action 2013
- f Establishing regional oceanographic centres, assisting the delimitation of their maritime areas
- g Monitoring, control and surveillance of fishing vessels, to effectively prevent, deter and eliminate illegal, unreported and unregulated fishing
- h Support the sustainable development of small scale fisheries, improved disciplines on subsidies in the fisheries
- i UNESCO Convention on the Protection of the Underwater Cultural Heritage
- j Straddling and highly migratory fish stocks and Regional Fisheries Management Organisations
- k Enabling SIDS to maximize benefits from their fisheries resources and ensure
- l Int'l cooperation under Regional Fisheries Management Organisations
- m Ocean acidification
- n Conserve by 2020 at least 10% of coastal and marine areas in SIDS
- p Munitions dumped at sea

11

Joint Recommendations and S.A.M.O.A. Pathway

OPRF/ANCORS Joint Recommendations

Conservation and Management of Islands

- Island mgmt. strategies (2-1.a)
- Safety and resilience (2-1.b)
- Waste mgmt (2-1.c)
- Renewable energy (2-1.d)
- Coral reefs and mangrove forests (2-1.e)

Response to Climate Change

- Adaptation (2-3.a)
- Response to int'l laws (2-3.b)

Capacity Building and Institutional Strengthening

Common factors of S.A.M.O.A. Pathway - Extracts

Subjects	Para
Settled and sustainable, inclusive and equitable economic growth with decent work for all	23-30
Climate change	31-45
Sustainable energy	47-50
Disaster risk reduction	51-52
Oceans and seas	53-56
Sustainable transportation	66-67
Sustainable consumption and production	68-69
Management of chemicals and waste, including hazardous waste	70-71
Education, science, innovation and digitalisation	78-79
Gender equality	87-88
Biodiversity	88-91
Desertification, land degradation and drought	92-93
Forests	94
Invasive alien species	95
Means of implementation, including partnerships	96
Partnerships	97-101
Financing	102-106
Trade	107
Capacity-building	108-109
Statistics	110-111
Oceans and statistics	112-115
Institutional support for small island developing States	116-120
SIDS Priorities of the small island developing States	121
Monitoring and accountability	122-124

10

Preliminary List of Organizations that Expressed Their Intent to Join IO Net

Organization	Full title of organisation
ANCORS	Australian National Centre for Ocean Resources and Security
OPRF	Ocean Policy Research Foundation
Palau	Office of the President, Government of the Republic of Palau
PIFS	Pacific Islands Forum Secretariat
PVF	Pacific Youth Forum
SANGO	Samoan Organisation for NGOs
SPC/SOPAC	Pacific Islands Applied GeoScience Commission, Applied Geoscience and Technology Division of Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
TNC	The Nature Conservancy
USP	The University of the South Pacific

12

Other organizations that expressed their interests in joining IO Net

PNG NGO Partners with Melanesians Inc
Cook Island NGO Island Sustainability Alliance CIS Inc. ("ISACI")
Marshall Islands, Government Environment Protection Agency (RMI-EPA)
Timore Leste (East Timore) NGO Haburas Foundation
University of Auckland
Ministry of Environment, Lands and Agricultural Development, Kiribati
Minister for Commerce, Industry & Environment (CIE), Nauru
Ministry of Environment, Conservation and Meteorology, Solomon Islands
Ministry of Lands, Vanuatu

Areas of interests expressed by organizations (n=8)

Expression of interest	Areas of interest					
	O1	O2	O3	O4	O5	O6
Ministry of Environment, Lands and Agricultural Development, Kiribati						
Minister for Commerce, Industry & Environment (CIE), Nauru						
Ministry of Environment, Conservation and Meteorology, Solomon Islands						
Ministry of Lands, Vanuatu						
University of Auckland						
Timore Leste (East Timore) NGO Haburas Foundation						
Marshall Islands, Government Environment Protection Agency (RMI-EPA)						
Cook Island NGO Island Sustainability Alliance CIS Inc. ("ISACI")						
PNG NGO Partners with Melanesians Inc						

Developing Project Proposals

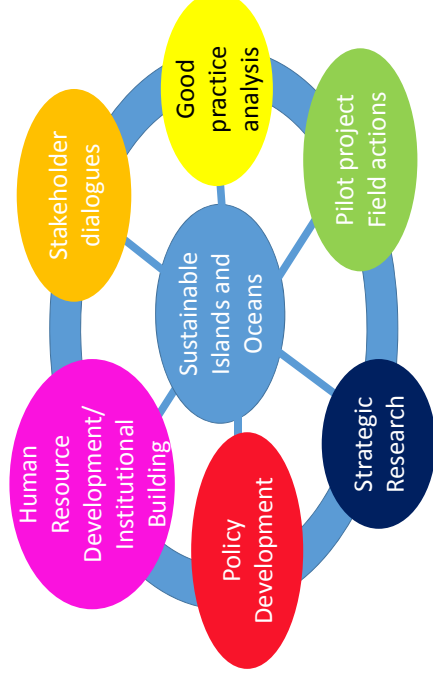
Dec 2014 IO Net Core Group members have developed project proposal concept notes, some other organizations also submitted proposals.

Jan 2015 IO Net Core Group members exchanged views on the concept notes

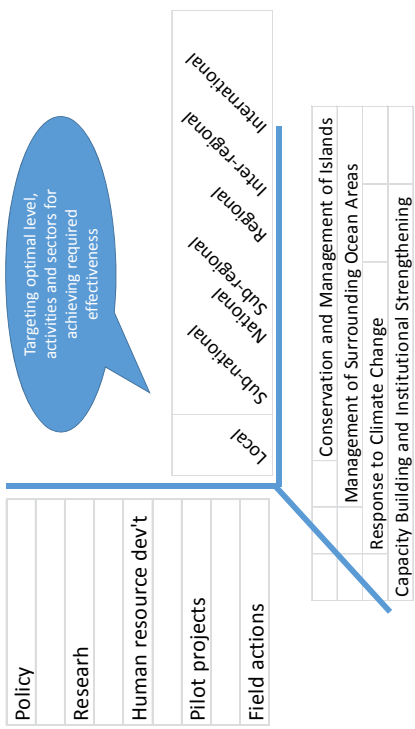
Mar – May 2015 Other organizations indicated their project ideas in the IO Net application forms

It is proposed that OPRI will facilitate the formation of project groups to develop and materialize the project proposals.

Expectations to IO Net



Expected dimensions of IO Net Activities



Session 2

Development of Activities Plans for IO Net

Part I (1) : Conservation and Management of Islands – Development and Implementation of Management Strategies

Management Strategies of Pacific Islands and Their Development and Pilot Project Proposals

**Mr. Masanori Kobayashi, Research Fellow, Ocean Policy Research Institute,
The Sasakawa Peace Foundation**

To facilitate the effective management of islands including terrestrial, coastal and marine resources and environment, it is essential that the government of small island countries adopt and implement the policies, strategies and/or plans conducive to achieving such purposes. The institutional frameworks need to be established and/or strengthened to ensure the effective implementation of such policies, strategies and plans. OPRI proposes to develop and undertake a project that aims to assist small island developing states in the Pacific to (i) assessing islands' characteristics, vulnerability and risks, (ii) review the current status of policies and their implementation, (iii) analyse the gaps, (iv) conducting case studies on good practices, and to exploring options for improving the effectiveness in implementing sustainable conservation and management plans in the Pacific small island developing countries. With the proposed project, it is intended to (i) enhance understanding and improved partnership, (ii) increase a basis for pursuing effective conservation and management of the Pacific small island developing countries, and (iii) to strengthen partnership at the national, regional and international levels. It is proposed that the project will be undertaken in partnership with Pacific small island developing countries governments, ANCORS, PIFS, SOPAC, U of Auckland, USP, U of Tokyo Ocean Alliance and other potential partners.

“Management Strategies of Pacific Islands and Their Development and Pilot Project Proposals”

Session 2: Development of Activities Plans for IO Net
 Part I (1) “Conservation and Management of Islands – Development and Implementation of Management Strategies”

Mr. Masanori Kobayashi, Research Fellow,
 Ocean Policy Research Institute
 The Sasakawa Peace Foundation

Islands and Oceans Net 1st General Meeting
 Ito Academic Research Center, University of Tokyo, Tokyo, Japan
 25 – 26 May 2015

OPRF/ANCORS Recommendations Safety and resilience

Section	Para	Challenges and suggested actions
2	b	Increased Safety and Resilience of Island Communities
2	b-1	Assistance for disaster risk mgmt
2	b-2	Drafting a comprehensive plan
2	b-2	Improving early warning systems
2	b-3	Developing and implementing land use plan

OPRF/ANCORS Recommendations Island mgmt strategies

Section	Para	Challenges and suggested actions
1	3	Env problems, global change, climate change
1	4	Precautionary and ecosystem based approaches
2	2-1	Conservation and Management of Islands
2	a	Assistance for macro-policies for island mgmt
2	a-i	Considering island characteristics
2	a-ii	Setting env/socio-economic baselines
2	a-ii	Identifying driving forces
2	a-iii	Address human and natural impacts
2	a-iv	Understanding system complexity
2	a-v	Implementing alternative adaptation strategies sensitive to natural dynamics

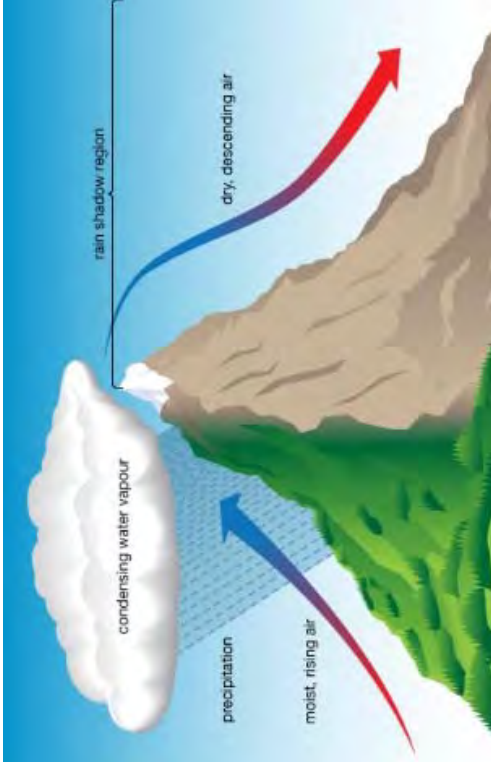
IPCC WGII AR5 Climate Change 2014: Impacts, Adaptation, and Vulnerability Chapter 29 Small Islands

Table 29-3: Type of island in the Pacific region and implications for hydro-meteorological hazards (after Campbell, 2009).

Island type and size	Island elevation, slope, rainfall	Implications for hazard
Continental - Large - High biodiversity - Well developed soils	- High elevations - River flood plains - Orographic rainfall	River flooding more likely to be a problem than in other island types. In Papua New Guinea high elevations expose areas to frost (extreme during El Niño).
Volcanic High Islands - Relatively small land area - Barrier reefs - Different stages of erosion	- Steep slopes - Less well developed river systems - Orographic rainfall	Because of size few areas are not exposed to tropical cyclones. Streams and rivers subject to flash flooding. Barrier reefs may ameliorate storm surge.
Atolls - Very small land area - Small islets surround a lagoon - Larger islets on windward side - Shore platform on windward side - No or minimal soil	- Very low elevations - Convectional rainfall - No surface (fresh) water - Glyphen-Herzberg (freshwater) lens	Exposed to storm surge, king tides and high waves. Narrow resource base. Exposed to fresh water shortages and drought. Water problems may lead to health hazards.
Raised Limestone Islands - Concave inner basin - Narrow coastal plains - No or minimal soil	- Steep outer slopes - Sharp karst topography - No surface water	Depending on height may be exposed to storm surge. Exposed to fresh water shortages and drought. Water problems may lead to health hazards.

http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-Chap29_FGDall.pdf

Continental Island – Orographic Rainfalls



<http://www.britannica.com/EBchecked/topic/433062/orographic-precipitation>

Atoll Island – Kwajalein Atoll , Marshall Islands



http://dxnews.com/v73ns_kwajalein-atoll_marshall-islands/

Raised limestone Island - Niue



<http://www.sprep.org/climate-change/adapting-to-climate-change-on-the-rock-the-niuean-way/>

Oceania - three sub-regions of Melanesia, Micronesia, and Polynesia



http://upload.wikimedia.org/wikipedia/commons/9/93/Pacific_Culture_Areas.jpg

Oceania: countries in three sub-regions - Indicative

Melanesia	Fiji
	Papua New Guinea
	Solomon Islands
	Vanuatu
Micronesia	Kiribati
	Nauru
	Samoa
Polynesia	Tonga
	Tuvalu
	New Zealand

http://upload.wikimedia.org/wikipedia/commons/9/93/Pacific_Culture_Areas.jpg

The Suggested Project for Island Management Strategies

Activities

1. Assessing the topographical, bio-physical and socio-economic characteristics and vulnerability/potentials of islands in the Pacific,
 2. Evaluating the current policy framework and analyzing policy and institutional gaps,
 3. Conducting policy/stakeholder dialogues,
 4. Identifying a pilot country/locality to develop and monitor the implementation of the island management strategies
 5. Conducting sub-regional or region wide case studies
- Outputs/Outcome
Pacific island regional study report, Mgmt Policies, Institutions

The Suggested Project for Island Management Strategies
Suggested lead organizations and collaborators

IO Net Core Group Members

1. OPRF
2. ANCORS
3. U of Auckland
4. TBC

Other Potential Collaborators

1. SPREP
2. USP
3. Marshall Islands Government Environment Protection Agency (RMI-EPA)
4. Tuvalu, Micronesia, Tonga, Cook Islands, Timor Leste

Progress and Challenges in Implementing Island Management Strategies in Marshall Islands

Ms. Lani Milne Chief of Coastal, Land and Conservation Division, Marshall Island Environment Protection Authority (RMI-EPA)

The Republic of the Marshall Islands share with all peoples of the Pacific a deep and abiding respect for the land, the air and the sea which have provided them sustenance for thousands of years. The complex fragile natural environment of this atoll and island state has been well tended in customary practices, but as the Republics economy grows and people's ways of life evolves, the Marshall Islands faces modern challenges that threatens its precious natural resource base. The focus of my presentation will be on coastal protection and environmental management issues/challenges that we face as a regulatory agency. The long history of poor environmental planning in the RMI, is a result of lacking guidance on coastal management practices, ecological, social and economic analysis of demographic and environmental pressures, which are essential prerequisite for sustainable development, hazard mitigation and climate adaptation within the RMI.

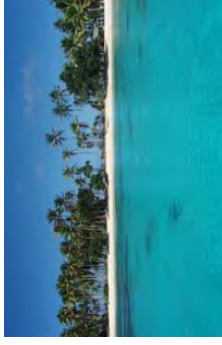
“Challenges and Progress in Implementing Island Management Strategies in the Marshall Islands.”

By: Lani Miline

RMI Environmental Protection Authority – Chief of Coastal, Land and Conservation Division

The Marshall Islands

- Low lying coral atolls - 29 atolls and 5 single islands.
- 2 meters above sea level
- Very limited resources and land area.
- Marine resources are main source of food supply.
- Trees and plants in the coastal areas are important for food, habitats and coastal protection.
- Healthy coral reefs and beaches provide natural protection from waves and rising seas.



A healthy environment requires clean water

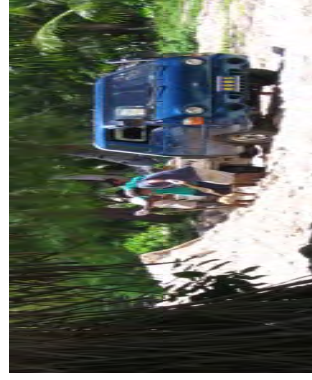


Challenges – Coastal Management

Central Environmental Concerns:

- Beach Erosion;
- Polluted water and shoreline;
- Habitat destruction and loss;
- Coastal flooding and property destruction

Erosion

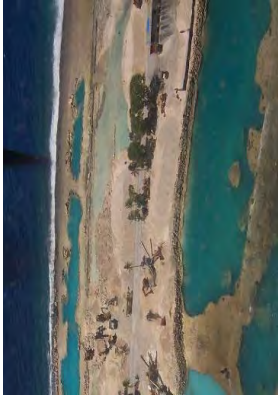


Illegal commercial sand mining



Removal of coastal buffer and increase risk from sea level rise

Erosion continue...



Reef Flats act as natural buffers to waves and if are removed the direct energy and force of the wave is felt at the land edge rather than reef flat up to 1km away.



Erosion is caused when sand supply is reduced, and hard reef flats are mined

Polluted Water and Shoreline



Oil spill from vessels



Shoreline pollution and illegal dumpsites

Habitat destruction and loss



Hydraulic dragline dredging of coastal area



Hydraulic clam shell dredging of deeper coastal areas

Coastal flooding and property destruction



King tide event lagoon side 2015



King tide event ocean side 2015.

Key Legislations – Parent Acts

- National Environmental Protection Act 1984 – establishes the Environmental Protection Authority for the protection and management of the environment
- Coastal Conservation Act 1988 – to make provision to survey coastal zone, create a coastal management plan, regulate and control development, promote conservation schemes



Key Regulations

- Earthmoving Regulations 1989 (amendments 1994)
- Environmental Impact Assessment Regulations 1994
- Marine Water Quality Regulations 1992
- Solid Waste Regulations 1989
- Public Water Supply Regulation 1994
- Toilet Facilities and Sewage Disposal Regulations 1990
- Persistent Organic Pollutants Regulations 2004
- Ozone Layer Protection Regulations 2004
- Sustainable Development Regulation (Draft)

Coastal Management Priorities

- EIA & GIS
 - Training
 - Monitoring
 - Streamline Permit Process
- Coastal Zoning
 - Coastal Management Plans
 - Deratting
 - Survey & Monitor Projects
 - Recruiting & Equipment Replacement
- Conservation Oversight
 - Ramsar Site
 - Endangered Species Survey
- Marine Water Quality
 - Maluro & Ebeye Mapping

Progress/Steps moving forward

- Amendments to various regulations in progress.
- Sustainable Development Regulation soon to take effect.
- Coastal Management Framework in the processing of being updated.
- Increase capacity building efforts in GIS, mapping and data collection.
- Coastal Management Advisory Council (CMAC) active.
- Promotion of national conservation area program in recognition of the Micronesian Challenge – 20% of land area and 30% of marine area of RMI to be under effective conservation by 2020.
- Collaborating with various agencies to develop concept note for coastal protection guidelines.
- Potentially increasing number of RAMSAR site.
- First coral replanting activities taken place in RMI.

Conclusion

- To practice the sustainable development and conservation of coastal areas by integrating decision makers on all levels and in all sectors.
- Help build procedures, regulations and plans that are realistic, practical and function in a sustainable manner.

Local Community Actions for Managing Islands in Timor Leste and Challenges”

Mr. Demetrio de Carvalho, Founder Haburas Foundation, Timor Leste

The world’s third youngest country, Timor-Leste is facing extreme humanitarian, development and environmental challenges. Timor-Leste is a small island nation in the midst of the Coral Triangle that boasts exceptional biodiversity and vast natural resources, including extensive fisheries and healthy coral reefs. This rich stretch of sea between Asia and the western Pacific Ocean includes some of the world's richest marine biodiversity — and provides food security and livelihoods for more than 130 million people. Timor-Leste is also one of the newest nations in the world, becoming independent in 2002 after nearly three decades of conflict. Preserving the country’s natural resources should be central to infrastructure and economic development plans to ensure the continued prosperity and health of local Timorese communities. Since 2010, Conservation International has been working with communities and the government in Timor-Leste to establish the first successful model of co-management of natural resources. This model aims to equip the government and local communities with the necessary tools to manage marine and coastal resources that offer direct sustenance to fishing communities and that hold economic potential through ecotourism and improved access to markets. Fringing reefs and mangrove stands also provide important protection for coastal communities during natural disasters. CI is specifically working to improve management of the Nino Konis Santana National Park — particularly known for its rich marine biodiversity — in order to improve local food security, fight climate change and enhance livelihoods for local community members. In 2012, we helped establish the first no-take zone in the park, to be co-managed by local communities working in partnership with the Timorese government. No-take zones are critical in allowing fish populations to replenish and in protecting turtle breeding grounds. And they can be used as dive sites for ecotourism and scientific research.

Ecological Engineering for Land Conservation and Its Applicability in Island Countries

Prof. Hajime Kayanne, Professor, University of Tokyo Ocean Alliance and Graduate School of Science

Dr. Hiroya Yamano, Director, Center for Environmental Biology and Ecosystem Studies (CEBES), National Institute for Environmental Studies

Prof. Toru Yamaguchi, Professor, Faculty of Letters, Keio University

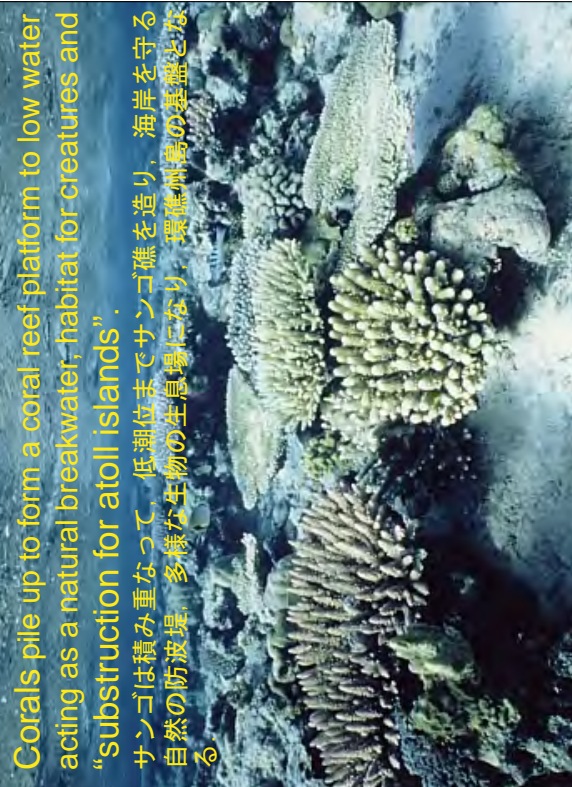
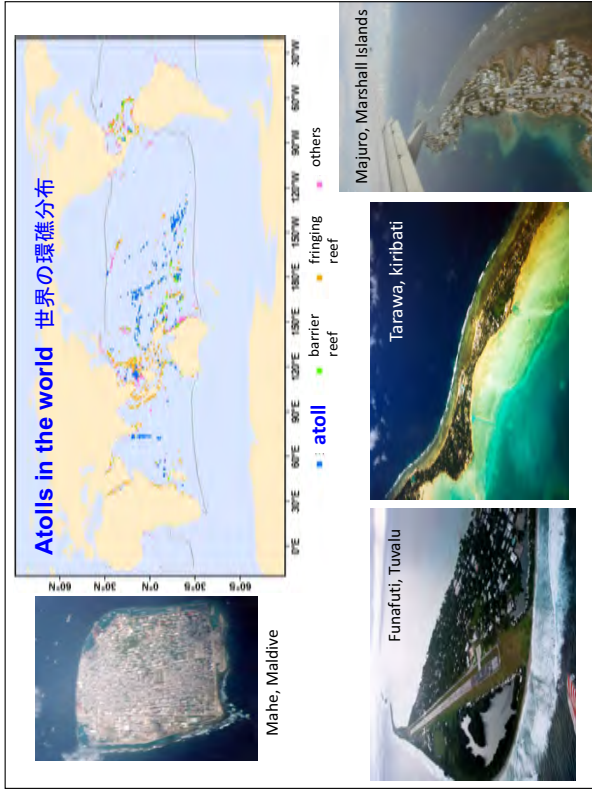
The low-lying islands are believed to be under threat of sinking due to the rising sea level associated with the recent global warming. Meanwhile, we are also beginning to learn that the danger of sinking is becoming even greater as local issues, such as rising population and economic growth, combined with the effects of the rising sea level. To tackle this issue, we must first develop a plan to counter the rise in sea level based on an understanding of how the islands are able to produce, transport, and accumulate sand sedimentation. On top of this, we must also address the various adjoining problems so that the islands will be rehabilitated to withstand the potential threats from the rising sea level. Foraminifera research is rare in the world, and its cultivation is a first such attempt worldwide. If we can achieve results through this project, Japan will be able to provide assistance on problems related to the rising sea level that is expected to emerge in various parts of the world. Not only that, but the project is also important for Japan itself. Japan is also an island nation, so if such places as Okinotorishima Island should face the danger of sinking in the future, Japan would be able to take a key role in managing the situation. Star sand is a type of protozoa called foraminifera that develops a star-shaped calcareous shell. When it dies, the shell becomes sand. Two-thirds of the land of Tuvalu is actually made up of these foraminifera sand. And so, the aim of this project is to cultivate foraminifera in order to increase sand production, thereby restoring the islands' natural abilities to deal with the rising sea level. The project's main areas of research are the following: 1) biological research to find out what the environmental conditions are for increasing foraminifera; and 2) marine engineering research to develop an effective system for sand transportation based on an understanding of how the ocean currents surrounding the islands affect sand transportation and sedimentation.

Ecological engineering for land conservation and its applicability to island countries

環礁州島の生態工学的維持

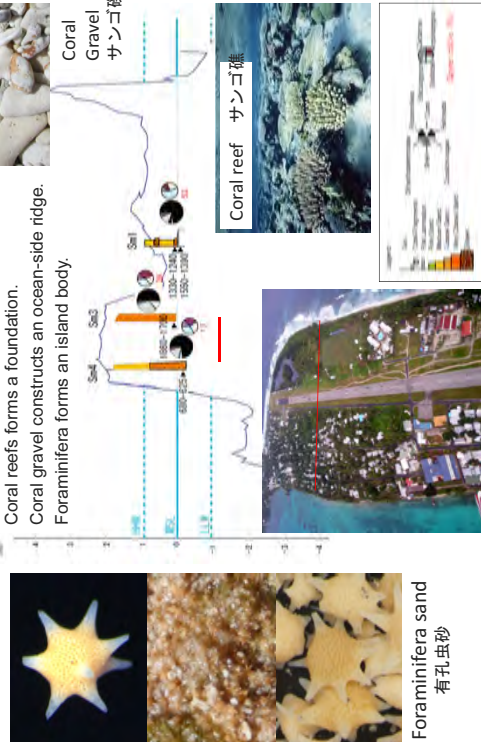
Sustainable ecosystem management equals sustainable land management against sea level rise in small island countries: 持続的な生態系管理＝国土管理

Hajime Kayanne (Univ. Tokyo), Hiroya Yamano (Natl Inst Environmental Studies) and Toru Yamaguchi (Keio Univ.)



Ecological process in land formation

島を造る生態プロセス (サンゴ, 有孔虫)



Global threats

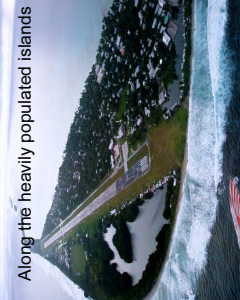
地球規模の危機: 白化, 酸性化, 海面上昇

- Coral reef bleaching by warming.
- Coral growth reduction by ocean acidification.
- Submergence of reefs, islands and coast sby sea level rise.



e.g. Palau

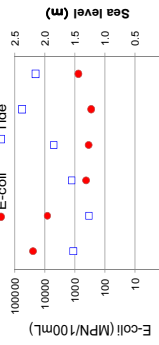
Local threats



Ecosystem deterioration

ローカルな危機: 生活排水と廃棄物による生態系劣化

Sewage water flushed to the ocean.

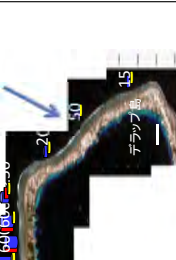
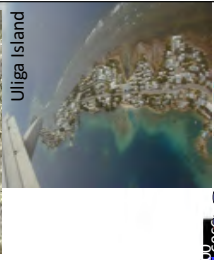
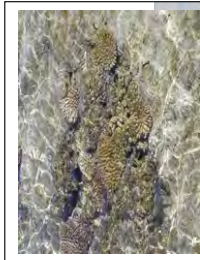
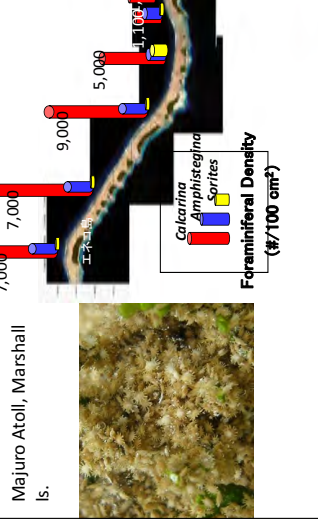
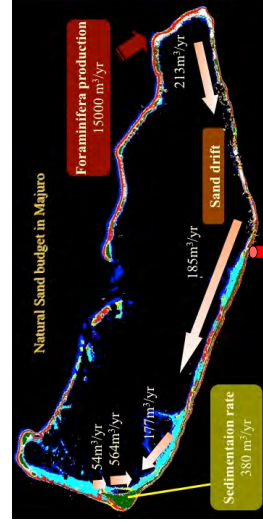


e-coli concentration is 25 times higher than Japanese environmental criteria.



Fongafale, Funafuti Atoll, Tuvalu

Loss of coral is crucial for atoll islands as it forms a foundation and natural breakwater.

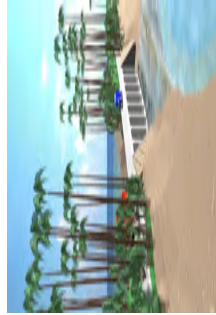


Local threats

Funafuti, Tūvalu



stops the sand transportation from ocean to lagoon.



releases the sand to the deep ocean through the boat channel.

Ideal design of the causeway. Open-cut to the level of reef flat.

Geo-Ecological process is degraded by local human activities

サンゴと有孔虫砂の生産-運搬-堆積過程が、人間活動によって阻害されている。

production

Ecosystem degradation by seawater pollution



transportation

Sand drift interrupted by jetties and dredges



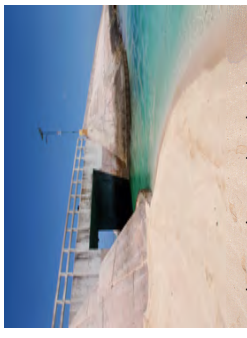
seimentation

Beach erosion by vertical seawalls

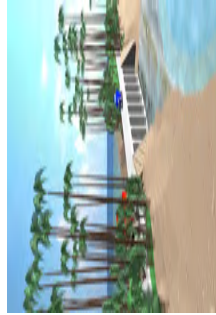


Constructions against natural process.

人工構造物による砂の運搬の阻害: コースウェイ



releases the sand to the deep ocean through the boat channel.



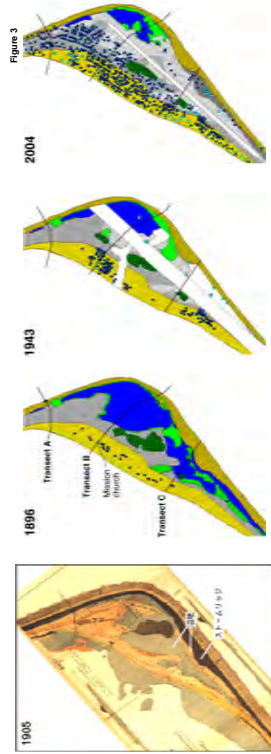
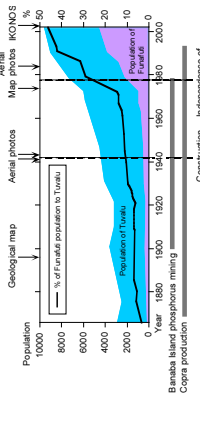
Ideal design of the causeway. Open-cut to the level of reef flat.

Local threats



Is Tuvalu sinking?

Land use: expansion of residential area to vulnerable low land



自然景観が変われ、人口増加に伴って居住域が元の低湿地に拡大していった。

Sustainable ecosystem management equals sustainable land management against sea level rise in small island countries.



Production

Improvement of coastal environment is required before or in parallel with any ecosystem rehabilitation challenges.

Then we can adopt ecotechnology.

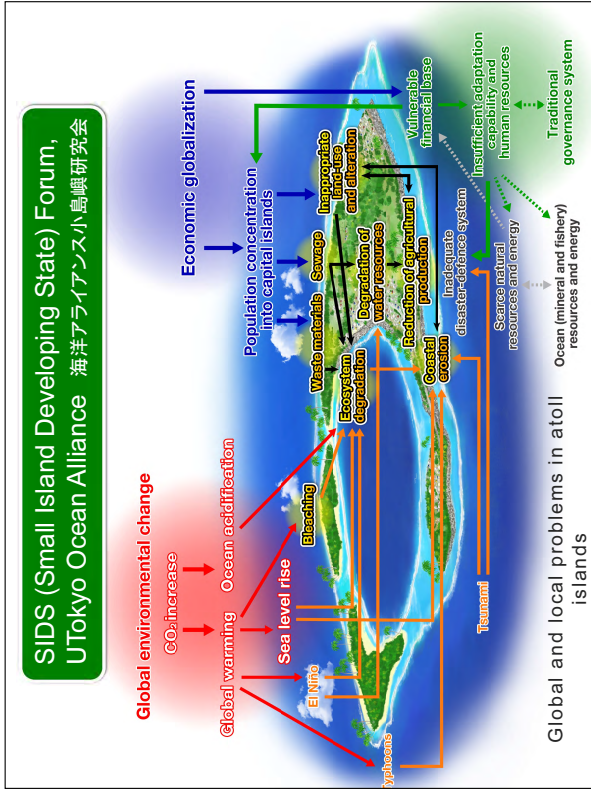
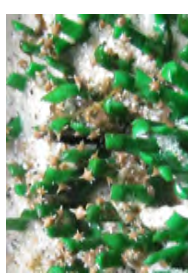
Coral culture and transplantation

Okinotorishima



Foram culture

Tuvalu



Destruction or Persistence of Coral Atoll Islands in the Face of 20th and 21st Century Sea Level Rise: Implications for Future Management

Prof. Paul Kench, Professor, School of Environment, Faculty of Science, University of Auckland

The future of low-lying reef islands has been the subject of considerable international concern, scientific debate and media interest in the last few decades. As a result of climate change and the associated on-going rise in sea level, islands are expected to become increasingly unstable and unable to support human populations by the end of the 21st Century. Some studies have suggested that sea-level rise has already resulted in widespread erosion and inundation of atoll islands, though such claims often lack robust support. Evidence of the physical changes in atoll islands over the past century is presented from the central and western Pacific, a region in which sea level has increased at rates 3 to 4 times that of the global average. Results show no evidence of widespread destabilisation or reduction in island size; rather island area has remained largely unchanged or has increased. The majority of islands have also changed on their reef platforms. Causes of the shoreline changes are reviewed and the role of sea-level rise evaluated. Results also suggest that factors such as extreme events and the future supply of sediment to maintain and build islands are more critical in determining future island changes than a focus on sea level alone. The implications of this study are profound. First, it shows that future sea level rise is unlikely to destabilise atoll island landforms to such an extent that their inhabitants will be forced to migrate offshore. Second, a series of new challenges are identified relating to risk reduction and adaptation policy for atoll island governments, international agencies, aid donors and island communities. These require a substantial shift away from the present paradigm of island loss and focus on the persistence of atoll islands in the future.

Session 2

Development of Activities Plans for IO Net

**Part I (2) : Conservation and Management of Islands
– Coral Reef, Mangrove and Ecosystem Conservation**

Integrated Coastal Management and Its Replicability to Small Island Countries

Dr. Keita Furukawa, Senior Research Fellow, Ocean Policy Research Institute, The Sasakawa Peace Foundation

The joint policy proposal conscious that the problems on conservation and management of coral reefs and mangrove forests in small islands states are crucial not only to environmental conservation but also in disaster prevention. It is closely interrelated and need to be considered as a whole (§2-1 e, §5-1). The Ocean Policy Research Institute, SPF has been promoting practical research and development on promotion of Integrated Coastal Management (ICM) in Japan with collaboration of the regional organization Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) who is promoting ICM in the Sea of East Asia. Five model sites to implement ICM has been established with cooperation of related local governments in Japan since 2010. We have found importance of following processes to implement ICM and develop specific tools to support: 1) situation understanding in land and sea as a whole, 2) consensus building with various stake holders, 3) establishment of ICM plan matching with master plan or national policies, 4) adaptive management of implementation of ICM projects, and 5) review of management and assessment for revision of the plan. Coastal management of small islands states should be taken into account local use of unique and important coastal ecosystem of mangrove forests, coral reefs and seagrass meadows. It is inevitable to separate from local use and conservation act. In Japan, we have traditional coastal management concept named sato-umi that maximize biodiversity and productivities of coastal ecosystem by interaction of local communities. The sato-umi is one of basic idea when we establish ICM system for Japan, and we believe this ICM can be extended to coastal management system for small islands states. We would like to propose to establish a specific project for implement ICM to one or more coastal site(s) in small islands states with modification of the ICM for taking in to account the local specification. The project will be served basic survey for situation understanding, program and specialist offer to consensus building, technical support to establishment of ICM plan and its assessment. The outcome of the project should be harmonized ICM plan and project establishment with national and regional ocean governance and sustainable development.

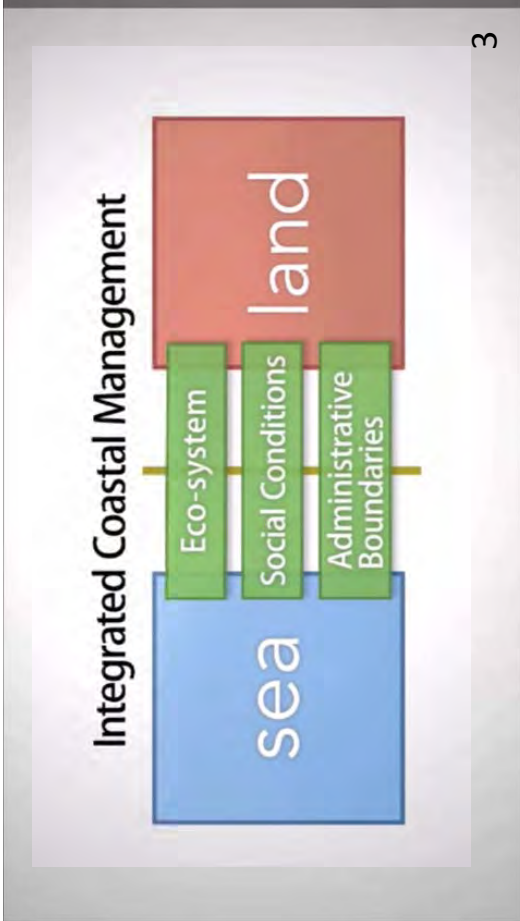


The Policy Proposal (digests)

Para 2-1. e: Conservation of Coral Reefs and Mangrove Forests
 e-1: Island States thus need to take an **adaptive and perceptual approach** to maintaining island ecosystems.
 e-3: Support should be given to a multifaceted approach on the **utilization plan and conservation plan**.

Para 5-1.: Island States are facing various challenges affecting their islands and surrounding oceans. These **issues are closely interconnected** and thus it is **important to find solutions to them in an integrated manner**

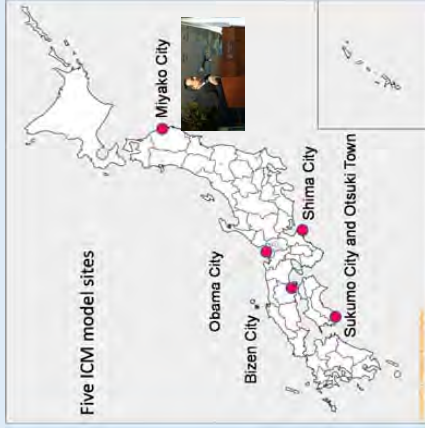
2



3

OPRI Initiative on Integrated Coastal Management in Japan

- ✓ Promotion of ICM in Japan through the following;
 - Establish an experts committee for inter-disciplinary research & present Policy Proposals
 - Support local governments on ICM initiatives at five model sites (2010-2015)
 - Organize ICM seminars and network workshops to share model sites' experience and promoting ICM initiatives in Japan



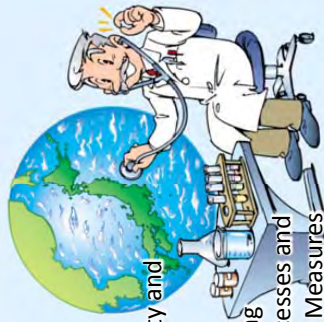
4



Ocean Health Check

First Diagnostics;

- Use Existing Data
 - Quick Observation on Stability of Bio Diversity and Material Cycling
- #### Second Diagnostics;
- Do Specific Monitoring
 - Check Dominant Processes and Make Action Plan for Measures



Situation Understanding

Material Cycling and Bio Diversity as Indicators of Coastal Area 5



Consensus Building

Situation Understanding

Material Cycling and Bio Diversity as Indicators of Coastal Area 6

Shima City Satoumi Creation Basic Plan
(Shima City ICM Basic Plan)

ICM Plan



Situation Understanding

Material Cycling and Bio Diversity as Indicators of Coastal Area 7

ICM Projects



Situation Understanding

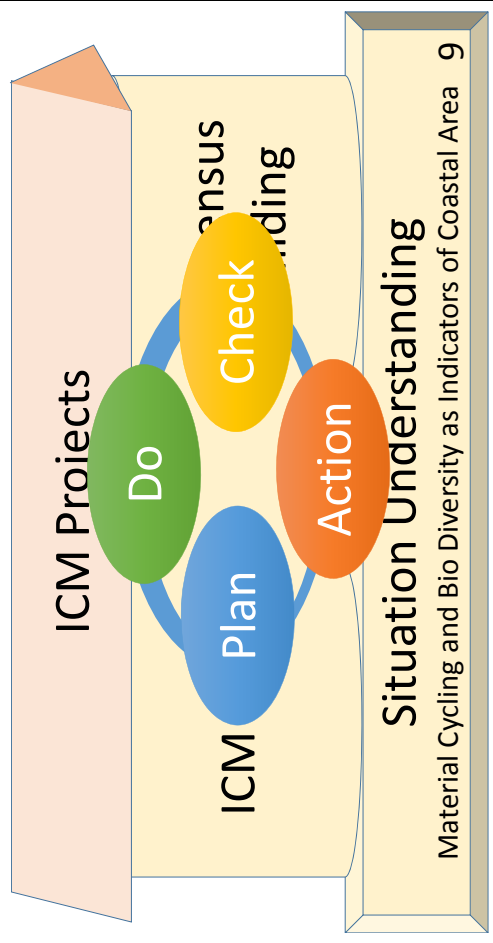
Material Cycling and Bio Diversity as Indicators of Coastal Area 8

Project Proposal: ICM Implementation in Small Island for Sustainable Use of Mangrove Forests and Coral Reefs

Case study site in Small Island State(s)

- Basic survey (Ocean Health Check)
- Consensus building (Human resources)
- Establishment of ICM plan (Technical support)
- Project implementation

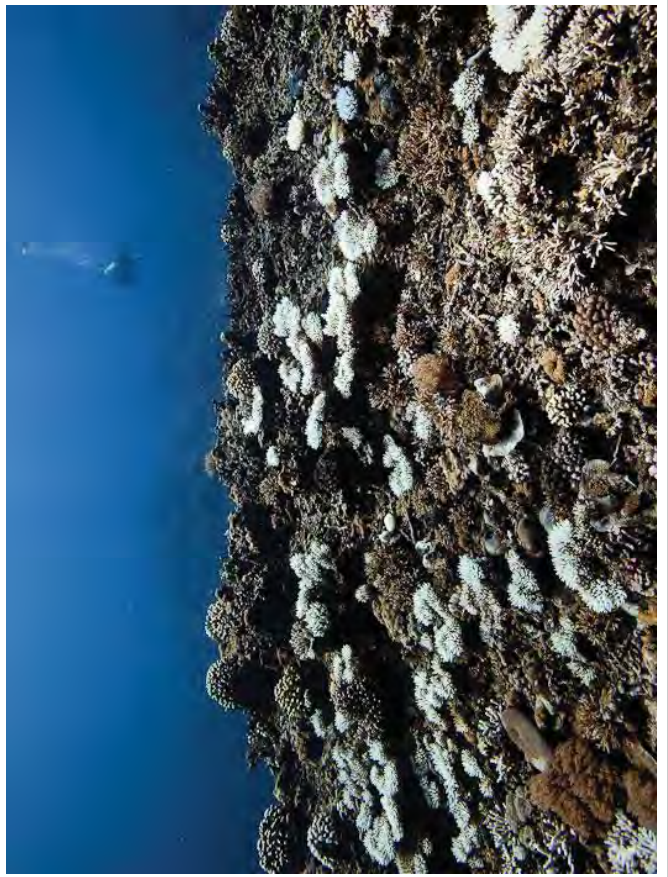
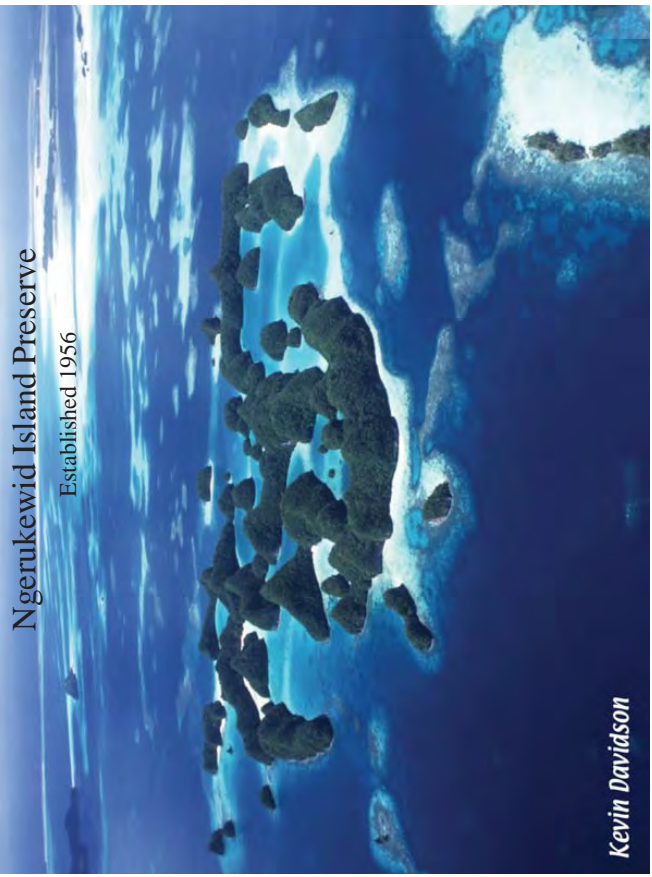
ICM can be a good tool for Islands' ecosystem management through multi-stakeholder partnership!



Biodiversity Conservation and Protected Areas in Palau

Dr. Yimnang Golbuu, Chief Executive Officer, Palau International Coral Reef Center

Palau has a long history of managing its resources, first through the customary process called “bul” and later, through a mix of customary and modern approaches. This combination of “old” and “new” approaches usually consisted of laws passed by legislature, followed by a declaration of the traditional bul. In 1956 Palau established the oldest formally designated marine protected area (MPA) in the region when it declared the Ngerukewid Wildlife Preserve. Before 1994, when Palau became independent, many local MPAs were established by local communities, primarily for local resource management. This system was adequate for its purposes, until the 1998 bleaching event, when about 30% of Palau’s reefs were destroyed. This nation-wide impact revealed that the current ad hoc system of MPAs is not going to work for a nationwide biodiversity conservation, nor is address global impacts such as bleaching. The current system does not incorporate concepts such as resilience and ecological integrity. This realization led to the establishment of the Protected Areas Network (PAN). The nationwide network of terrestrial and marine protected areas will protect areas of biodiversity significance, important habitats, and other valuable resources that are essential to the future social, cultural, economic and environmental stability and health of Palau. The success of PAN is now being replicated to Palau’s EEZ with the proposed Palau National Marine Sanctuary. However, successful implementation will require better enforcement, capacity building and sound science to guide management efforts.

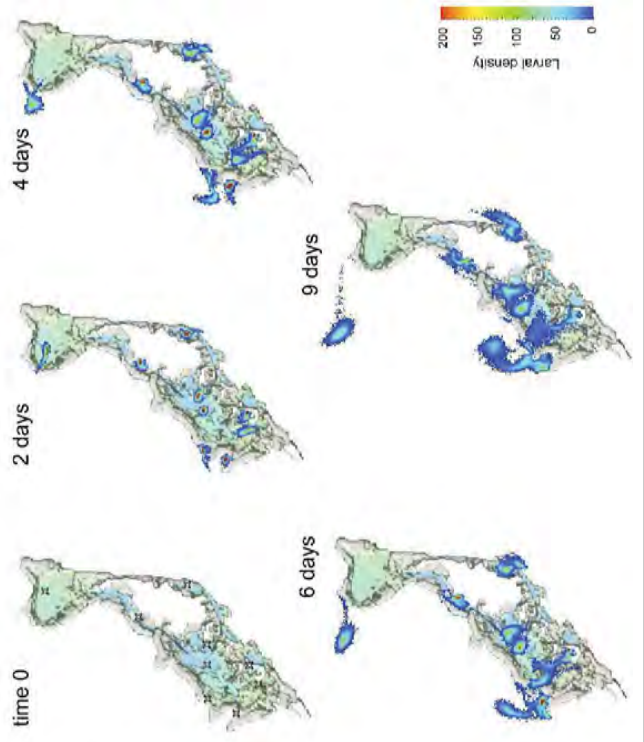
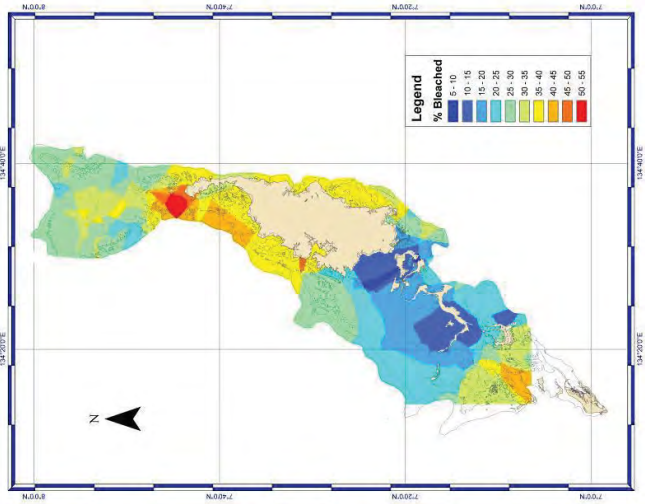


Problems

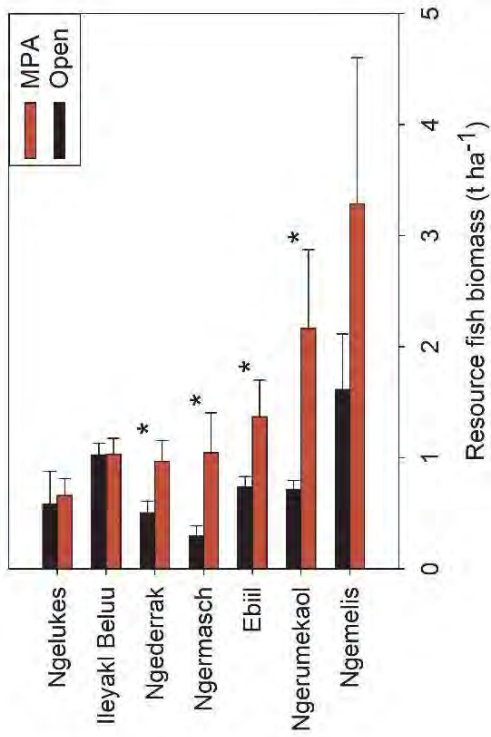
- Current MPAs formed an *ad hoc* system of protected areas
- Not necessarily effective for nationwide biodiversity
- Does not incorporate concepts such as resilience and ecological integrity
- Ad hoc* created protected areas cannot deal with the impact global climate change

Dual Objectives of PAN

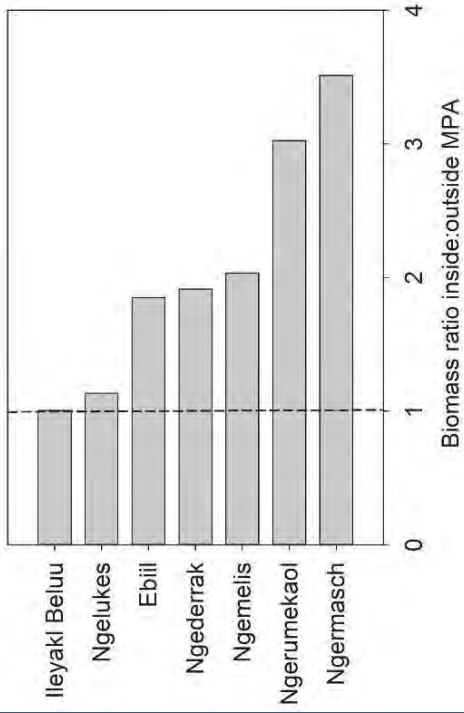
Protecting the country's biodiversity
 Assist with local management of natural resources



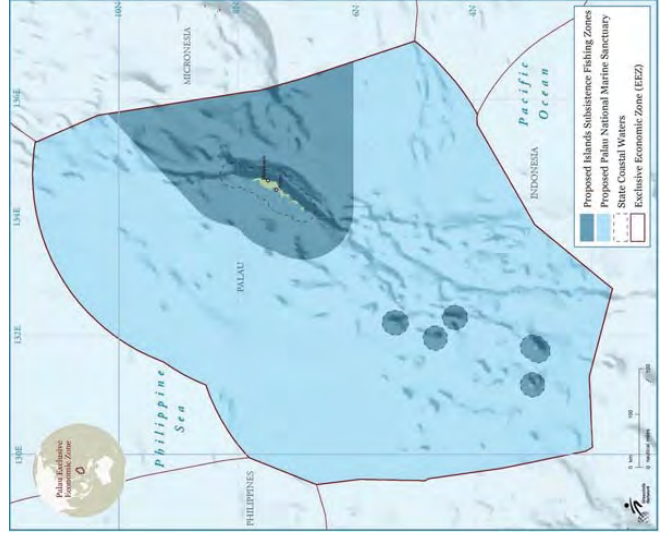
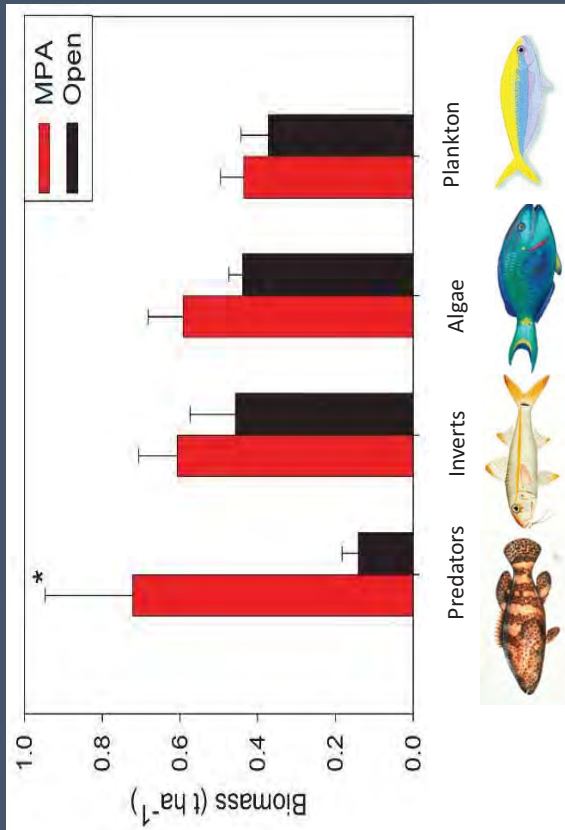
Comparison of resource fish biomass inside and outside Marine Protected Areas (MPAs)

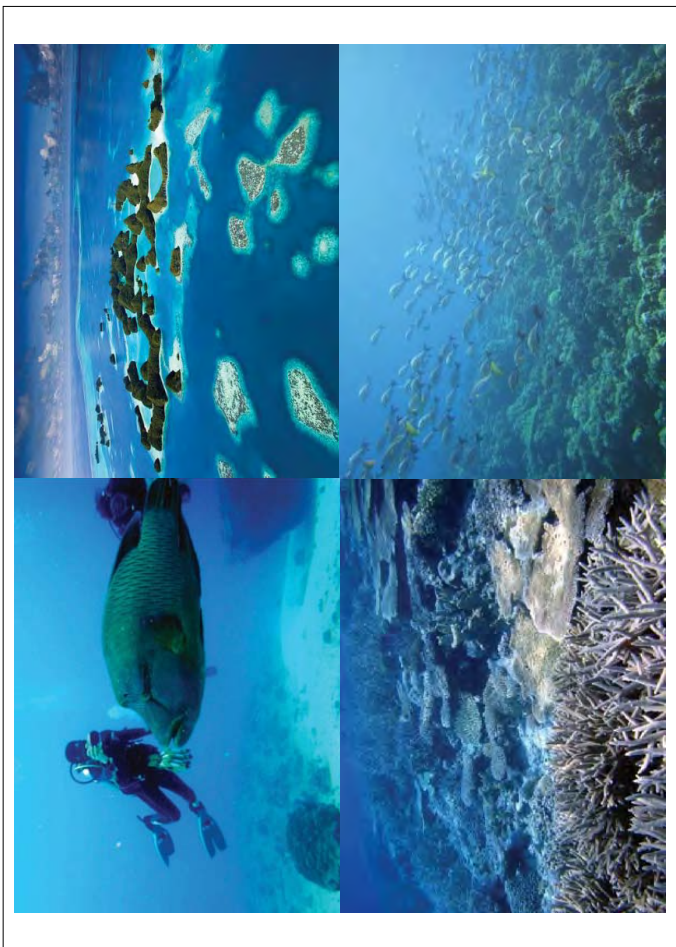


Ratio of resource fish biomass inside/outside MPAs.



Biomass of top predators 5 times larger in the MPAs





Integrated Terrestrial and Coastal Management and Local Development in Papua New Guinea

Mr. Kenn Mondiai, Executive Director, Partners with Melanesians Inc. (PWMPNG), Papua New Guinea

Many coastal and island communities in the PNG are becoming more aware of the depleting natural resources and the pressure from land based development such as logging and oil palm plantations which removes the forest cover and reduction of water quality and volume of fresh water flow and biodiversity loss as a result of forest cover loss. The land based activities are impacting on the coastal marine ecosystem with soil erosion and removal of mangroves and other plants and marine lives, which has placed huge burden on the local communities whose livelihood is dependent on the marine environment. Many communities are also feeling the impact of the climate change like strong winds, cyclones, coastal land erosion and many other problems and are struggling in their daily lives. They are taking steps to protect their forests and land through reforestation activities and coastal mangrove rehabilitation projects, but local communities working alone to promote and protect the terrestrial land and coastal environment is difficult task when many communities are isolated and lack technical and financial resources. In PNG working with environmental NGOs at the local level has been a small positive step forward, but still there is a need for more partnership with local Governments and other regional institutions with wider experience and resources to ensure the local issues of terrestrial and coastal resource management is addressed through an integrated approach that will support local communities environmental and developmental needs and protect the local island and coastal communities. Supporting local NGO partners working with local communities and training and enhancing local capacity through practical action and research, whereby they are trained and equipped to work towards addressing their local issues in an integrated approach is an option worth looking into and PwM as a national NGO working in Manus province is starting and needs support and partnership.



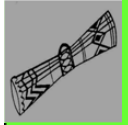
Partners With Melanesians Inc.
PAPUA NEW GUINEA

Islands and Oceans Net (IO Net)
 1st General Meeting

Integrated Terrestrial and Coastal
 Management and Land Development in
 Papua New Guinea

Kenn Mondiaai
 25 – 26 May 2015
 University of Tokyo
 Ito International Research Centre – Ito Hall

Maintaining the Dance

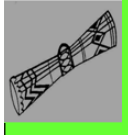


Partners With Melanesians Who are We ? & What we Do ?

- Registered National Not for Profit Conservation & Community Development NGO (32 years)
- Work with local, national and international partners in PNG + Pacific implementing project activities **(Our 8 Programs)**

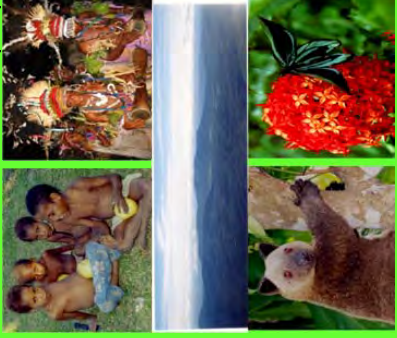


- Biodiversity Conservation
- Rainforest Literacy
- Capacity Building for local partners
- Consensus Building
- Climate Change & SFM - Reforestation
- Appropriate Technology
- Sustainable Livelihood Activities
- Participatory 3 Dimensional Modelling – Land use Planning (P3DM)

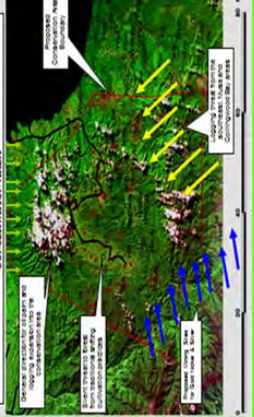


Projects in PNG Where ?

- Project 1 – **Managalas Conservation Area** in Oro Province. 360,000 Ha, 20,000 people, 4 Languages (since 1984) - RFN

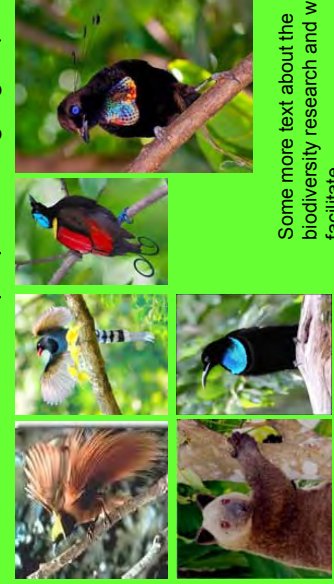


2013 Application to PNG Govt for area to be declared as a Conservation Area, but still pending due to conflicting land-use and development interest from the Mining Sector.



Projects in PNG Where ?

- Project 2 – **Karimui Conservation Area** in Simbu Province. 160,000 Ha, 16,000 people, 2 Languages (since 2007) - RFN



Some more text about the biodiversity research and what we facilitate



Projects in PNG Where ?

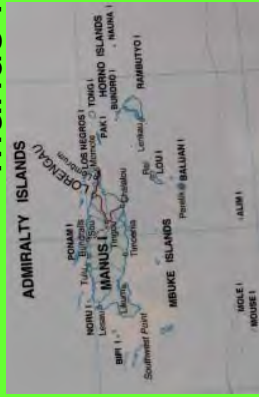


- Project 3 – **Ona Keto Reforestation Project** in EHP
- 6,500 Ha, 9,650 people, 1 Language (since 2003) - many SGP

This is a community reforestation project with capacity building and livelihood activities ... why land pressure due to population and land potential for subsistence agriculture for food production and cash cropping (coffee) and natural disaster

Will insert some more text + photos of reforestation under APFED laterand present in Tokyo

Manus Island



Will insert P3DM photo of Manus Island constructed in 2011 ... Add some text to describe Manus Island.

The Manus Project

Forest linking Coastal Mangrove & Marine



- Derimbat Ward 10 PNKA LIG, 45,700 Ha, 7,500 people, 1 Language (recently) - USAID/TNC/IUCN



Will insert some more text and photos of illegal logging and forest destructionand our actions, coastal beach front erosion, mangrove seedlings and flooding, and rubbish and dumping of waster in the seal etcalso insert photos of the forest degradation

Manus Island Reforestation Project



- Forest Rehabilitation and we started a under ... due to logging and the 1997 El Nino cause drought and bush fire, it devastated the forest and destroyed the habitat of the wildlife of the island.

Forest Management on an island and coastal areas, is a very big challenge for the local communities as well as any organisation that wants to intervene and protect, rehabilitate or management.

PwM we have developed innovative approaches to dealing with land and local communities in heavily populated areas where the issue of landownership is sensitive

With the APFEP/IGES/UNEP, we develop this innovative approaches that has worked, in dealing with local communities in the Highlands of PNG

We believe with the same approached with some modification, we can successfully work on Manus (island community) with the forest degradation and rehabilitation

Land Based Activities => Linkage => Marine-Coastal Ecosystem Issues

- Large Scale Logging
- Oil Palm/Rubber Plantations
- Shifting Cultivation
- Small scale forest business
- Forest fire
- Soil erosion
- Reef destruction
- Marine ecosystem
- Mangrove dieback

Forest Management on an island and coastal areas, is a very big challenge for the local communities as well as any organisation that wants to intervene and protect, rehabilitate or manage.

PwM we have developed innovative approaches to dealing with land and local



Lessons Learnt & Challenges

In our work in PNG especially working with rural communities (32 years)

- We have developed processes of community entry and engagement that helps in the long run for project implementation and management and sustainability.
- Community Empowerment with skills and training helps in a better project outcome
- Long term commitment and support
- Develop open communication platforms for community and dialogue with all partners

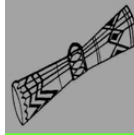
Challenges

- Language and cultural diversity
- Communication link . . .
- Remoteness of the local communities ... far islands and remote locations
- Weather rough seas and winds (normal, but dangerous with climate



Future Activities with Partners

- Management training to Local communities
- Biological Survey and data/samples collection
- Clan Land boundary Surveyed and registered
- Construction of a dam for micro hydro electrical power generation for local communities
- Community information data collection
- Marine and Reef surveys to determine resources and threats
- Local consumption patterns surveyed
- Education and Awareness in villages and local schools
- Community Leaders meeting
- Reforestation and Nursery seedling propagation for tree planting
- Coastal Rubbish Collection
- Community Land use Mapped using P3DM
- Climate Change Risk Management
- Research activities around Land based and link to marine ecosystem issues



Working in partnership with international partners to address regional, national and local issues faced by PEOPLE in the Islands and Ocean is an important task for us all ; with all your resources, experiences, knowledge, network and our local on the ground further discussions and actions to fulfil the requirements of the SIDA Agreement signed in Samoa in 2014



Thank you very much !

Harigato Gojaimasta !

Video of Manus Project

- If time permits, I wish to show a short 4-5 minutes movie done recently in April in Manus-Bundrou Island where PwM is working on an island developing P3DM models on coastal land management program with other NGOs and Manus Provincial Government and local communities.
- ***Mr. Kobayashi please advise is time can allow that***

Micronesia Challenge – Progress and Challenges for Conservation in Micronesia

Mr. Ricky Carl, Deputy Director, External Affairs, Micronesia Program, The Nature Conservancy (TNC)

Ms. Aya Mizumura, Policy Advisor, Asia-Pacific, TNC

In 2006, the Federated States of Micronesia (FSM), the Republic of the Marshall Islands (RMI), the Republic of Palau (ROP), the Commonwealth of the Northern Mariana Islands (CNMI) and the United States Territory of Guam declared the Micronesia Challenge (MC). The Micronesia Challenge (MC) offers many benefits to the FSM, RMI, ROP, Guam and CNMI: not only to assist in protecting their marine and terrestrial natural resources, but also to enhance international, regional and national fundraising efforts and attract external partners and technical support. The MC is driven by two main targets: 1) to effectively conserve at least 30% of the nearshore marine and 20% of the terrestrial resources across Micronesia by 2020; and 2) to raise a \$56 M endowment to sustain these efforts in perpetuity. At present, the MC endowment is at \$19M and managed by the Micronesia Conservation Trust (MCT). In considering developing new activities under the IO Net, it is also important to take existing efforts such as MC and its targets into account.



**The Micronesia Challenge:
a regional commitment
built on local stewardship**

Ricky Carl
TNC Micronesia Program

one MICRONESIA
A Campaign to Conserve Our Shared Resources

Outline

- Scope and Commitment
- Why it Matters
- Progress to Date
- Examples of progress in the jurisdictions
- Sustaining the Challenge



Scope and Commitment

The governments of Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, and Palau

Agree to effectively conserve at least **30%** of the near-shore marine resources and **20%** of the terrestrial resources across Micronesia by **2020**



Why it Matters

- Spans nearly 6.7 million square km of ocean
- Supports livelihoods of 650,000 people
- High Biodiversity
 - 66 threatened species on IUCN Red List
 - 480+ coral species
 - 1,300+ reef fish species
 - 85 birds species
 - 1,400 plant species



Progress to Date



- Strengthened / established 150+ managed areas, over >680,000 hectares
- Monitoring 4 regional marine indicators, MPAME tool adopted, testing terrestrial / SE indicators
- Regional support team continue to work together to assist the governments with MC implementation

Sustaining the Challenge



- Regional SF Plan/ Fundraising Strategy endorsed and implemented by Chief Executives
- Total endowment target of ~\$56M (endowment currently stands at over \$18,000,000)
- Implementation of local income generating mechanisms (e.g. Palau's "Green Fee" generates ~\$1.5M per year)

Acknowledgments

Australia Agency for International Development
 Chuuk Conservation Society
 College of Marshall Islands
 Commonwealth of Northern Marianas
 Conservation International
 Conservation Society of Pohnpei
 Conservation Strategy Fund
 David & Lucille Packard Foundation
 European Union Conservation and Environmental Protection Programme
 Federated States of Micronesia
 German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
 German International Climate Initiative
 Global Environment Facility
 Global Island Partnership
 Government of Turkey
 Guam
 Helen Reef Resource Management Program
 Japan International Cooperation Agency
 Kaday Community and Cultural Development Organization
 Kosrae Conservation and Safety Organization Yap Community Action Program
 Margaret A. Cargill Foundation
 Marianas Islands Nature Alliance
 Micronesia Conservation Trust
 Micronesian Image Institute

Micronesians in Island Conservation
 National Fish and Wildlife Foundation
 National Fish and Wildlife Foundation
 National Oceanographic and Atmospheric Administration
 New York Botanical Garden
 OneReef
 Pacific Islands Managed and Protected Areas Community
 Pacific Marine Resources Institute
 Palau Community College
 Palau Conservation Society
 Palau International Coral Reef Center
 Private donors
 Rare
 Republic of Palau
 Republic of the Marshall Islands
 SeaWeb
 Secretariat of the Pacific Community
 South Pacific Regional Environment Programme
 The Nature Conservancy
 United Nations Development Programme
 United Nations Environment Programme
 US Department of Interior
 US Environmental Protection Agency
 US Forest Service
 Yap Community Action Program
 Yela Environment Landowners Authority

We are One.

Thank You



www.micronesiachallenge.org/

Session 2

Development of Activities Plans for IO Net

Part I (3) : Conservation and Management of Islands – Promotion of Renewable Energy

Promoting Renewable Energy in Samoa and Challenges”

**Ms. Josephine Fiu, Assistant Chief Executive Officer, Legal Services,
Ministry of Natural Resources and environment, Independent State of Samoa**

Many Pacific Islands want to reduce their dependence on fossil fuel imports which absorbs significant portions of their GDP and makes them vulnerable to fuel price fluctuations. Affordable energy is vital to the economic development of any country. SIDS can be leaders on renewable energy even though they do not contribute many emissions. Renewable energy initiatives by SIDS such as the vulnerable atoll countries will not solve climate change but it does strengthen the moral voice of SIDS on climate change issues. (The Pacific Island Forum Majuro Declaration is an example of Pacific leadership.) The SAMOA Pathway also reflects the political will of Pacific countries as SIDS to make the transformation to renewable energy but they still need support. Renewable energy is here to stay and there is a need for partnerships that mobilise a diverse range of stakeholders. The importance of an enabling policy, legislative and regulatory environment that can facilitate the transformation is also very crucial.

Renewable Energy in Island States

Mr. Hirofumi Ishizaka, Institute for Global Environment Research, Pacific Consultants Co., Ltd.

Pacific Consultants has a long experience in the Pacific working on climate change issues. Since 2013, it has been forming and implementing JCM projects in Palau. It has introduced two solar photovoltaic systems to businesses in 2014, and registered them as the first JCM project in Palau in 2015. Furthermore, it is currently implementing several other projects. The presentation will first give an overview of Pacific Consultants and its Institute for Global Environment Research. It will then introduce the solar projects in Palau, and discuss the challenges and opportunities in introducing renewable energy. Note: The JCM or Joint Crediting Mechanism is a greenhouse gas reduction scheme between Japan and a developing county implemented in 13 countries. In JCM, contribution of Japan to the reduction and removal of greenhouse gas emissions in partner countries, through transferring low-carbon technology and products, is calculated and evaluated as credits.

Islands and Oceans Net Renewable Energy in Island States

25 May 2015
 Tokyo

Hirofumi Ishizaka
 PC-Institute for Global
 Environment Research

Contents

1. About Pacific Consultants
2. About PC-IGER
3. Solar Projects in Palau
4. Challenges and Opportunities

About Pacific Consultants

Japanese Leading Construction Consulting Company



Founded: 4 September 1951
President: Sigenori Takaki
Capital Stock: 490 million yen
Sales: 37.4 billion yen (1 October 2012-30 September 2013)
Employees: 1,625 (1 July 2014)
Head Office: 1-7-5 Sekido, Tama-shi, Tokyo
Business Registration: Construction Consulting / Geological Survey Business / Surveying Business / First-Class Registered Architect Office / Measurement Certification Business / Soil Pollution Survey Business / Specialized Labor Supply Business

About PC-IGER

- Institute for Global Environment Research -
http://www.pacific.co.jp/service/management/cate03/sub02/PCiGER_pamph_e.pdf

Experts in Climate Change

Climate Change Policy

Assessment and analysis of climate change policies and international negotiations

Climate Change Adaptation

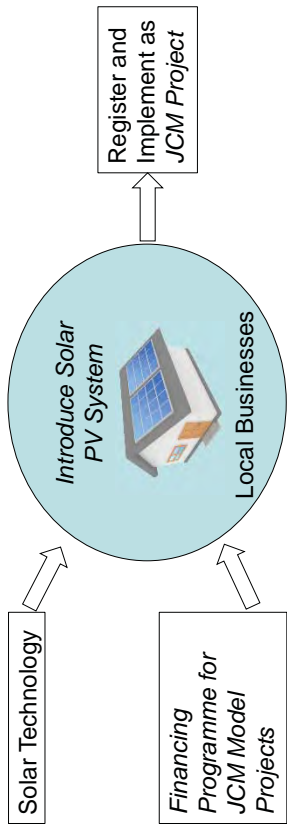
Development of strategies to cope with global warming

Climate Change Mitigation

Feasibility study and implementation of greenhouse gas emission reduction projects

Solar Projects in Palau

Brought technology and finance to enable local businesses to introduce solar energy



*Note: JCM or Joint Crediting Mechanism is a greenhouse gas reduction scheme between Japan and developing country implemented in several countries

Solar Projects in Palau



Solar Projects in Palau

JCM MODEL PROJECT

Small scale solar power plants for commercial facilities
in island states Subproject 1

A 220.5kW solar power system composed of eight hundred and eighty-two 250W solar photovoltaic modules has been installed on the ACE warehouse roofs of Western Caroline Trading Company (WCTC) under the "Financing Programme for JCM Model Projects" financed by the Ministry of the Environment, Japan. The power generated by the system is mainly consumed in the buildings owned by WCTC at E-Dock, and surplus electricity is supplied to the grid, contributing to the reduction of greenhouse gas emissions (approximately 154 tCO₂/year).

The Joint Crediting Mechanism (JCM) facilitates the diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributes to the sustainable development of developing countries. The JCM appropriately evaluates contributions to greenhouse gas emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, and uses them to achieve Japan's emission reduction target. The JCM contributes to the ultimate objective of the UNFCCC by realising greenhouse gas emission reductions or removals, complementing the CDM.

October 2014

interAct
PACIFIC CONSULTANTS CO.,LTD.

ISLAND BANKING
772-1133



Ministry of the Environment
Government of Japan


Solar Projects in Palau



Solar Projects in Palau

JCM MODEL PROJECT in island states Subproject 2




Small scale solar power plants for commercial facilities in island states Subproject 2

A 150kW solar power system composed of eight hundred and eighty-two 250W solar photovoltaic modules has been installed on top of the Surangel Supercenter building under the "Financing Programme for JCM Model Projects" financed by the Ministry of the Environment, Japan. The power generated by the system is consumed within the building, contributing to the reduction of greenhouse gas emissions (approximately 105 tCO₂/year).

The Joint Crediting Mechanism (JCM) facilitates the diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation or mitigation actions, and contributes to the sustainable development of developing countries. The JCM appropriately evaluates contributions to greenhouse gas emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, and uses them to achieve Japan's emission reduction target. The JCM contributes to the ultimate objective of the UNFCCC by facilitating global actions for greenhouse gas emission reductions or removals, complementing the CDM.

December 2014



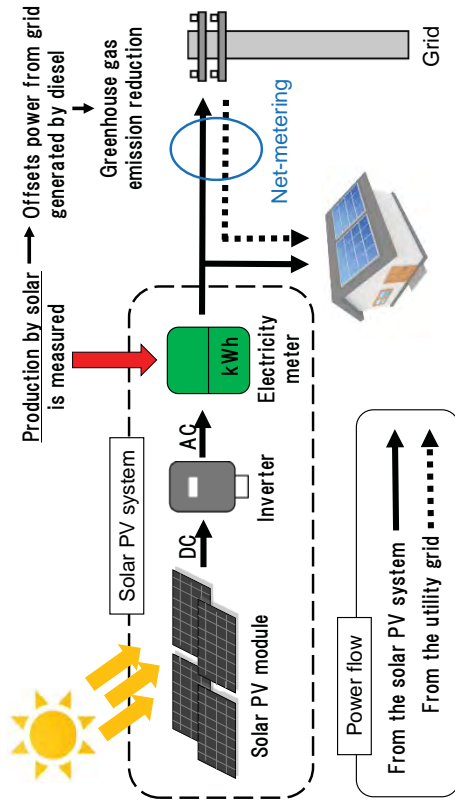
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Challenges and Opportunities

- Opportunities**
- High cost of power: 37.7 US cents/kWh
 - Net-Metering
 - Abundant sunshine (and rain)
 - Joint Crediting Mechanism and associated finance
- Challenges**
- Remoteness
 - Limited local expertise and experience
 - Grid stability and benefit/cost to power utility

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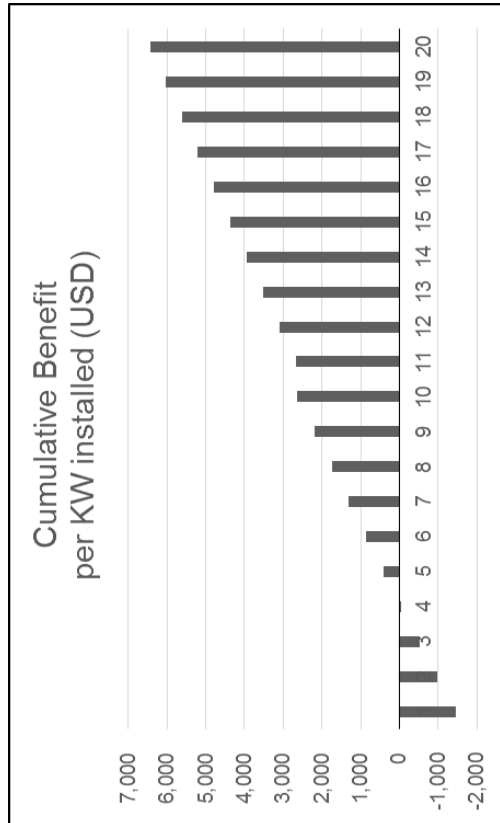
Solar Projects in Palau



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Challenges and Opportunities

Return on Investment



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Thank you!

hirofumi.is hizaka@ss.pacific.co.jp

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Session 2

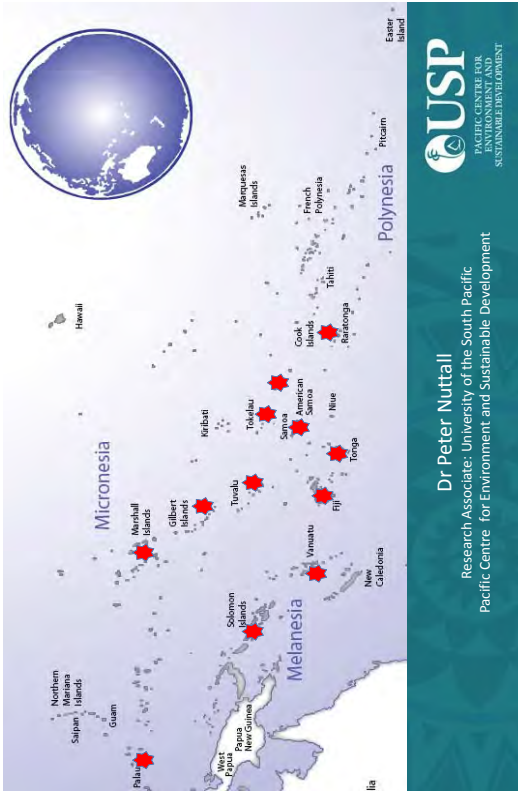
Development of Activities Plans for IO Net

Part I (4) : Conservation and Management of Islands – Improvement of Transport among Islands

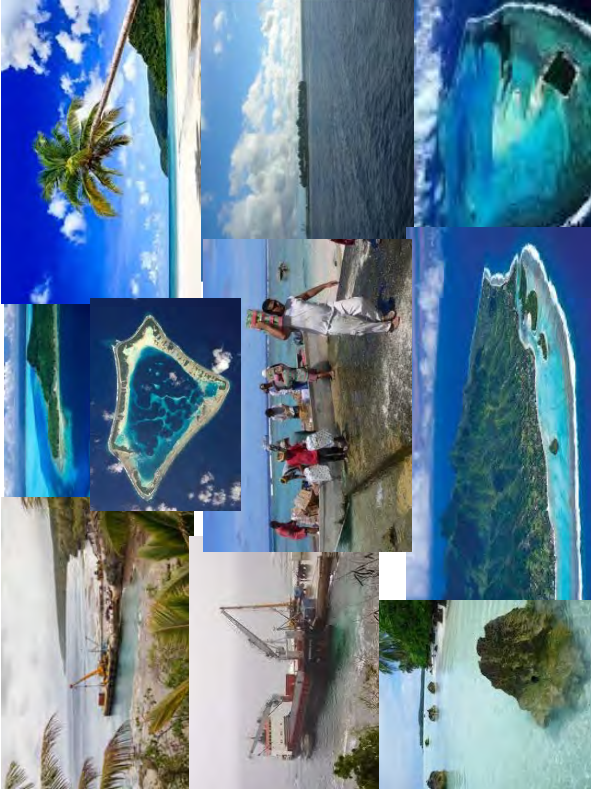
Turning the Tide: transitioning to low carbon transport futures

**Dr. Peter Nuttall, Research Associate, University of the South Pacific (USP)
Pacific Centre for Environment and Sustainable Development**

Turning the Tide: transitioning to low carbon transport futures
 OCEANIA CENTRE FOR SUSTAINABLE TRANSPORT



Dr Peter Nuttall
 Research Associate: University of the South Pacific
 Pacific Centre for Environment and Sustainable Development



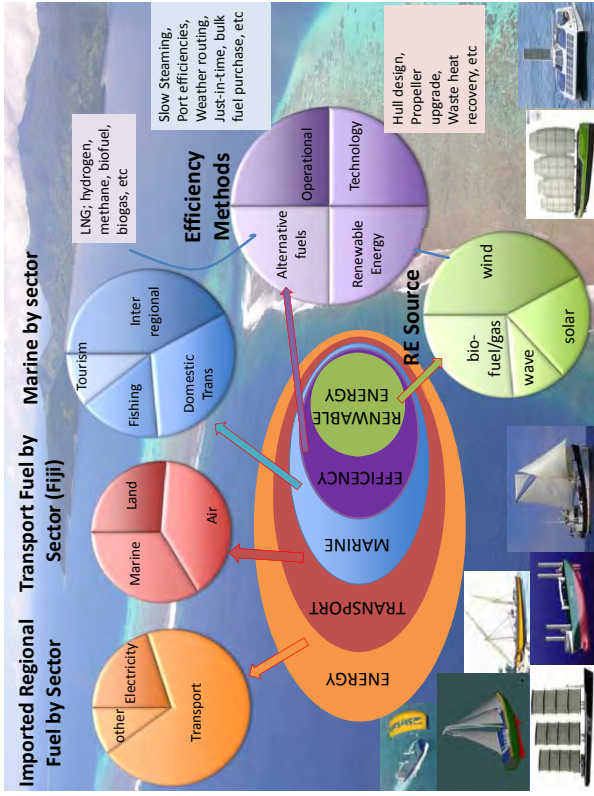
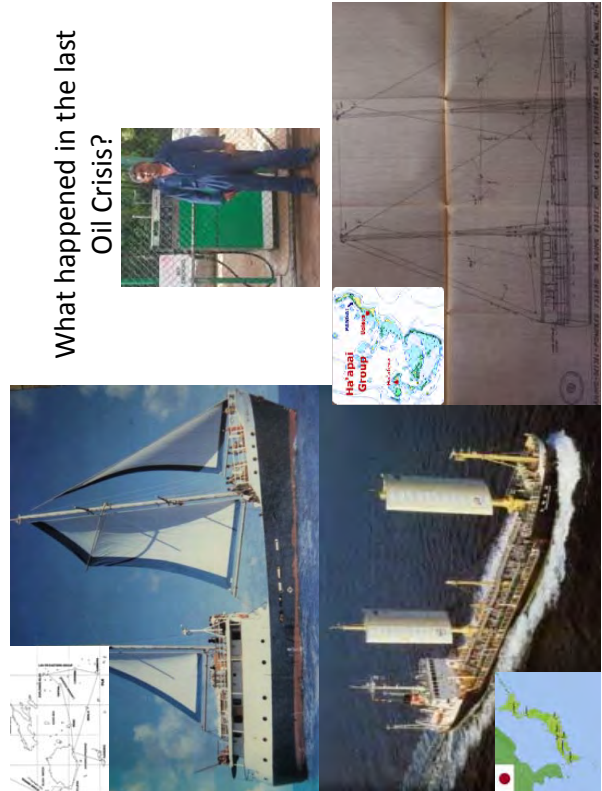
Fiji Economic Shipping Routes



Fiji Uneconomic Shipping Routes



What happened in the last Oil Crisis?



1984/86

- 23-30% fuel savings
- 30% reduced engine wear
- Increased stability
- Increased passenger comfort
- Folding prop would have greatly increased fuel savings
- IRR 127% on best routes
- IRR 35% average routes
- ADB funded \$US40,000


1982-85

- UNESCAP/ADB funded needs assessment & analysis
- Recommended network of trading catamarans and small energy efficient sail-freighter
- Commissioned design for 92' freighter carrying 30 T/30pax

1983-86

- 30% fuel savings
- Increased passage average speed from 12 - 14 kts
- Reduced crew downtime
- Increased manoeuvrability
- Could hold station in typhoon conditions
- Trialled on 600-31000 tonne vessels

PROJECT	Description	Outputs	Agencies	Comments
Fiji soft sail retrofit	Auxiliary rig retrofitted to two government vessels of ~300t. Rigs built and installed in-country	Fuel savings 23-30%, but also 30% engine/proop wear reduction, greater stability, incr. passage times, IRR on best route = 127%, average route = 33%	ADB, Southampton University, McAllister Elliot	Southampton University collated historical wind data for all Fiji routes and produced fuel saving ratios for all routes.
Lau Passenger / cargo	50 ton primary sail powered trading vessel designed and built on Kihara by local builders (1984-87). First of 3 planned vessels to service Lau and Lomaivoti Groups.	Toi Kobero became the main vessel operating on the Sth Lau route until she was scuttled in 2006. Used local materials wherever possible.	European Union	Construction of the other two ships was cancelled when the oil crisis abated.
H2'0'0'1 Freighter	Needs assessment and design analysis led to commissioning of build plans for a 100 ton energy efficient freighter	Needs assessment, transport census and full build plans for a 100 ton energy efficient freighter.	UNESCAP, UNCTAD, UNDP, ADB	Vessel never constructed due to end of crisis. Similar needs assumed today.
SCF/Jim Brown	Save the Children Fund Tuvalu employed local carpenter to design and build boats for Tuvalu/Kiribati	A range of designs and processes for locally built/operated cargo vessels for use in inter-island transport. Training of local shipwrights. Local materials favoured	SCF	This project closely associated with the FAO/UNDP project. Local materials used wherever possible. Fuel savings of up to 60%.
FAO/UNDP	A multi-county fisheries programme to develop/re-equip 100 commercial vessels for local community benefit.	A portfolio of 10 designs from single digit to 11m trimarans. 350 vessels for 1000 people. Designed for vessels to be affordable and locally appropriate.	FAO, UNDP	Uplake ceased with end of project and falling fuel prices. Local materials used wherever possible. Tradition of sail has greatest uptake.



Support PICs transition to low carbon sea transport futures as a more affordable and appropriate option for remote/island communities in the Pacific

Research Programme:

- train current and future PIC capacity
- macro and micro economic analyses
- quadruple bottom-line reporting framework
- carbon management policy for transport emissions

Regional Research & Education Strategy

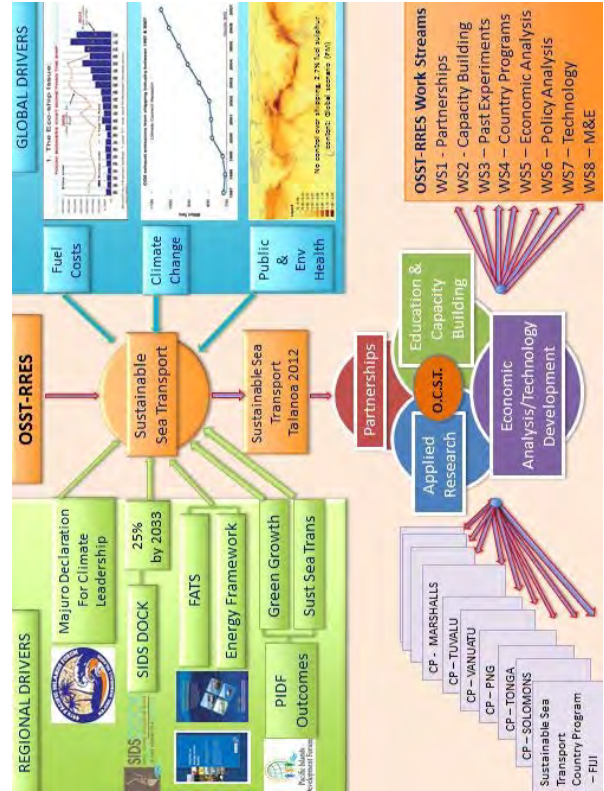
- Long term regional strategy
- Prepare country plans for transition to low carbon
- Provide strong country support - quality research & practical trials

Oceania Centre for Sustainable Transport

- Portal for knowledge, research, networking, exchange
- Multi-partner – IUCN, WWF, PIDF – from village to global

International Research partnerships:

- with Centres of Excellence – UCL, Tyndall, MARIN, Emden, Columbia
- Post graduate and expert exchange – build long term PIC capacity



Research for Sustainable Sea Transport for Remote Islands in Fiji

Mr. Hiroaki Terashima, Management Advisor and Senior Consultant, IC Net Inc.



Republic of Fiji



332 islands (100 populated); EEZ 1.2 million km² of Ocean, population approximately 950,000

Domestic Shipping Routes



Frequency of Shipping (uneconomical routes)

Route	Frequency
1 Northern Lau I	Fortnightly
2 Northern Lau II	Fortnightly
3 Upper Southern Lau	Monthly
4 Lower Southern Lau	Monthly
5 Yasayasa Moala	Fortnightly
6 Rotuma	Monthly
7 Kadavu (Babaceva)	Fortnightly
8 Lomaiviti I	Fortnightly
9 Lomaiviti II	Fortnightly
10 Yasawa-Malolo	Monthly

If it is not scheduled, how do you know when the ferry is coming?

Lower Southern Lau Trip

(data collected March 2015)

- Passenger fare (round trip) = 330 FJD (extra 5 FJD per meal)
- Duration = 5 days (average)
- Occupancy rate = 197 capacity (March 2015 trip had 86 passengers total)
- Alternative shipping (fibers) to fulfill the needs of islanders



Barriers and Challenges

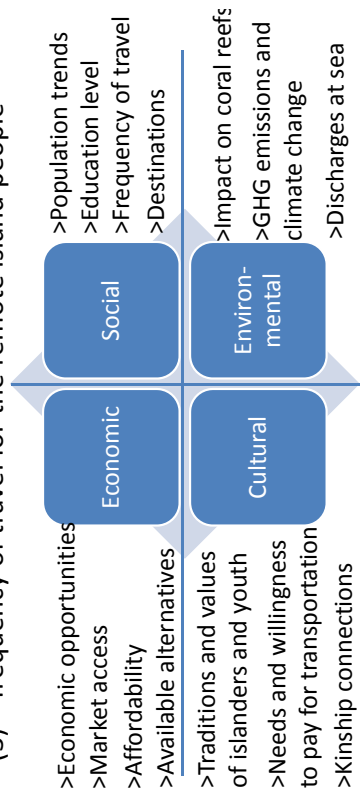
- Extreme distance and isolation from markets and commercial centers is a barrier to developing alternative shipping options.
- Sea transport is the lifeline of the remote islands with the outside world, with each other and with the major population centers.
- It is crucial to maintain the transport system and to develop a strategy for sustainable transportation among the remote islands in Fiji.

However, we don't have the details and needs of the transport system of the remote islands

Proposal for Research

For all populated remote islands in Fiji, we need data on:

- (1) transportation costs
- (2) traveling duration
- (3) frequency of travel for the remote island people



Session 2

Development of Activities Plans for IO Net

Part I (5) : Conservation and Management of Islands – Waste Management

J-PRISM as an Example of Regional Cooperation in Solid Waste Management in PICs

Mr. Yutaka Fukase, Environmental Management Team 1, Global Environment Department, JICA

Over several decades, waste has become one of the significant concerns for small island countries in the Pacific region because of an increase of its volume and change of characteristics of urban and industrial wastes. Inappropriate way of waste management has potential to pose a negative impact on public health, water and food supply, ecosystems, tourism and trade, resources, and even climate change, which threaten the sustainable development in Pacific island countries (PICs). Since its dispatch of experts to the Secretariat of the Pacific Regional Environment Programme (SPREP) in 2000, Japan International Cooperation Agency (JICA) has continued to provide support for improving solid waste management in the Pacific region. Such support includes training for administrative officers responsible for solid waste management in the countries in the Pacific region, improvement of the landfill site in Samoa, and support for formulating a regional strategy for solid waste management and implementation of technical cooperation projects in Palau, Vanuatu and Fiji. The “Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management (J-PRISM),” the five-year region-wide technical cooperation project, has committed to solving the issues of solid waste management unique to island countries and provided support for the 11 countries in the Pacific region, since its inception in 2011. Specifically, J-PRISM supports any concerted efforts in the entire region to address a number of issues, such as geographical problems, influx of materials from other countries and proper management of solid waste in a limited national land. SPREP’s support for implementing a strategy for solid waste management in the Pacific region is also one of those examples.





J-PRISM
Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries

Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries

J-PRISM as an Example of Regional Cooperation in Solid Waste Management in PICs

Yutaka FUKASE
Director, Environmental Management Team 1
Global Environment Department
Japan International Cooperation Agency





Points of Presentation


1. **Challenges** to solid waste management in PICs
2. **J-PRISM** and its approaches to respond to challenges





1. Challenges to Solid Waste Management in PICs

- (1) **One-way Traffic of Materials/Goods**
 - Imported materials/goods remain on island
 - Recyclables/difficult waste disposed of at dumpsites
- (2) **Changes in the Amount and Types of Waste**
 - Growing amount of waste
 - Some waste not degradable
- (3) **Lack of Capacity**
 - Lack of trained human resources
 - Lack of financial resources for waste management
- (4) **Emerging Issue of Disaster Waste**
 - Lack of expertise to handle post disaster waste
 - Lack of planning to prevent/handle disaster waste

As a result, solid waste is

Affecting economic development as well as environment by:

- jeopardizing the image of “island paradise”
- threatening natural resources
- posing risks to public health

2. What is J-PRISM?

- (1) Technical cooperation project in SWM
- (2) Targeting 11 countries in the Pacific
- (3) Project Period: Feb. 2011~Jan. 2016
- (4) SPREP (regional inter-governmental organization) as an implementation partner
- (5) On-top of the past cooperation from 2000-2010

2. J-PRISM as a Response to Challenges in PICs

- with appropriate technology -

- (1) Waste Minimization/Reduction (3R+Return)
- (2) Proper Waste Disposal as the Safety Net
- (3) Developing/Increasing the Capacity of Human Resources
- (4) Disaster Waste Management (new issue)

(1) Waste Minimization/Reduction (3R+Return)

- What is 3R+Return? -

Reduce input / import, maximize circulation and maximize output / return in order to minimize waste disposal in your small island.....

- Promotion of 3R+Return (for SIDS) -

- 3R (Reduce, Reuse and Recycle)
However, recycle is not feasible in most countries in SIDSs for economic reasons.
- **3R plus Return**
 1. Return recyclables/difficult waste to large markets outside
 2. Return organic waste to the nature (*back to the nature*) on island
→ Minimize import of waste-prone materials/goods, maximize circulation and return so that **minimal disposal on island** is achieved.

(2) Improvement of Disposal Sites

1. Improvement of existing open dumping

- Improving facility
- Improving management

2. Changing peoples attitude (NIMBY)

- Improved visual impact
- Improved work environment



(3) Capacity Development

1. Encouragement of "Do-it-yourself"

- Direct involvement of targeted people (counterparts) in project activities

2. Increase and utilization of local capacity and expertise through

- Formal training (Japan, regional, in-country)
- Utilizing local experts (South-to-south)
 - ✓ Country Attachment Program
 - ✓ Study Visit Program
- ✓ Trainer (local) Dispatch Program

3. Human resources registration system (PIDOC)

- Registration of capacity development events such as training/workshops/seminars/meetings
- Registration of trainer-mileage of local experts

4. Increase of island capacity as a whole

- Limited capacity of government agencies
- Collaboration of key stakeholders (Government/Private Sector/NGO/Citizens)

(4) Resilience to Disaster in SWM

1. Managing Post-Disaster Waste (Pilot Projects)

1. Tsunami in Samoa in 2009 (JICA Samoa)
2. Flood in Fiji in 2012 (J-PRISM)
3. Cyclone/flood in Samoa in 2012 (J-PRISM)
4. Cyclone in Fiji in 2013 (J-PRISM)
5. Flood in Solomon Islands in 2014 (J-PRISM)

2. Preparing for Natural Disaster

Mitigation/Adaptation measures for Climate Change in SWM



Thank you very much.

ご清聴ありがとうございました。



Waste & Hazardous Substance Management in Cook Islands

Ms Imogen Ingram, Island Sustainability Alliance CIS Inc. (“ISACT”)

To protect human health and the ecosystems upon which Cook Islands people rely, a multi-sectoral approach is needed. Policies need to be guided by strong, independent, verifiable research to monitor the impacts of improperly-disposed wastes and hazardous substances. It is important for Pacific Islands governments to keep up with the results of overseas research about exposure to toxics by low-dose, long-term exposure. As this typically takes some time to manifest, a precautionary approach is needed. Implementing BAT-BEP (“best available technique, best environmental practice”), using proven technologies backed up by successful experiences, is a useful strategy to achieve sound management of chemicals. One advantage of their small size is that Pacific SIDS can achieve good border controls for the goods they import using international globally-harmonized Customs tariffs, and to develop waste flows for imported goods that will become hazardous waste when discarded. Another useful tool is to “green procurement” or buying from reputable companies that operate “take-back” and/or extended producer responsibility schemes. Beneficial partnerships, with safeguards to ensure efficiency and effectiveness and to avoid inconsistencies, should be promoted.

Islands and Oceans Net 1st General Meeting 25-26 May 2015

Ito Hall, Ito International Research Center
University of Tokyo
Hongo, Bunkyo-ku, Tokyo, Japan

PROMOTING SOUND MANAGEMENT OF CHEMICALS & WASTES

Presentation by Ms Imogen INGRAM
ISLAND SUSTAINABILITY ALLIANCE GIS INC
Rarotonga, COOK ISLANDS
Email: islandsustainabilityalliance@gmail.com

Cook Islands – Geographical Context



The Cook Islands is an archipelago of 15 islands (3 uninhabited) in the South-West Pacific. We are about the same latitude as the Hawaiian Islands, which are on the Tropic of Cancer. If you fly due south of the equator, the Cook Islands are on the Tropic of Capricorn (and just over one hour flying time west of Tahiti).

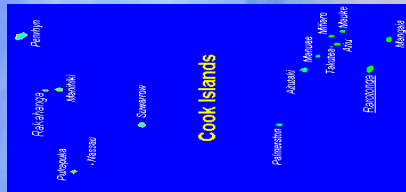
Since 1965, the Cook Islands have self-governing autonomy in free association with New Zealand. This relationship was reaffirmed in 2001. There is a democratically-elected parliamentary system under which governments are elected for a term of up to 4 years.

Cook Islands – Brief Background

Tourism makes up more than 50% of our GDP. Cultured black pearls and a health tonic made from organic *noni* are also important revenue-earning exports. So it is important to protect the fragile ecosystems and biodiversity on which our people depend, but also to ensure the viability of our economy.

SOME STATISTICS:

- Area: 240 sq km land 1.8 million sq km ocean
- Population: 14,000 on 12 islands, which extend 1,000 km
- Density: 75 persons per sq km
- Capital: Rarotonga
- Main Town: Avarua
- Official Languages:



WHY THE CONCERN FOR PROPER MANAGEMENT OF CHEMICALS & HAZARDOUS WASTES?

- During 2005, ISACI collected lagoon-water samples to test for the presence of POPs (“persistent organic pollutants”) as part of awareness-raising for the Stockholm Convention. This was done in parallel with testing for bacterial contaminants by the Cook Islands Ministry of Marine Resources.
- The aim of the monitoring was to highlight that POPs are present in Pacific ecosystems; and also to highlight the need to understand the current and past sources of exposure; that potential contaminated sites need to be assessed and remediated; and to develop policies and strategies for reducing exposure to all hazardous substances.
- In Stockholm Convention National Implementation Plan (“NIP”), particular risk areas for the Cook Islands (and other Pacific Island Countries) with regard to monitoring for POPs contamination included but were not limited to: imported foods; imported materials used for making animal feeds, and the export fish trade, especially tuna.

FINDINGS OF 2005 LAGOON WATER MONITORING

Concentrations above the detection limit were found for

1. chlorinated pesticides (DDT & methoxychlor), which are both carcinogenic POPs
 2. Polycyclic Aromatic Hydrocarbons (PAHs), and
 3. phthalates
- Of these analytes, only phthalates (DEHP) was found at ALL sites, indicating wide distribution and possibly a wide range of sources.
 - The unusually high concentration of 40 µg/L found at the Avana site in September 2005 may be because of solvents, anti-barnacle paints or oils associated with fishing boat activity.
 - Detected concentrations range from 2 - 40 µg/L, many times higher than recommended limits under various national water quality guidelines.
 - DEHP in water will biodegrade (half-life 2-3 wks), adsorb to sediments and bioaccumulate in aquatic organisms.

How Does ISACI Advocacy Fit with I-O Net Joint Policy Proposals?

Summary of Priority Issue 2.1 Conservation and Management from Islands, taken from the **Joint Policy Proposals** developed by the partners of Islands and Oceans Net. I have changed the order to suit my presentation.

Priority Issues 2.1 Conservation and Management of Islands,

and related sub-issues:

- 2.1(a) development management strategies (I) through to (VI)
- 2.1(b) increase safety and resilience of island communities
- 2.1b2 disaster risk management plans & preparedness for natural disasters
- 2.1b3 appropriate land-use programs including shelters
- 2.1b4 scientific research on disaster risks

2.1(a) develop management strategies INTERNATIONAL LAW IN THE FORM OF LEGALLY-BINDING MEAs

- The UN term "Chemicals & Wastes Cluster" refers to the Multilateral Environmental Agreements (or "MEAs") that deal with protection of the environment.
- Among these are the Basel, Rotterdam and Stockholm Conventions, the Montreal Protocol and one regional agreement (Waigani Convention on Transport of Hazardous Wastes). The Minamata Convention on Mercury is expected to come into force soon.
- The governing body for the environmental MEAs has now changed to the **United Nations Environmental Authority** or UNEA.
- The UN Commission on Sustainable Development, based on the Rio Principles which were the outcome of the 1992 Rio Meeting, affirmed that in order to achieve Sustainable Development there are three dimensions of equal importance – economic, environmental and social.
- Many Pacific SIDS have committed to Sustainable Development and have ratified most of the MEAs in the Chemicals & Wastes cluster. In the absence of national legislation, these legally-binding environmental MEAs provide standards which signatory countries are expected to incorporate into their own legislation, as part of implementation of the Convention.

2.1b4 scientific research on disaster risks

- Although this item is last in the order of the joint policy, in my opinion it should be the first step because the results of independent science projects, based on generally-accepted principles (and peer-reviewed where possible), would be a way to establish baselines or update Pacific data.
- BAT-BEP (Best Available Technique, Best Environmental Practice) is a useful concept from the Stockholm Convention on POPs that may be widely applied to Pacific SIDS governance leading to sustainable development.
- It is important to establish and develop rosters of local, subregional experts, who best know their own environment and economic zones, and to provide them with technical assistance and finance.
- Their research projects can raise awareness in communities, especially if the outcomes are shared widely, and guide policymakers.

2.1(a) develop management strategies and 2.1(b) increase safety and resilience of island communities 2.1b3 appropriate land-use programs including shelters

- Under most MEAs, the first steps are to launch an awareness-raising programme, do community consultations and develop a plan to implement the MEA.
- Most Pacific SIDS governments prepare a National Sustainable Development Plan, which is designed to harmonize their activities so conflicts between objectives are reduced, resulting in a logical, coordinated overall plan.
- In the Cook Islands, we found it convenient to develop a Joint National Action Plan (JNAP) to meet Disaster Risk Management and Climate Change objectives.
- We in ISACI contributed to our JNAP in terms of land degradation, coastal zone management. We promoted safer storage of imported products that have become hazardous waste, with the end purpose of transboundary transport for environmentally-sound disposal.
- One of our policy suggestions was for governments to lead the reduction of such hazardous waste through "green procurement" and extended producer responsibility (extending to take-back), as appropriate ways reduce the economic burden.

2.1b2 disaster risk management plans & preparedness for natural disasters

- Natural disasters not only create problems over which we have little control, but they can exacerbate man-made problems. When we have extremely heavy rain and/or sea-surges that result in flooding, extra health risks arise from the dispersion of sewage and leachate from poorly-stored hazardous waste e.g. lead batteries, obsolete agricultural chemicals or discarded electronic and electric waste.
- Various MEAs offered guidance such as the Montreal Protocol procedures for de-gassing cooling equipment; or the Stockholm Convention BAT-BEP (Best Available Technique, Best Environmental Practice) guidelines; or the Basel Convention Technical Guidelines on Waste.
- These guidances are not usually legally-binding but they are helpful because countries with little capacity can adapt them to suit and incorporate them into national legislation.

Challenges & Lessons Learned

National Sustainable Development Plans have, in the past, been hurried consultations over 2-3 days. More coherent policy would be achieved if such plans were revised periodically by sector so that sectoral concerns and their suggested solution could be updated. e.g. Climate Change Second National Communication; national reporting on Stockholm National Implementation Plan. Such national consultations could take the form of overall review of such changes or developments, to ensure that no inadvertent inconsistencies remained.

Economic externalities are not fully recognized, and conversely true costs of economic activities are not internalized. For instance, the links between high health costs for the impacts of endocrine-disrupting chemicals ("EDCs") by long-term low-dose exposure to pesticides or methylmercury have not been well-researched in the Pacific, but overseas research can be used as a proxy until regional data is established. Swedish research indicates that EDCs may contribute to obesity and non-communicable diseases ("NDCs", which were given high priority at the Third International SIDS Conference in 2014).

Economic incentives, such as advance disposal fee, could be part of the range of tools but with Public-Private Partnerships, care must be taken to ensure efficiency and effectiveness, and to guard against disposal & collection of items that earn easy revenue, while more intractable waste is landfilled. That easy revenue should be used to offset the cost of proper disposal of the intractable waste.

Suggested Future Activities in Partnership

PACIFIC SUB-REGIONAL ACTIVITIES:

- Biomonitoring for endocrine-disrupting chemicals ("EDCs") and methylmercury in Pacific Islands fish
- Monitoring and reducing ocean pollutants in the Pacific, including such sources as Marine Plastics, Cruise ship effluent, and potential deep-sea mining wastes
- Promoting and implementing sustainable tourism strategies that reduce wastes associated with our main economic activity
- Similar to Montreal Protocol, establish and use international Customs Tariffs for WEE (waste electronic & electrical goods) which is one of the fastest-growing waste streams.
- Governments, as one of the largest users of electronic & electrical goods, purchase only from companies that operate take-back and extended producer responsibility schemes.

NATIONAL ACTIVITY:

- Review of Cook Islands Solid & Hazardous Waste Strategy
- Promoting *bokashi* bins for conversion of household waste into organic bathroom cleaner and garden fertiliser.
- Production and export of organic agriculture of niche, high-revenue products e.g. vanilla, dragon fruit.

LOCAL ACTIVITY - RAROTONGA:

- Monitoring Rarotonga wastewater for pharmaceuticals and endocrine-disrupting chemicals ("EDCs").
- Improving storage, collection & transport for proper disposal of hazardous wastes e.g. electronic & electrical wastes

CONCLUSION

- A cohesive overall policy framework is needed for sound management of chemicals and wastes and the protection of human health and natural ecosystems. Scientific research to fill knowledge gaps about chemicals and waste issues in the Pacific SIDS will assist the general public and their governments and policy-makers to make informed choices.
- Review of legislation is needed to eliminate gaps and to ensure coordination of government agencies. Early community consultations to receive public comments about topical issues and using feedback from such meetings to develop solutions is both effective and culturally-sensitive.
- Implementation of legislation requires buy-in from Cook Islanders in order to achieve compliance. Strategies to achieve this include community-based decision-making, combined with regular awareness-raising for both government sectors and the general public
- Effective implementation of legislation requires coordination and cooperation between government ministries including Agriculture, Education, Environment, Health, Infrastructure, Tourism among others

Session 2

Development of Activities Plans for IO Net

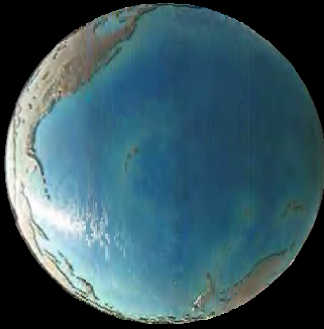
Part II (1) : Management of the Surrounding Ocean Areas – Establishment of Baselines and Maritime Limits

Establishment of maritime jurisdictional area and the chart -challenges and prospect-

VADM (ret.) Shin Tani, Chairman, IHO-IOC Guiding Committee for General Bathymetric Chart of the Oceans (GEBCO)

The sovereign and jurisdictional area of the ocean is stipulated in the UNCLOS. The outer limits of the territorial waters, contiguous zone, and the exclusive economic zone are constrained by baseline. The normal baseline for measuring the breadth of above mentioned area is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State. There are 166 contracting states to the UNCLOS, but IHO's member states are only 85. Significant percentage of island nations does not have its hydrographic office. This means that these countries have to rely on nautical charts published by other countries. This may create funny or in some cases serious problems. A coastal nation without hydrographic function may not be able to express, correct or update its sovereign or jurisdictional area at sea in a timely fashion. The ability of publishing its own nautical charts does not only serve for the sovereignty and jurisdiction of the country but also serves for good governance of its surrounding seas and oceans, planning, development, safety of navigation. It also serves the coastal management if the survey is conducted using Lidar technology, with which the land and ocean topography is obtained simultaneously and seamlessly.

Establishment of Maritime Jurisdictional Area and the Chart
-challenges and prospect-



VADM (ret.) Shin Tami
Chairman
IHO-IOC Guiding Committee
for General Bathymetric Chart of the Oceans (GEBCO)

Definition of Ocean in UNCLOS

United Nations Convention on the Law of the Sea

- PART I. INTRODUCTION
 - Article 1. Use of terms and scope
- PART II. TERRITORIAL SEA AND CONTIGUOUS ZONE
 - SECTION 2. LIMITS OF THE TERRITORIAL SEA
 - Article 3. Breadth of the territorial sea
 - Article 8. Internal waters
- SECTION 4. CONTIGUOUS ZONE
- PART III. STRAITS USED FOR INTERNATIONAL NAVIGATION
- PART IV. ARCHIPELAGIC STATES
- PART V. EXCLUSIVE ECONOMIC ZONE
- PART VI. CONTINENTAL SHELF
- PART VII. HIGH SEAS
- PART XI. THE AREA

Shin Tami, May 26 2015

Definition of Ocean in UNCLOS

- Internal Waters
- Territorial Sea
- Contiguous Zone
- Exclusive Economic Zone
- Continental Shelf
- The Area
- High Seas

Definition of Baseline in UNCLOS

- PART II. TERRITORIAL SEA AND CONTIGUOUS ZONE
 - SECTION 2. LIMITS OF THE TERRITORIAL SEA
 - Article 3. Breadth of the territorial sea
 - Article 4. Outer limit of the territorial sea
 - Article 5. Normal baseline
 - Article 6. Reefs
 - Article 7. Straight baselines
 - Article 8. Internal waters
 - Article 9. Mouths of rivers
 - Article 10. Bays
 - Article 11. Ports
 - Article 12. Roadsteads
 - Article 13. Low-tide elevations
 - Article 14. Combination of methods for determining baselines

Shin Tami, May 26 2015

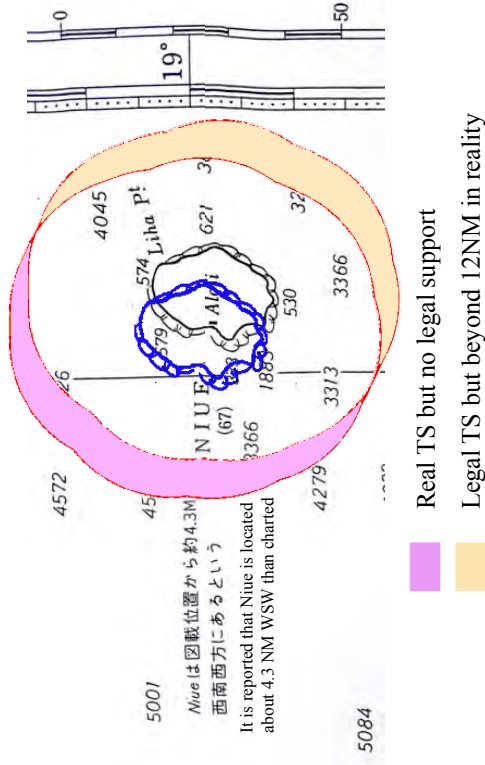
Shin Tami, May 26 2015

Article 5 Normal baseline

Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State.

Shin Tani, May 26 2015

Chart and TS



Nautical Chart

- | Published for the safety of navigation
- | Priority of publication and updating of a chart depends on the chart publishing HO, and mostly other country's sovereign needs may not be highly respected.
- | Best to have a country's own HO.

Shin Tani, May 26 2015

The Sad Fact is...

- | UN Member States 195
- | UNCLOS Member States 166
- | IHO Member States 85
- | UNCLOS Member States 90
 - Non-IHO Member State
 - Land Locked 29
 - Island 27
 - Africa 20
 - Caribbean 6

Shin Tani, July 12 2014

out of 27 island countries...

- | Pacific 12
- | Caribbean 9
- | off Africa 3
- | Indian Ocean 2
- | Mediterranean 1

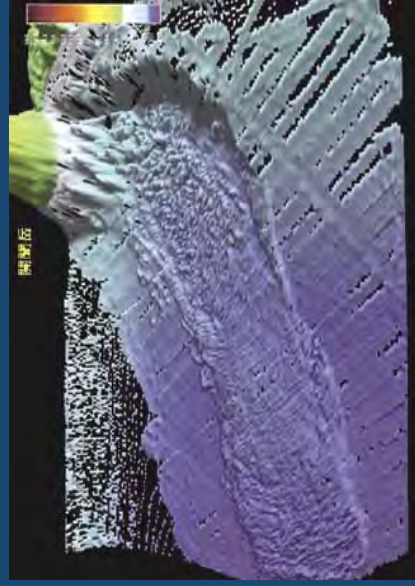
Shin Tani, July 12 2014

The Beauty of having its own HO

- | Publication of charts as necessary
- | Timely update of charts
- | Safety of navigation
- | Surveyed data will be used for other issues such as:
 - Tsunami modelling
 - Coastal management
 - Ocean development, such as fishery, energy, mining, tourism.

Shin Tani, July 12 2014

One example of hydrographic survey: LIDAR



Shin Tani, July 12 2014

My message

- | For the legal strength, accurate and updated nautical charts are very important.
- | Relying other countries to publish such charts is not easy.
- | Have a hydrographic function will serve not only for sovereign and jurisdictional issues, but also, of course for safety of navigation and many more.
- | LIDAR technology will be useful in many ways.

Shin Tani, July 12 2014

Session 2

Development of Activities Plans for IO Net

**Part II (2) : Management of the Surrounding Ocean Areas – Fishery
Resource Management and Conservation and Sustainable Use of
Marine Biodiversity**

Sustainable Fishery Resource Management and Partnership with the Pacific Island Countries

Mr. Masanori Miyahara, President, Fisheries Research Agency (FRA), Japan

To achieve the sustainable fishery resource management under the partnership with the Pacific Island countries, this presentation is focused upon (i) Monitoring, Control and Surveillance (MCS), in particular enforcement by patrol boats against the illegal fishing, and (ii) marine environmental impacts caused by the global climate change and ocean acidification. We are taking the conservation and management measures for tuna stocks under the framework of Western and Central Pacific Fisheries Commission (WCPFC). However, the illegal fishing is still prevailing in SIDs' EEZ, despite the various MCS measures already taken such as VMS and regional observers programs. On the other hand, we are facing the global climate change, having significant impacts on the ocean ecosystems and fishery resources. However, research activities are far from a sufficient level in particular in the FFA waters. To deal with these problems, we must cooperate (i) to intensify field patrol activities through the effective operation of patrol boats, and (ii) to organize extensive scientific research to study the impact of global warming and ocean acidification for future effective remedial measures against them.

**Sustainable Fishery Resource Management
and Partnership with the Pacific Island
Countries**

Masanori Miyahara
(Fisheries Research Agency)



For
“Sustainable Fishery Resource Management”

What is the
IMPORTANT ACTION
for us?

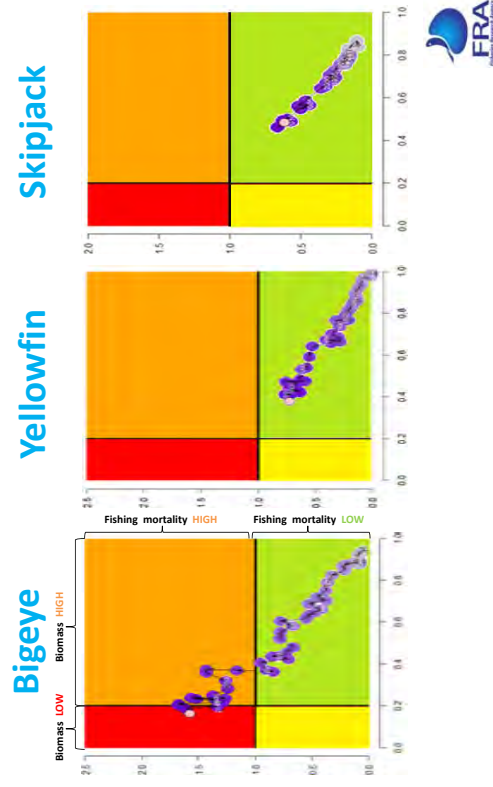


We consider 2 themes.

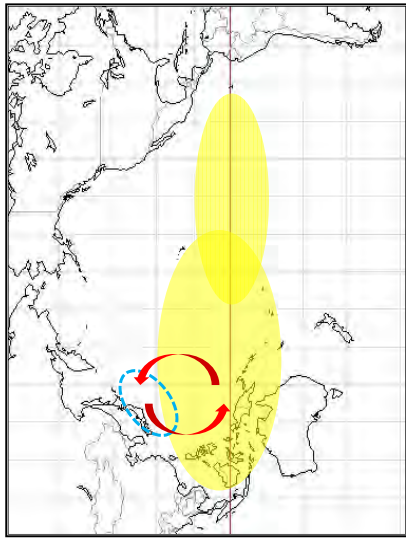
- **Monitoring, Control and Surveillance (MCS)**, in particular enforcement by patrol boats
- **Marine Environmental Impacts** caused by the Global Climate Change and **Ocean Acidification**



Stock conditions of Tunas in Pacific Ocean



Bigeye, Yellowfin and Skipjack migration in Pacific Ocean

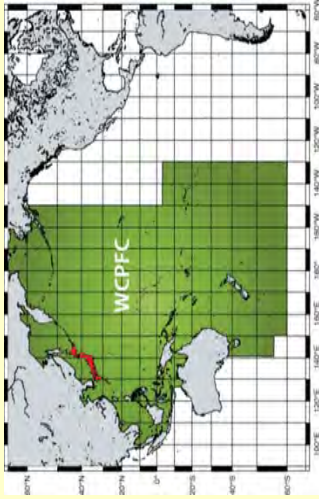


-  Spawning Area
-  Feeding Ground
-  Migration Route



Western and Central Pacific Fisheries Commission (WCPFC)

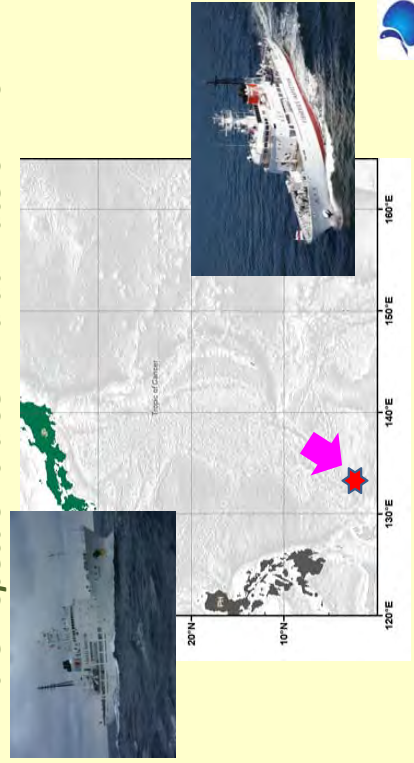
➡ **Conservation & Management measures**



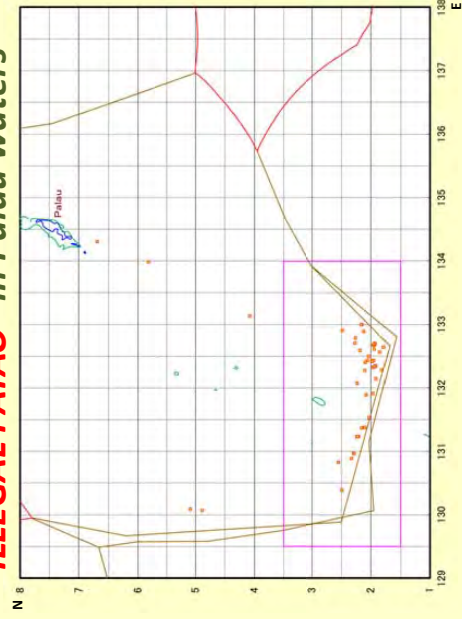
But in the fishing grounds, MCS, in particular enforcement, is essential!



Example
We found many **"ILLEGAL FISHING ACTIVITIES"** in the inspection cruise in Palau waters in 2014.



Geographical distributions of "ILLEGAL PAYAO" in Palau waters



Various type of "ILLEGAL PAYAYO"



House type

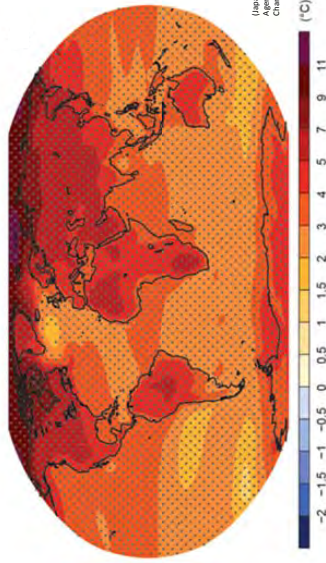
Normal type



ILLEGAL FISHING by "Mother ship"



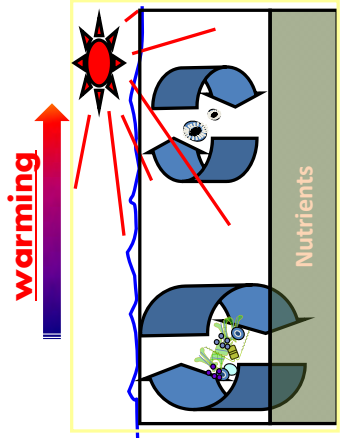
Now, we are facing the Global Climate Change!



Predicted difference of the average temperature between 2081-2100 and 1986-2005



How the climate change may affect the ocean ecosystems?



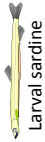
Strong thermocline prevents the vertical nutrient mixing under high surface temperature condition.



Response to temperature change is different at developmental stages

© Larvae with poor swimming ability (Planktonic stage) :

Climate change → survival, stock size



© Fish with fully developed swimming ability :

Climate change → migration, distribution



Japanese sardine (*Sardinops melanostictus*)

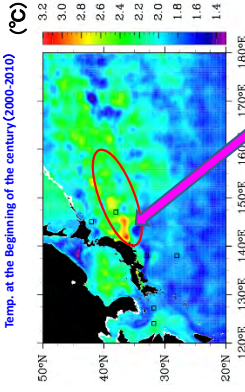


Projection of SST and the MLD around Japan

(CHOPE+MIROC 3.2, A1B scenario)

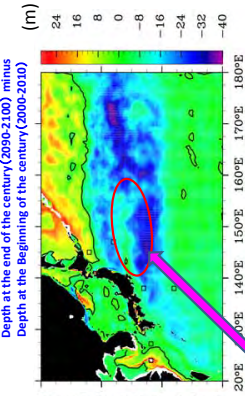
Elevation of SST (°C) in the 21st century:

Temp. at the end of the century(2090-2100) minus Temp. at the Beginning of the century(2000-2010)



Changes of Mixed layer depth (m) in the 21st century :

Depth at the end of the century(2090-2100) minus Depth at the Beginning of the century(2000-2010)



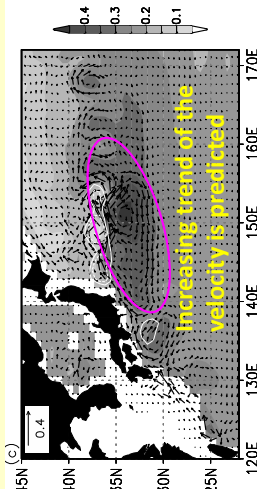
The effect of warming trend is estimated to be high in Kuroshio extension area

Kuroshio extension area is known to be important spawning and nursery grounds for pelagic fish species (e.g. Japanese sardine, Pacific saury etc.)



Increasing trend of the velocity of Kuroshio warm current

Predicted difference of the velocity between 2060 and 2014

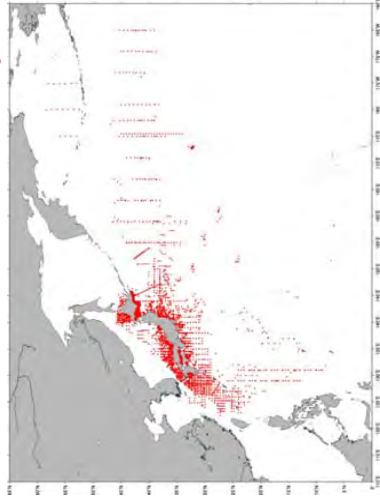


The velocity of Kuroshio current would increase by 0.3-0.4m/sec in 2060.

This velocity change makes up to 800km distance in 1 month.



In order to cope with the climate change in fisheries, we must intensify scientific research and cooperation.



Map of the ocean monitoring stations conducted by Fisheries Research Agency in 2014

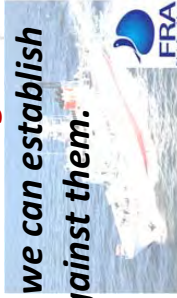
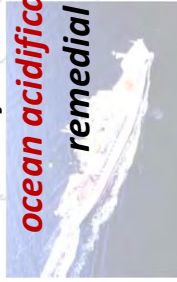


For

“Sustainable Fishery Resources Management”

We must cooperate :

- to intensify **field patrol activities** through the effective operation of **patrol boats**.
- to organize **extensive scientific research** to study the impact of **global warming** and **ocean acidification** so that we can establish **remedial measures** against them.




Thank you all
for listening!




Marine Protected Areas, Marine Spatial Planning, Oceanscape: Challenges to Their Replication


Prof. Richard Kenchington, Professorial Fellow, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong

The crucial issue for island and coastal communities is to achieve ecosystem based management of marine areas by protecting biodiversity and ecosystem service, achieving sustainable use of local and offshore natural resources and acceptable socio-economic progress. The term MPA covers a very wide range of management regimes. Pacific Islands have substantial experience of success and failure in implementing and maintaining customary and science based MPAs. Conservation and sustainability of nearshore marine ecosystems is particularly important for food security and achieving this requires engagement with land and freshwater management to reduce and avoid pollution and critical habitat damage. ANCORS envisages OPRI projects working with countries and CROP agencies to develop and support capacity building and peer to peer networking to learn from and inform marine conservation appropriate for SIDS ,share regional and global management experience and promote community based management and monitoring of marine ecosystem health.

<p>OPRI – IONet: MPAs, CBM, LMMA</p> <p>MPAs,</p> <p>Community Based Management,</p> <p>Locally Managed Marine Areas.</p> <p>Prof Richard Kenchington</p>  <p>ANCORS</p> <p>UOW</p>	<p>Ecosystem based management</p> <p>Protecting biodiversity; Conservation and integrity of ocean ecosystems;</p> <p>Sustainable use of components of biodiversity; Management of harvesting of natural resources;</p> <p>Acceptable socio-economic progress. Managing conflict, Enhancing well-being Improving the quality of life</p> <p>ANCORS</p> <p>UOW</p>
<p>Protecting biodiversity</p> <p>Establishing and maintaining conditions for human uses so that they do not compromise the sustainability of environmental systems and their human amenity</p> <p>Strategic Environmental Assessment</p> <p>Environmental Impact Management</p> <p>Protected Areas</p> <p>ANCORS</p> <p>UOW</p>	<p>Sustainable resource use</p> <p>Fisheries stock and effort management</p> <p>Fish habitats impacted by pollution and alienation</p> <p>Increasing uses of marine space</p> <ul style="list-style-type: none"> - hydrocarbons, alternative energy, shipping, offshore structure/”reclamation”, recreation, tourism <p>ANCORS</p> <p>UOW</p>

<p style="text-align: center;">Acceptable socio-economic progress</p> <p>Subsistence, local and global market</p> <p>Local, national and global expectations</p> <p>Access, equity, standard of living</p> <p>Cultural, heritage, recreational amenity</p> <p>Intergenerational values and security</p> <p style="text-align: right;">ANCORS  UOW</p>	<p style="text-align: center;">Challenges for SIDS</p> <ul style="list-style-type: none"> • Local food security <ul style="list-style-type: none"> – Coastal marine environment <ul style="list-style-type: none"> » Sustainability » Access and equity » Export encroachment » Water quality » Habitat loss <p style="text-align: right;">ANCORS  UOW</p>
<p style="text-align: center;">Challenges for SIDS</p> <ul style="list-style-type: none"> • License and export fishery sustainability <ul style="list-style-type: none"> – Major economic resource – Surveillance and enforcement – Climate change stock implications – Maximising local benefit <p style="text-align: right;">ANCORS  UOW</p>	<p style="text-align: center;">Fishery, food security and environment</p> <ul style="list-style-type: none"> ▪ Commercial fisheries theoretically easy to manage – no profit, no fishing ▪ Subsistence local fisheries – difficult to manage – no money, no fishing, no food ▪ Recreational and tourism fishing – difficult to manage – no food security signal, little financial signal, paying for experience <p style="text-align: right;">ANCORS  UOW</p>

<p style="text-align: center;">Challenges for SIDS</p> <ul style="list-style-type: none"> • Economic development • Maintaining environmental services and resilience • Climate change preparedness <p style="text-align: right;">ANCORS  UOW</p>	<p style="text-align: center;">IUCN Marine Conservation 1988</p> <p>Management in accordance with the principles of the World Conservation Strategy of human activities that use or affect the marine environment</p> <p style="text-align: center;">IUCN Resolution 1988 17/38</p> <p style="text-align: right;">ANCORS  UOW</p>
<p style="text-align: center;">4 elements of marine EBM</p> <p>Overarching Multi-use management</p> <p>Marine Protected Area Management</p> <p>Sustainable Use Marine Resource Management</p> <p>Culture/Ecological/Social Protection</p> <p style="text-align: right;">World Bank (2006)</p> <p style="text-align: right;">ANCORS  UOW</p>	<p style="text-align: center;">IUCN Marine Conservation 1988</p> <p>Protection, restoration, wise use, understanding and enjoyment of the marine heritage of the world in perpetuity through the creation of a global, representative system of marine protected areas</p> <p style="text-align: center;">IUCN Resolution 1988 17/38</p> <p style="text-align: right;">ANCORS  UOW</p>

<p style="text-align: center;">MPAs and Fisheries 1990s</p> <p>Relationship generally unclear and often conflicted</p> <p>Conservation reluctant to accept that fisheries management can contribute to biodiversity conservation</p> <p>Fisheries interests reluctant to accept permanent closures</p> <p>Both happy to accept oppositional role.</p> <p style="text-align: right;">ANCORS  UOW</p>	<p style="text-align: center;">Roles of no-take for Fisheries Management</p> <p>Reference or control areas without them it is not possible to identify and separate the effects of fishing from other impacts.</p> <p>Protection of habitat areas important for spawning, juvenile growth of species of interest.</p> <p style="text-align: right;">ANCORS  UOW</p>
<p style="text-align: center;">Fishery roles in biodiversity conservation</p> <p>Ecological sustainability within constraints of biodiversity and ecosystem processes</p> <ul style="list-style-type: none"> • Habitat of non-target species • Food chain linkages predator/prey • Minimising impacts of fishing • Accountability and reporting <p style="text-align: right;">ANCORS  UOW</p>	<p style="text-align: center;">Roles of MPA categories</p> <p>I and II Protect biodiversity and ecosystem processes through no-take areas</p> <p>IV and VI Protect (seabed) habitat by excluding destructive activities (trawling/dredging)</p> <p>VI Overarching regime for sustainable use consistent with conservation</p> <p style="text-align: right;">ANCORS  UOW</p>

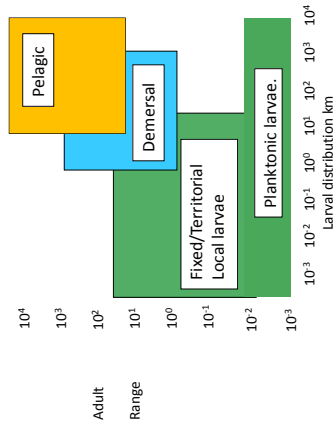
Marine lifecycle processes

1. Attached to the seabed or very limited (1km^2) adult, no planktonic dispersal
2. Attached or limited adult territory (10km^2), restricted planktonic or nektonic larval dispersal ($10\text{km}-10^2\text{km}$)
3. Moderate adult territory ($10\text{km}^2-10^2\text{km}^2$), extensive planktonic or nektonic dispersal ($10^2\text{km}-10^3\text{km}$)
4. Permanent water column species range ($10\text{km}^2-10^4\text{km}^2$). May have critical life cycle sites.

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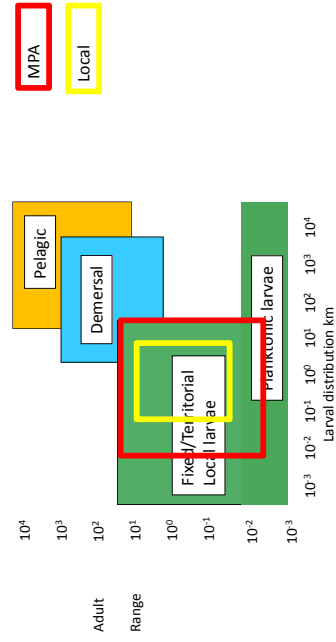
Spatial extent of marine lifecycles



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MPAs, food security and fisheries



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Opportunities for SIDS

- Local, regional and global peer to peer experience sharing and networking
- Professional, technical and community capacity building
- Low impact technology application
- Developing and implementing ESD, EBM, CBM, MPAs and LMMA's,

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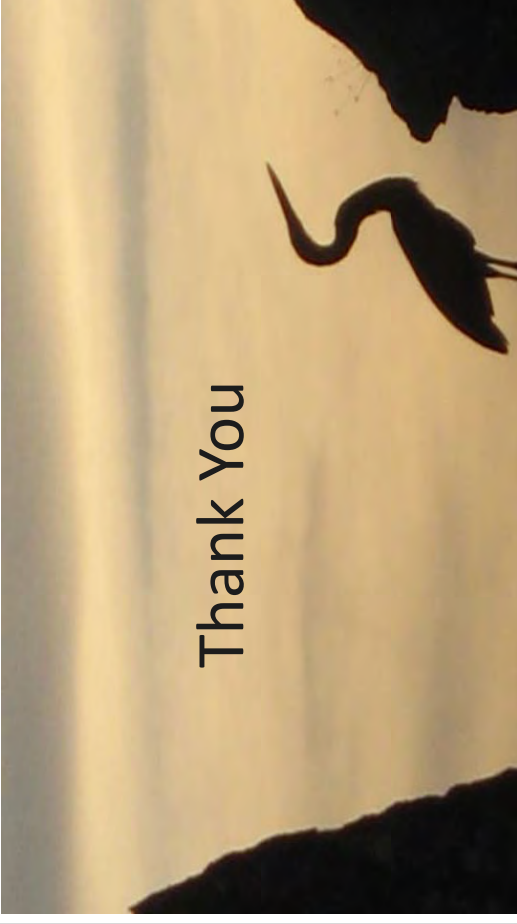
Opportunities for OPRI

- Understand and build on local and scientific knowledges to develop effective environment and resource management
- Professional, technical and community capacity development
- Pacific and Asian regional subtropical contribution to global literature

ANCORS

UOW 

Thank You



Supporting Pacific Island Countries for Conserving Coastal and Marine Biodiversity and Promoting Sustainable Use of Biological Resources

Ms. Jihyun Lee, Environmental Affairs Officer for Marine and Coastal Biodiversity, Convention on Biological Diversity (CBD) Secretariat

The Secretariat of the Convention on Biological Diversity's work on marine and coastal biodiversity as a whole provides a coherent suite of policy, technical and scientific information and capacity building opportunities to support the efforts of Parties, other governments and relevant organizations in facilitating improved implementation of the Convention goals, in particular toward achieving Aichi Biodiversity Targets in marine and coastal areas. In this regard, the work of the Secretariat on marine and coastal biodiversity, in support of Pacific Island Countries, can be summarized as follows:

- Understanding the biological and ecological value of the oceans

- Understanding and addressing major pressures on marine and coastal biodiversity

- Tools and approaches for applying the ecosystem approach (e.g. integrated marine and coastal area management, impact assessments, marine and coastal protected areas, marine spatial planning, etc)

- Capacity building and partnerships through the Sustainable Ocean Initiative (SOI)

Among the above work components, this presentation will focus on the Secretariat's collaboration with Pacific Island countries on ecologically or biologically significant marine areas (EBSAs), Sustainable Ocean Initiative (SOI) as a platform for capacity building activities, and marine spatial planning (MSP).

CBD's EBSA process, which has covered nearly 70% of world ocean areas so far, began with a regional workshop for Western South Pacific region held in Fiji, November 2011. The results of this workshop in Fiji was considered by the eleventh meeting of the Conference of the Parties, and submitted to UN General Assembly and its relevant processes for their information. The regional EBSA workshop process in Pacific region has facilitated scientific collaboration at the regional scale, thereby enhancing the understanding of the marine environment at multiple scales, identifying gaps in knowledge and building partnerships to enhance this knowledge. This has provided also an important foundation for future research, conservation and sustainable use, and created the enabling conditions to integrated management and planning efforts, such as marine spatial planning. Targeted capacity building on marine and coastal biodiversity

is primarily facilitated by the Secretariat through the Sustainable Ocean Initiative (SOI), which is a global partnership framework coordinated by the Secretariat. CBD Secretariat is planning to organize a SOI capacity building workshop for Western South Pacific region in collaboration with many regional and global SOI partners in June 2016. Further details on SOI can be found at <https://www.cbd.int/doc/meetings/mar/soiom-2014-02/official/soiom-2014-02-actionplan-en.pdf>.

**CBD's Relevant Work on Marine and Coastal Biodiversity:
Supporting Pacific Island Countries
for Conserving Coastal and Marine Biodiversity and
Promoting Sustainable Use of Biological Resources**



**Secretariat of
the Convention on Biological Diversity**
Jihyun Lee

CBD Work on Marine and Coastal Biodiversity

- Elaborated Programme of Work on Marine and Coastal Biodiversity (Annex I to decision VII/5, 2004)
- Decisions VIII/21, 22 and 24; IX/20; X/29; XI/17, 18; XI/22, 23
- Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets (decision X/2, 2010)
- Addendum to PoW
 - Indicative list of activities for operational objective 2.4 of Programme element 2 on marine and coastal living resources (annex to decision X/29, 2010)
 - Priority actions to achieve Aichi Biodiversity Target 10 for coral reefs and closely associated ecosystems (annex to decision XII/23, 2014)

Programme of Work on marine and coastal biodiversity (annex I, decision VII/5)

Overall Vision
To halt the loss of marine and coastal biological diversity nationally, regionally and globally and secure its capacity to provide goods and services

Mission
To promote the implementation of the three objectives of the Convention and achieve significant reduction of the current rate of marine and coastal biological diversity loss

Aichi Biodiversity Targets (adopted by COP 10, Nagoya)

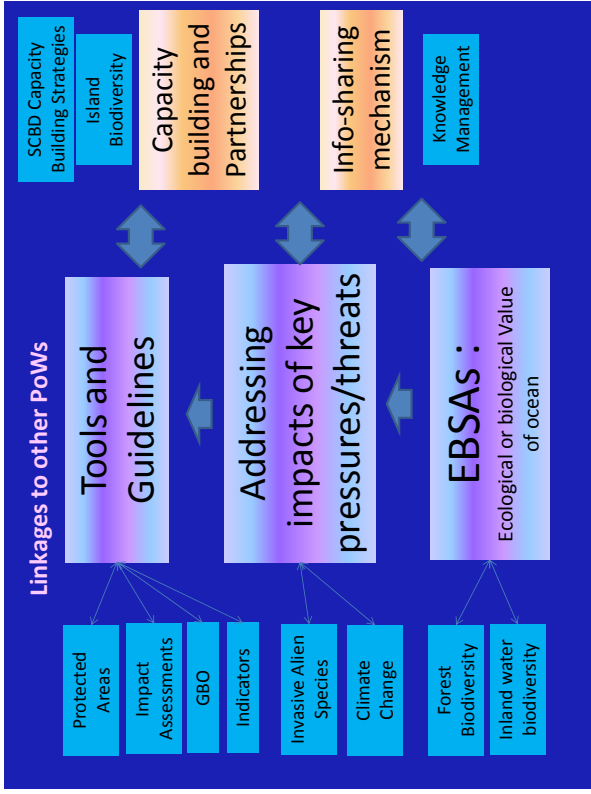
- Strategic goal A. Address the underlying causes of biodiversity loss**
- Target 1: By 2020, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
- Target 2: By 2020, biodiversity values are integrated into national and local development and poverty reduction strategies and planning processes and national accounts...
- Target 3: By 2020, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed
Target 4: By 2020, Governments, business and stakeholders have fully taken into account biodiversity when they develop, run and manage economic activities and consumption. Keep the impacts resource use within safe ecological limits.
- Strategic goal B. Reduce the direct pressures on biodiversity and promote sustainable use**
- Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- Target 6: By 2020 all stocks managed and harvested sustainably, so that overfishing is avoided.....
- Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
- Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
- Target 9: By 2020, invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
- Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change related ocean acidification are minimized, so as to maintain their integrity and functioning.

Focus of CBD's work on marine and coastal biodiversity

- **EBSAs** : Scientific assessment of inherent ecological and biological value of marine areas
- **Addressing impacts from various pressures/threats**
 - Unsustainable fishing practices
 - Marine debris
 - Anthropogenic underwater noise
 - Impacts of climate change
 - Ocean acidification
 - Ocean fertilization
 - Impacts from other human activities
 - Multiple stressors

Focus of CBD's work on marine and coastal biodiversity

- **Tools and guidelines to address impacts on marine biodiversity**
 - EIA and SEA voluntary guidelines
 - MPAS
 - Marine spatial planning
 - Integrated marine and coastal management
 - EBSA-based mapping in support of applying the ecosystem approach
 - Guidance on addressing impacts from various threats
- **Capacity building and partnerships : Sustainable Ocean Initiative**
- **Information-sharing mechanism**
 - EBSA repository and information sharing mechanism
 - Marine spatial planning information sharing mechanism
 - SOI website
- **Priority actions to achieve Aichi Biodiversity Target 10 for coral reefs and closely associated ecosystems (annex to decision XII/23, 2014)**



CBD scientific criteria for ecologically or biologically significant areas (EBSAs) (annex I, decision IX/20)

1. Uniqueness or Rarity
2. Special importance for life history stages of species
3. Importance for threatened, endangered or declining species and/or habitats
4. Vulnerability, Fragility, Sensitivity, or Slow recovery
5. Biological Productivity
6. Biological Diversity
7. Naturalness

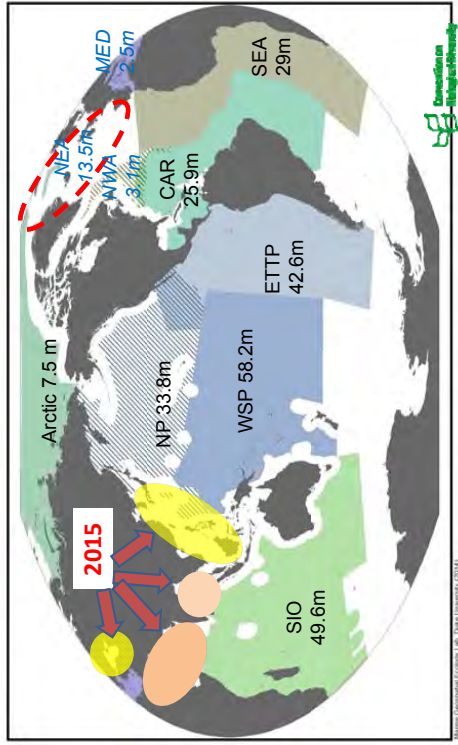


CBD Process on Ecologically or Biologically Significant Marine Areas (EBSAs) through regional workshops

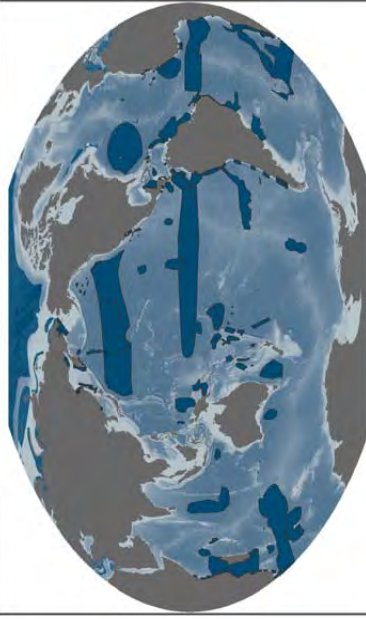
- **Synthesis of best available scientific and technical information**
- **Expert scientific judgment on the application of EBSA criteria**
- **Description and mapping of areas that meet the EBSA criteria**



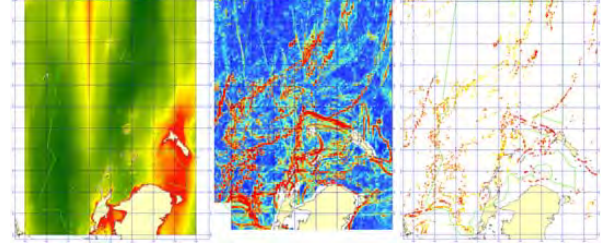
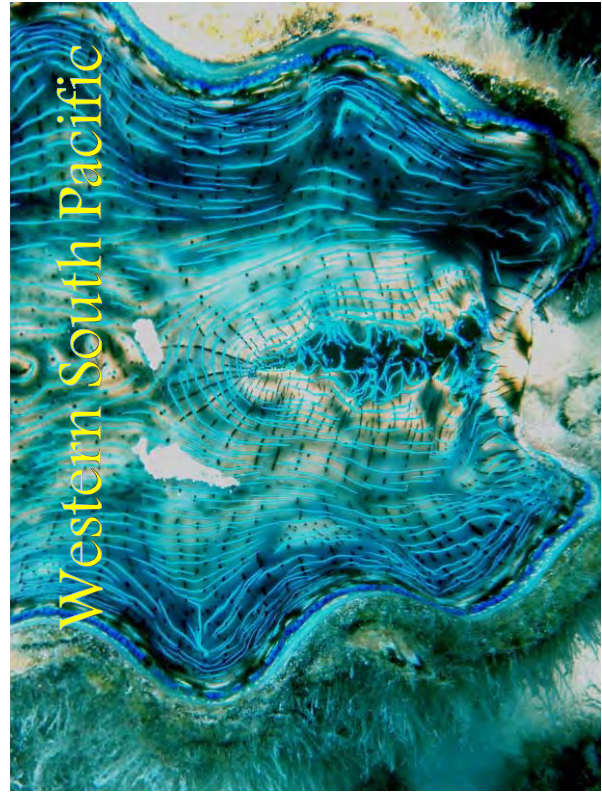
Ocean area covered by CBD EBSA regional workshops as well as relevant regional EBSA processes: 265.7 million sq.km



Areas meeting CBD Scientific Criteria for Ecologically or Biologically Significant Marine Areas (EBSAs, annex 1 to decision IX/20):
 204 areas (out of 207 areas described) considered and decided by COP 11 (147 areas) and 12 (157 areas) for inclusion in the repository, and submission to UNGA



Disclaimer: This is information ONLY for the presentation at this meeting. Some information on the map is yet to be finalized. This is NOT for QUOTE or Distribution.



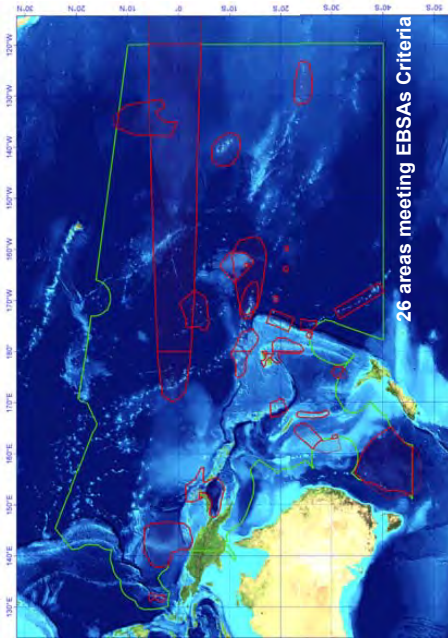
Data Collection/ Compilation/ Analysis/ Synthesis/ Mapping

- 90-200 GIS data layers (including modelled interpretation)
- Physical oceanography
- Seafloor geology
- Deep sea coral
- Fisheries data
- Species diversity
- Birds, Turtles, whales

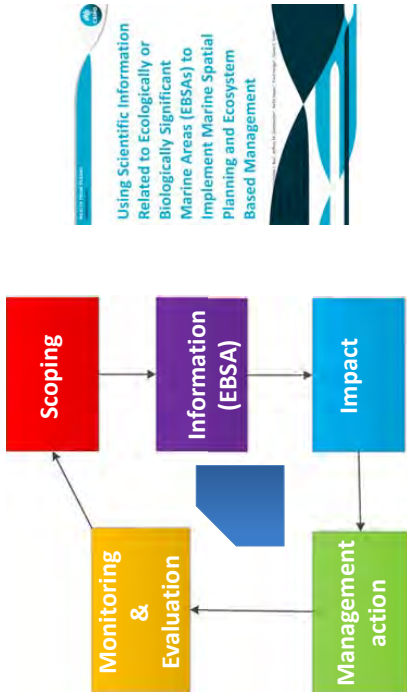
Ex. Western South Pacific EBSA workshop

Areas meeting the EBSA criteria

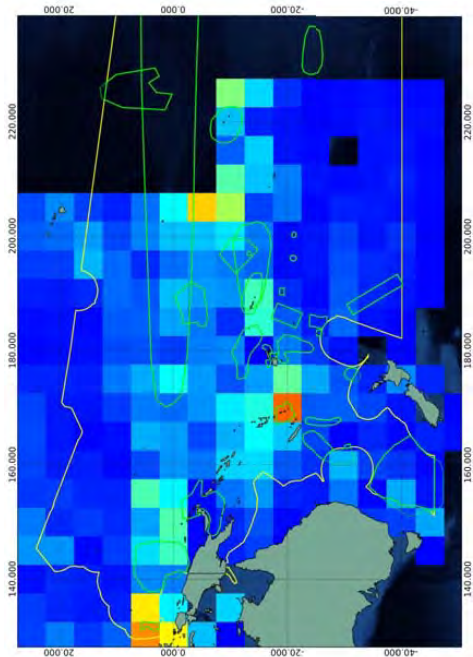
(described by CBD regional workshop, Nov 2011, Fiji)



EBSAs, EBM and MSP

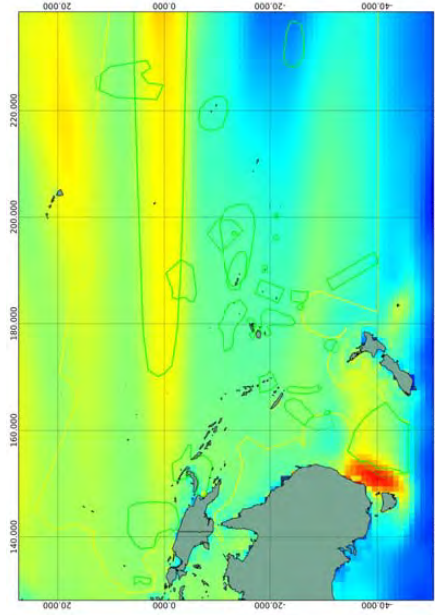


Long-line fishery effort



Slides by Piers Dunstan and Nic Bax (CSIRO)

Climate Change



Slides by Piers Dunstan and Nic Bax (CSIRO)

Cyclone Frequency

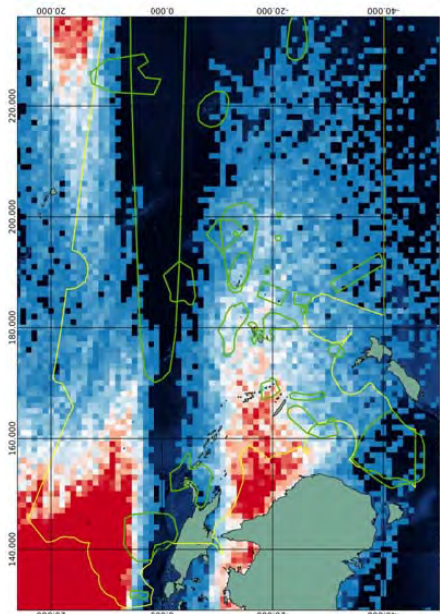


Image presentation file
Slides by Piers Dunstan and Nic Bax (CSIRO)

Interaction between Pressures and Ecological/Biological Values

	Pelagic Fisheries	Benthic Fisheries	Shipping	Mining	Climate Change	Cyclones
New Hebrides Trench	Red	Light Blue	Light Green	Light Blue	Yellow	Red
Seamounts of West Norfolk	Light Green	Yellow	Yellow	Light Blue	Yellow	Light Green
Louisville Ridge	Light Green	Red	Light Blue	Light Blue	Light Green	Light Blue
Central Pacific Equatorial Productivity Zone	Yellow	Light Blue	Light Green	Yellow	Red	Light Blue
Ua Pukaoka Seamounts	Light Green	Light Blue	Light Blue	Light Blue	Yellow	Yellow

Slides by Piers Dunstan and Nic Bax (CSIRO)

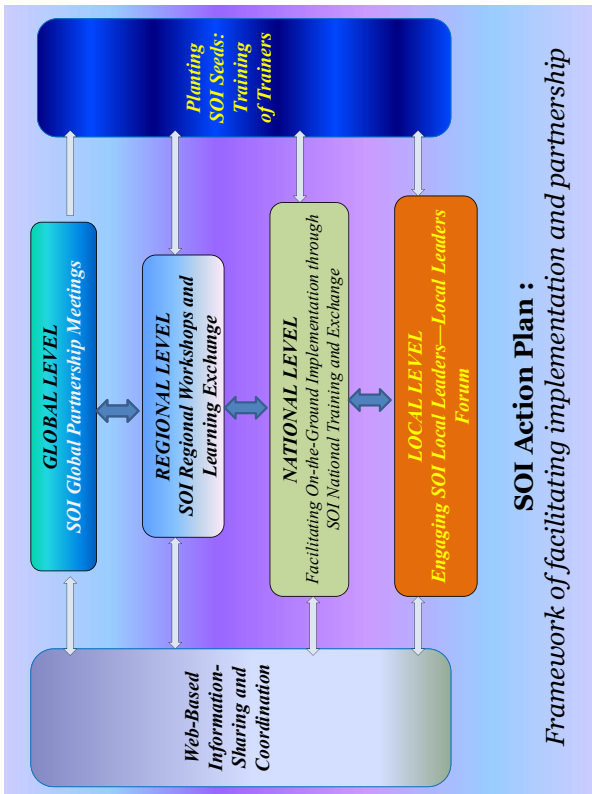
SUSTAINABLE OCEAN INITIATIVE



Sustainable Ocean Initiative: Global Platform for Partnerships and Capacity Building

Action Plan for the Sustainable Ocean Initiative (2015-2020)





Global Level :

- UN-Ocean Members (FAO, UNEP, IOC/UNESCO, etc)
- Other global organizations/initiatives (IUCN-CEM-FEG, GOBI, OBIS, Monaco Blue Initiative, GLISPA, etc)

Regional Level:

- Regional Seas Conventions and Action Plans (Abidjan Convention, Nairobi Convention, SPREP, CPPS, CEP, COBSEA, NOWPAP, SACEP, PERSGA, ROPME, etc)
- Regional Fisheries Management Organizations/Bodies
- LMEs (PEMSEA, Benguela Current Commission, Canary Current LME, Bay of Bengal LME, etc)

National institutions:

- CSIRO (Australia), French MPA Agency (France), KMI/KOEM/KIOSK (Korea), Sophia University/Tokyo University (Japan), etc



Thank you!
www.cbd.int

Session 2

Development of Activities Plans for IO Net

**Part II (3) : Management of the Surrounding Ocean Areas – Marine
Mineral Resource Exploitation and Marine Environment
Conservation**

Environmental Impact Assessments for the deep-sea mineral resources development under the cooperation between Japan, French and Pacific Island States.

Dr. Tomohiko Fukushima, Assistant Director, Research and Development (R&D) Center for Submarine Resources, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

Currently, the development of seabed mineral resources has been attracting attention all over the world. Japan also has been interested in the development of ocean mineral deposit, and has surveyed potentials of manganese nodules, cobalt rich crust and seafloor massive sulfide in the Pacific. Besides, in the last year, another new project were born named “Cross-ministerial Strategic Innovation Promotion Program = SIP”. The SIP has three objectives that are cross-ministerial, private commercialization, and then contribution to international. Among them, taking into accounts the contribution to international community, the Japan Agency of Marine-Earth Science and Technology (JAMSTEC) initiated a joint study with IFREMER (France) to make an environmental impact assessment methods for international standards. However, when we think that the area and of its resources are common heritage of mankind, it is important to make collaborative framework among Japan, France and the Pacific islands states. The JAMSTEC and IFREMER will invite the pacific islands states (Fiji and Cook Islands) and French territory (New Caledonia and French Polynesia) and will convene an international workshop in 29 June to 1st July at the French embassy in Tokyo.

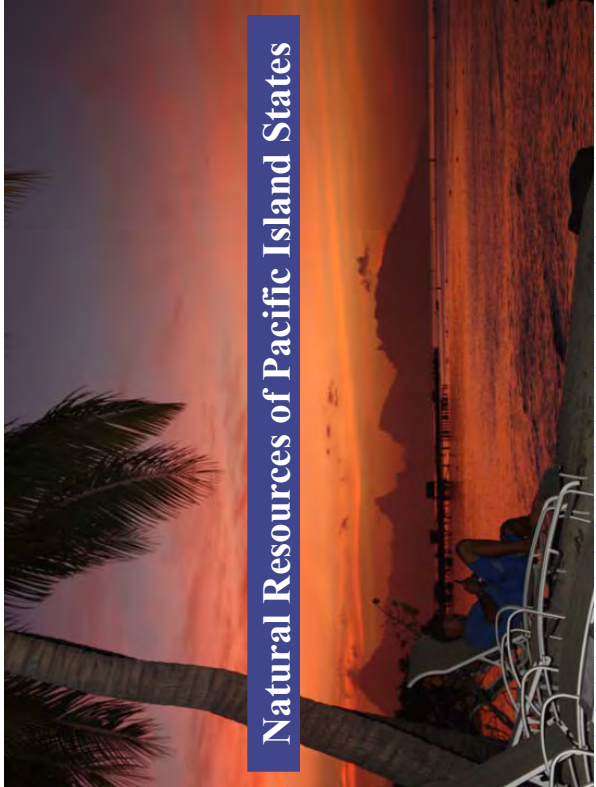
26th May 2015
Tokyo

The First General Meeting of IO Net

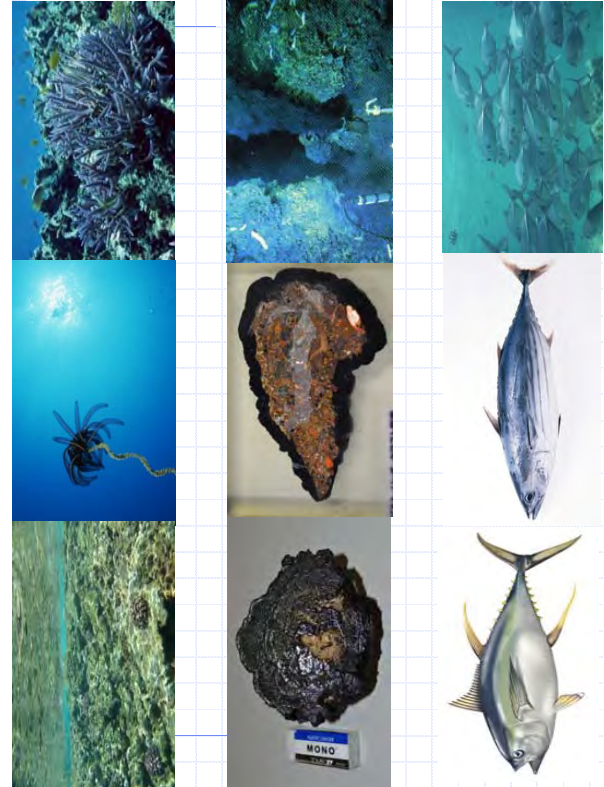
**Environmental Impact Assessments
for the deep-sea mineral resources
development under the cooperation
between Japan, French and Pacific
Island States.**

Tomohiko Fukushima

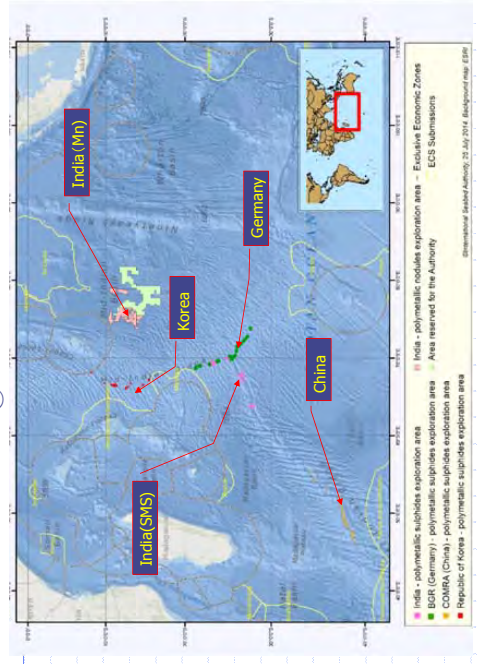
Japan Agency for Marine-Earth Science and Technology
(JAMSTEC)



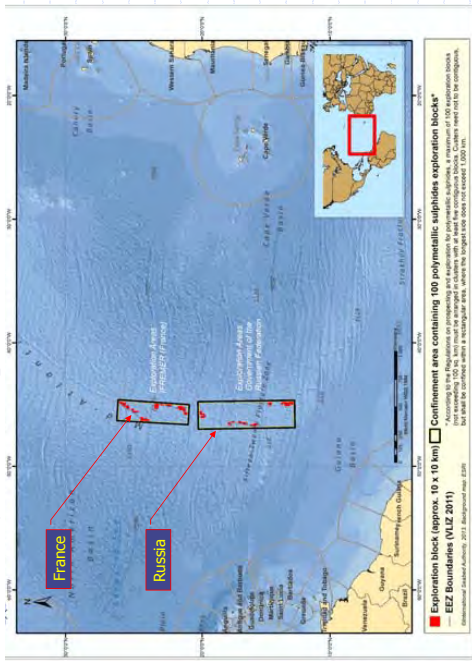
Natural Resources of Pacific Island States



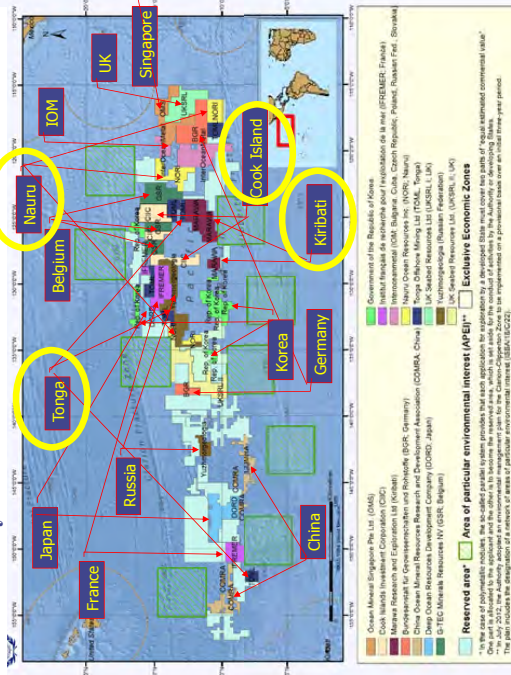
**Polymetallic Nodules and Polymetallic Sulphides
@Indian Ocean**



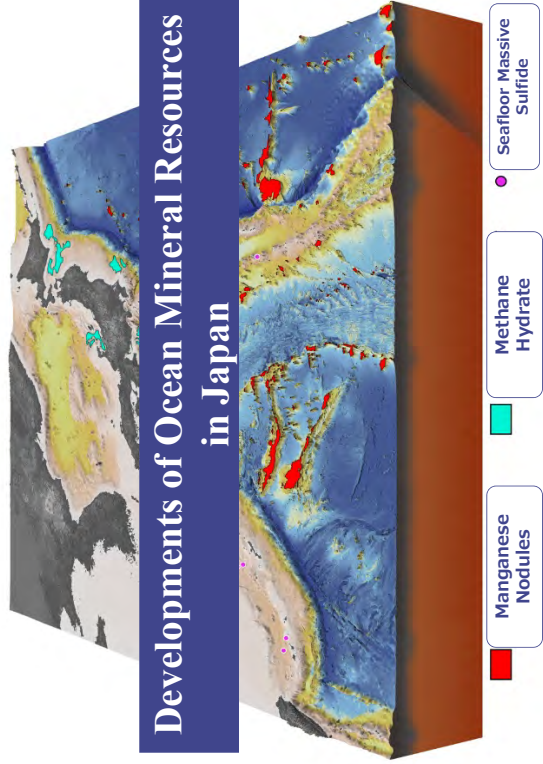
Polymetallic Sulphide @ Atlantic Ocean



Polymetallic Nodules @ Pacific Ocean



Pacific island states are becoming a main actor of ocean mineral resources development



Administration and Implementation



The SIP project will contribute to the international community

Next-generation technology for ocean resources exploration

Private Commercialization

海のジパングを目指して

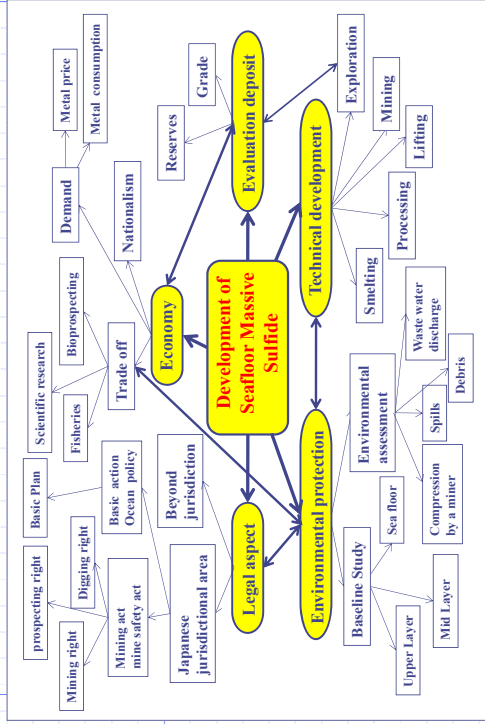
Cross-Ministerial

Contribution to the International

A Field of Environmental Impact Assessment

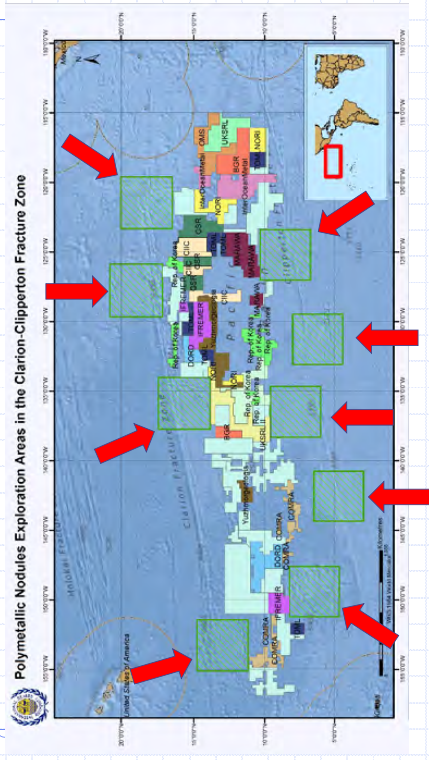


Factors indispensable to Ocean Mineral Resources Development



International standard methods for environmental protection are indispensable.

Areas of Particular Environmental Interest (APEI)



Collaboration Framework

France and Japan
- IFREMER and JAMSTEC -



Existing Framework

Government Level

Japan-France Cooperation in Science and Technology
(1974 -)  

Research Institute Level

Research Cooperation in Ocean Science and Technology
between JAMSTEC and IFREMER



(1998-)



Marine Technology, Ocean Monitoring, Deep-Sea floor
Observatories, Simulation Research with the Earth Simulator,
Deep-sea Ecosystem, Deep Subsurface Biosphere, Fleet
Management, General Information Exchange

New Collaborative Research

EcoDeep

Start 2015FY



Sharing

Data / Ship time / Equipment or Gear

Exchange Researchers
Development of Monitoring System
Demonstration to Public

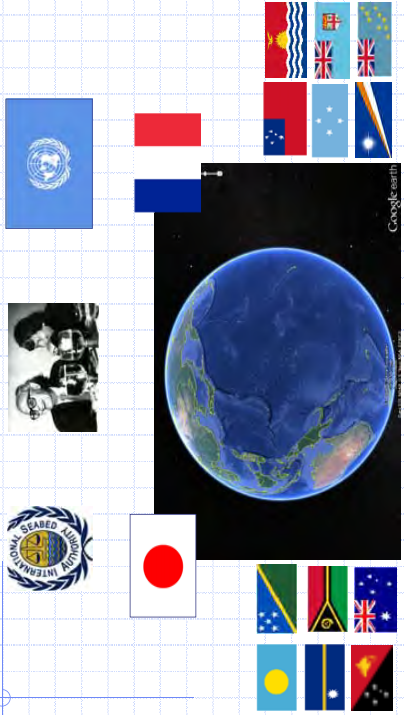
IFREMER and JAMSTEC started a joint study
program to establish EIA methods

JAPAN

FRANCE

PACIFIC ISLANDS STATES

The area and its resources
are the common heritage of mankind



1st Kick Off Meeting for EcoDeep



EcoDeep-SIP Workshop Second Announcement
THE CRAFTING OF SEABED MINING ECOSYSTEM-BASED MANAGEMENT
Assessing deep sea ecosystems in the Pacific Ocean

- Dates: June 29, 30 and July 1, 2016.
- Location: Embassy of France in Japan, Tokyo, Main Conference Hall.

Organizers:
JANIS FÉC and FÉLIX FÉC with the Embassy of France in Japan (Science & Technology Department),
Contact points: H. Yamamoto: hyamamot@ambfr-jp.tokyo.fr, T. Fukutani: tfukutani@ambfr-jp.tokyo.fr,
L. Bouché: lbouch@ambfr-jp.tokyo.fr, Y. Hirotsugu: yhirotsugu@ambfr-jp.tokyo.fr

Support organizations:
NIES (National Institute of Environmental Study), SIP project for development of new-generation
research protocol for submarine resources.

Participants from

Republic of Fiji

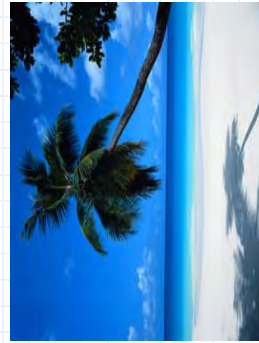
Cook Islands

French Polynesia

New Caledonia

Secretariat of IO-net

New Zealand, Australia (Skype), USA, UK, Korea, France and Japan



Thank you for your kind attention

Session 2

Development of Activities Plans for IO Net

Part III : Response to Climate and Variability – Adaptation to Climate Change and Variability

Adaptation to Climate Change and Variability and Disaster Reduction – Lessons and Challenges in Vanuatu

**The Hon. Ralph Regenvanu MP, Minister for Lands and Natural Resources,
Vanuatu**

On the weekend of the 13th March this year, Tropical Cyclone Pam passed over Vanuatu. It was the first Category 5 cyclone in recorded history to affect Vanuatu and caused widespread destruction to a large part of the country. The cost of reconstruction is estimated at US\$449.4 million, equivalent to 64.1% of gross domestic product (GDP). This paper presents information on the impacts of the cyclone, the humanitarian response effort and the recovery and reconstruction process, and highlights some of the immediate lessons learnt. Enhancing the resilience of communities and the government to cope with such natural hazards – which we expect to increase in frequency and intensity in coming years – is a key challenge and opportunity in the development of national policies that address the Sustainable Development Goals.

Part IV “Capacity Development and Institutional Strengthening”

Capacity Development for Small Island Developing States and Regional and International Cooperation – The Role of SPREP and International Partnership

Mr. David Sheppard, Director General, SPREP

This presentation will introduce SPREP, the Secretariat of the Pacific Regional Environment Programme. SPREP, based in Apia, Samoa, is the Pacific region's environment agency and is the lead agency in the region for: (i) climate change; (ii) biodiversity conservation and ecosystem management; (iii) waste management and pollution; and (iv) environmental monitoring and governance. The Pacific Ocean shapes the lives of all Pacific peoples. The Pacific Islands region is vast, covering over 10% of the total global ocean. It is the repository of the world's largest tuna fishery and the planet's largest expanse of coral reefs. While they may be small island economies, Pacific Islands Countries and Territories are in fact Large Ocean States. For example, Kiribati alone, including its Exclusive Economic Zone, is larger than India. Given this fact it is not surprising that SPREP has a significant focus on the conservation and sustainable use of the Pacific Ocean. This presentation will outline the work of SPREP on ocean and marine issues, which includes: (i) marine species conservation and management; (ii) coastal and marine protected areas; (iii) marine pollution, including marine debris, particularly plastic; and (iv) ocean observation and acidification. The role of SPREP on capacity development and in regional partnership will be outlined, as will existing partnerships between SPREP and Japan. Options for strengthening cooperation with the Oceans Policy Research Institute of the Sasakawa Peace Foundation, will also be reviewed.

USP's Role in Human Resource Development in the Pacific Region

Dr. Anjeela Jokhan, Associate Professor and Dean, Faculty of Science, Technology and Environment (FSTE), University of the South Pacific (USP)

The University of the South Pacific, established in 1968 and owned by 12 Pacific Island countries is one of only two regional universities in the world, the other being the University of West Indies. It is the premier provider of tertiary education in the Pacific and has over 27,000 students. The USP has been involved in Distance and Flexible education for over 45 years to cater for the students in its member countries spread over 33 million square km. Hence its investment in USPNet (its own communication network) with the support of the Japanese Govt and later Australia. Japan continues to support the development of this critical infrastructure. Over its existence the University has graduated over 40,000 students who a spread throughout the region and are making invaluable contribution to the development if their countries and the regional as a whole. Many graduates are spread all over the world. The USP is well recognized as a successful example of regional co-operation in the Pacific and has grown significantly in size and recognition globally. Unlike other Universities the USP has a dual role to play in the Pacific, one as a tertiary education provider and the second as a CROP agency with requires it to provide the countries with support and work with countries in their development agenda. The University now aims to transform itself from the good University that it is, to an excellent University as we reach our 50th anniversary in 2018. This transformation in laid out in its current strategic plan which details strategies and actions which will help us achieve this aspiration. The USP is a highly complex University in terms of its governance, its operations and its roles, unlike any other and this poses substantial challenges. Its success demonstrates its ability to operate in a complex situation and deliver on the mandates given to it by the region.



USP's Role in Human Resource Development in the Pacific Region

Associate Professor Anjeela Jokhan
Dean
Faculty of Science, Technology & Environment



USP History

- Established in 1968
- Owned by 12 Pacific countries – 14 campuses
- One of only 2 regional universities in the world
- Advanced communication technologies linking the campuses (USP Net)
- Highly diverse staff and student population
- Programmes offered in flexible modes



Human Resource Development

- In its 47 years of existence it has produced over 40,000 graduates who cover a diverse spectrum of our societies – the labour market to Ministers, Prime Ministers and Heads of States, Heads of Regional organisations, etc.
- Provide pre-degree studies, Bachelors, Masters and PhDs. Also TVET and short term trainings.
- Partner with others in providing training, particularly the youth.



Achievements

- Recognised as a successful example of regional co-operation
- Significant growth over the years
- Enhanced quality and recognised as the premier HE provider in the region
- Very good international networks with Universities and Governments
- Significant contribution to providing graduates in the region



Current Strategic Plan

- The current SP builds on these achievements
- Aspire to become from good excellent by our 50th university
- Enhance quality further through accreditation of programmes and institutional accreditation
- Been undergoing significant changes in the academic area as per the global trend to produce graduates who are 'work ready plus'



Lessons Learnt

- The need to consolidate our efforts to address the needs of the 12 member countries as demands change
- Constraints in operating in the 12 countries means immense resources which is not necessarily understood by most
- Require more forward planning to address the above



Challenges

- Realisation that to build a knowledge society in the current global arena means even greater efforts on our part as a HE institution. Given the changing landscape of HE, Demands of government resources
- Since quality is of utmost importance to develop and maintain across all operations, locations, etc.



Proposed Activities

- Accreditation of professional programmes and whole institution accreditation by Western Senior College and Universities Commission (WSCUS) US.
- Build on strategic partnerships
- Significantly enhance ICT leveraged education as the key component of our flexible learning



Sustainability Science and Leadership Development for Pacific Island Countries

Prof. Alistair McIlgorm, Capacity Development Coordinator, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong

ANCORS has a 20 year record in providing access to taught degrees, research degrees and short courses that can be accessed by a range of Pacific islanders. Developing people brings residual sustained benefits to small island states.

Our Masters degrees by coursework are in maritime policy, marmite studies of fisheries policy, targeting mid-career maritime professionals in government agencies in the Pacific and SE Asia. Research degrees develop leadership through masters and PhDs. We have graduated PhDs from a range of small Pacific Island states: Short courses for professionals include: Law of the Sea; Maritime Regulation & Enforcement; International Fisheries law; International Fisheries Negotiations; Fisheries management; and Monitoring Control and Surveillance, and have a good reputation with national and international agencies. ANCORS' focus on Capacity Development combines law and governance with training. Under the Australian government's DFAT Australia Awards fellowships, we have participants from over 40 countries. In 2015 ANCORS and the Forum Fisheries Agency will run a "Sustainable fisheries management program" for Pacific Islands. We also have "Community fisheries and sustainable development" project in Kiribati, with Worldfish and The Australian Centre International Agricultural Research (ACIAR).

Sustainability, Science, and Leadership development for Pacific Island Countries

OPRI workshop 24-26th May 2015

Professor Alistair Mc ilgorm
Capacity development coordinator



OCEAN LAW AND POLICY
MARITIME SECURITY
INNOVATIVE WORLD-CLASS RESEARCH
FOR SUSTAINABLE
CONNECTIVITY BUILDING
CONNECT-ANCORS

UNIVERSITY OF
WOLLONGONG
FACULTY OF LAW

Developing leadership in the Pacific

- ANCORS has a 20 year record in:
 - Teaching degrees (Masters)
 - Research degrees (PhDs and Masters)
 - Short course programs
 - Fishery research programs
-we develop people!.....



UNIVERSITY OF
WOLLONGONG
FACULTY OF LAW

Teaching – masters degrees

- ANCORS has both Masters and PhDs
- Three Masters by coursework
 - > mid-career maritime professionals;
 - > Popular with Pacific and SE Asia.
 - [Master of Maritime Policy](#)
 - [Master of Maritime Studies](#)
 - [Master of Fisheries Policy](#)
 - Many Pacific Island fisheries students:
 - Solomon Islands, Tokelau, Niue, Vanuatu, Tonga, Fiji, Palau,
 - Samoa, Cook Islands, PNG, Kiribati, FSM, Marshall Islands,
 - Nauru, Tuvalu.



UNIVERSITY OF
WOLLONGONG
FACULTY OF LAW

Research leadership development

- ANCORS has PhDs & Masters by research

Have graduated PhDs in a number of Pacific Islands states:
Dr. Filimon Manoni,
Marshall Islands and FFA
Niue



UNIVERSITY OF
WOLLONGONG
FACULTY OF LAW

Short courses for professionals

- A history of specialist short courses:
 - Law of the Sea;
 - Maritime Regulation & Enforcement;
 - International Fisheries law;
 - International Fisheries Negotiations Course.

Involvement of all
Forum Fishery Agency (FFA)
member states



Short courses for professionals

- Specialist short courses in :
 - Fisheries management;
 - Fisheries governance and negotiation;
 - Monitoring Control and surveillance.
- We have a good reputation with national and international agencies.



Capacity Development (CD)

- ANCORS combines legal/ governance and training;
- International contacts in S.E Asia and the Pacific;
- A series of successful applications to the DFAT Australian Awards Fellowships;
- In 2015 ANCORS/FFA Pacific Islands "Sustainable fisheries management program" for FFA member states;



DFAT fellowships - over 40 countries!

- Program with MMAF Indonesia.
- Indian Oceans AAF Fishery programs with Indian Ocean Tuna Commission (IOTC);
- African programs- Grad. Cert.



ANCORS Pacific Research projects

- Community fisheries and sustainable project in Kiribati;
- ANCORS, Worldfish and
- The Australian Centre International Agricultural Research (ACIAR)



Photos by A. Meilgorn and Q. Hanich



UNIVERSITY OF
WOLLONGONG
FACULTY OF LAW

Annex

**Islands and Oceans Net (IO Net) 1st General Meeting Outcome
Highlights**

Islands and Oceans Net (IO net) TOR

Declaration

**“Renewing a dialogue for the better conservation and management of
islands and their surrounding ocean areas”**

**For the Better Conservation and Management of Islands and
Their Surrounding Ocean Areas (Full Text)**

Islands and Oceans Net (IO Net) 1st General Meeting Outcome Highlights

Islands and Oceans Net Secretariat
Ocean Policy Research Institute

Ocean Policy Research Institute, The Sasakawa Peace Foundation (OPRI, SPF) organized the Islands and Oceans Net (IO Net) 1st General Meeting with the Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong and the University of Tokyo Ocean Alliance at the Ito International Research Center, University of Tokyo from 25 – 26 May 2015.

IO Net is an international collaborative network for the organisations and individuals (called “Partners”) who support the Joint Policy Recommendations “For the Better Conservation and Management of Islands and Their Surrounding Ocean Areas” and collaborate and cooperate on a voluntary basis to implement it

190 participants including 27 from overseas attended the IO Net 1st General Meeting. At the opening session, Mr. Hiroshi Terashima, President, OPRI, SPF which serves as IO Net Secretariat underlined that the IO Net is an international collaborative network for the organisations and individuals that collaborate on a voluntary basis to promote the better conservation and management of islands and their surrounding oceans, and stated that this meeting was intended to facilitate the development of concrete projects to implement the Joint Policy Recommendations. Prof. Stuart Kaye, Director, ANCORS stated in his video message that he welcomed the launching and the operationalization of the IO Net. Prof. Toshiyuki Hibiya, Director, University of Tokyo Ocean Alliance affirmed his determination that the University of Tokyo Ocean Alliance will carry out advanced academic research and play a proactive role in promoting sustainability in the Pacific island countries.

Mr. Yohei Sasakawa, Chairman, The Nippon Foundation stated in his keynote speech that the alarming phenomena that threaten human existence have emerged in the ocean and been progressing silently and steadily and the time has come now for establishing an international organization that addresses ocean issues comprehensively. As an honourable guest, H.E. Mr. Anote Tong, President, the Republic of Kiribati stated that the Pacific island countries have been greatly affected by climate change and variability and the fate of the island countries hinges upon the collaboration of international community and expressed his expectation to the activities to be carried out under the IO Net. Honourable Mr. Kazuyuki Nakane, Parliamentary Vice Minister for Foreign Affairs, Japan welcomed the undertaking of the IO Net that can forge the close long term relationship between Japan and the Pacific island countries.

At this Meeting, Mr. Hiroshi Terashima, President, OPRI, SPF, Prof. Alistair McIlgorm, Capacity Development Coordinator, ANCORS and Mr. David Sheppard, Director-General, Secretariat of the Pacific Regional Environment Programme (SPREP) presided the Meeting as Co-Chairs.

At the sessions, the participants had fruitful discussions on the challenges faced by the small island countries and the proposed future activities based on the presentations made by the participants from the Pacific island countries, Japan and international organisations under the agenda of the conservation and management of islands, management of islands’ surrounding

oceans, responses to climate change and variability, and capacity development and institutional strengthening.

At the wrap-up session, the participants discussed the launching of concrete projects under the operational guidelines of the IO Net and affirmed the direction of future activities. They have also confirmed that the interested partners of IO Net will discuss and materialize various project proposals for their implementation and the IO Net Secretariat (OPRI, SPF) support partners to develop and implement the projects through collecting and sharing of related information and making and circulating a list of proposed projects.

The Meeting was a great success and highly fruitful as many participants have attested their enthusiasm and commitment to promote international collaboration for undertaking the proposed activities to implement our Joint Policy Recommendations “For the Better Conservation and Management of Island and Their Surrounding Ocean Areas”. The co-organisers would like to cordially express appreciation to those who attended and supported the Meeting and ask for continuous support to future activities of IO Net.

<Inquiry>

Further details of the future activities for the IO Net will be posted at <http://blog.canpan.info/ionet-jpn>. Please address any further inquiry to the IO Net Secretariat (ionet@spf.or.jp, Dr. Keita Furukawa, Director of Ocean Research and Development Department k-furukawa@spf.or.jp and Dr. Miko Maekawa, Senior Researcher, maekawa@spf.or.jp, Ocean Policy Research Institute, The Sasakawa Peace Foundation)

Islands and Oceans Net Secretariat – Ocean Policy Research Institute, The Sasakawa Peace Foundation Attention: Dr.Keita Furukawa and Dr. Miko Maekawa Address: SPF Bldg, 1-15-16, Toranomom, Minato-ku, Tokyo 105-8524 Japan Tel: 81-3-5157-5430, Fax: 81-3-5157-5420
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Islands and Oceans Net (IO Net)
Draft TOR

The Islands and Oceans Net (hereinafter referred to as “IO Net”) is a network to be composed of the organisations and individuals that agree upon the following:

1. IO Net is an international collaborative network for the organisations and individuals (called “Partners”) who support the Joint Policy Recommendations “For the Better Conservation and Management of Islands and Their Surrounding Ocean Areas”¹-and collaborate and cooperate on a voluntary basis to implement it.
2. IO Net is a basis on which the aforementioned Partners provide their respective capabilities and mutually collaborate to launch and implement concrete projects towards implementing the Joint Policy Recommendations.
3. To achieve its objective, IO Net is to facilitate the collection and sharing of relevant information and the development and implementation of projects to be undertaken by the Partners.
4. The specific projects will be formulated through the discussion of the interested partners. Upon the formation of the project, its members will manage it autonomously.
5. OPRI-SPF will serve as a secretariat for IO Net until otherwise determined.

¹ The Ocean Policy Research Foundation (OPRF), the Australian National Centre for Ocean Resources and Security (ANCORS), the Pacific Islands Forum Secretariat (PIFS), the Secretariat of the Pacific Community - Applied Geoscience and Technology Division (SPC/SOPAC) and experts collaborated to develop this Joint Policy Recommendations. It was submitted to the United Nations in the preparatory processes for Rio+20, the Working Group on Sustainable Development Goals and the Third International Conference on Small Island Developing States. The document is available at <http://blog.canpan.info/ionet>



Declaration “Renewing a dialogue for the better conservation and management of islands and their surrounding ocean areas”

We, attending the Third International Conference on Small Island Developing States held from 1 - 4 September 2014 in Apia, Samoa, gathered at the Side Event entitled “Towards a new dialogue for the better conservation and management of islands and their surrounding ocean areas” jointly organized by the Ocean Policy Research Foundation (OPRF) and the Australian National Centre for Ocean Resources and Security (ANCORS) In collaboration with technical partners and collaborators,

Reaffirm the importance of and our commitment to promoting sustainable development of small island developing states (SIDS) and sustainable management of their surrounding oceans,

Attest our commitment to the implementation of the SIDS Accelerated Modalities of Action – S.A.M.O.A. Pathways,

Emphasize the significance of advancing international multi-stakeholder partnership for achieving sustainable development of SIDS and sustainable management of surrounding oceans,

Underline the need for and usefulness of promoting information sharing on good practice, developing human resources, facilitating policy development, building institutional capacity, supporting innovative activities and undertaking research for fostering sustainable development of SIDS and sustainable management of their surrounding oceans, and

Declare the establishment of an international collaborative network called “Islands and Oceans Net” to promote sustainable development of SIDS and sustainable management of their surrounding oceans.

At Conference Marquee 4 (CM4), Conference Venue the Faleata Sports Complex on Wednesday 3 September 2014 at the occasion of the Third International Conference on Small Island Developing States, 1 - 4 September 2014, Apia, Samoa



For The Better Conservation and Management of Islands and Their Surrounding Ocean Areas

Policy Proposal by the Ocean Policy Research Foundation, the Australian National Centre for Ocean Resources and Security at the University of Wollongong and their contributing technical partners

Full Text



1. Purpose of This Policy Proposal

The ocean covers some 70 percent of the earth's surface and plays a significant role in sustaining human life by supplying natural resources and stabilizing climate. Islands serve as an irreplaceable base from which to protect and develop ocean resources, and conserve the marine environment and biodiversity.

Island States have the right to explore, exploit, conserve and manage their natural resources, and a responsibility to protect and preserve the marine environment, including conserving the living resources therein under the United Nations Convention on the Law of the Sea (UNCLOS) and other international treaties.

Today, however, islands are faced with various conservation and management challenges due to local environmental problems and global change. In particular global climate change and its associated effects have raised the plight of small islands as a matter of international concern.

This Policy Proposal reflects the results of a 3 year international research program undertaken by the Ocean Policy Research Foundation (OPRF), the Australian National Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong and their contributing technical partners, followed by a second phase of the research undertaken by OPRF, ANCORS and their contributing technical partners. This research has identified a range of globally interlinked issues whose resolution is fundamental to the future sustainability and development of small islands. Its purpose is to draw the attention of the international community to the need for more effective means to address these growing problems, especially the use of precautionary and ecosystem based approaches. This research has focused on the Pacific Ocean, where many islands are found and vast areas of the ocean fall under the jurisdiction of island States.

The research and recommendations are focused on the characteristics of islands, acknowledging islands and their surrounding ocean as unified areas and considering how to conserve and manage them. The results are being shared to support discussion on the Third International Conference on SIDS in 2014 as well as the Sustainable Development Goals, in the hopes of fostering sustainable development of island societies and the exploitation and conservation of the ocean through cooperation and collaboration between island States and the international community.

2. Priority Issues and Directions toward Solution

2-1. Conservation and Management of Islands

a. Development of Island Management Strategies

In order to address the challenges of global change to biophysical resources of islands, the international community should support practical initiatives to assist countries in the development of strategic planning and implementation of island-scale management decisions. Such support should be aimed, inter alia:

i) To develop effective management strategies for islands through classification by the socio-economic, cultural, and ecosystem-based characteristics not only of the islands themselves but also their surrounding environments.

ii) To develop robust environmental and socio-economic baselines against which management strategies can be designed and the success of outcomes evaluated. Environmental baselines should include: defining the natural dynamics of reef islands and high island shorelines (erosion, accretion patterns and island migration rates) at a range of timescales; the health and status of island ecosystems (e.g., coral reefs, water quality) and water resources; and resolution and recognition of the critical inter-linkages between island biophysical systems that maintain landforms and support human populations. Socio-economic baselines should provide an understanding of current human uses and impacts, and their impacts and the values or forces which drive them.

iii) To better resolve the outlook or future changes in local island landforms and ecosystems that may be expected to arise from the combination of human uses and impacts and the effects of global environmental change.

iv) To develop comprehensive strategies to manage the threats to island biophysical systems that allow communities to co-exist with the natural dynamics of islands. Such management strategies should also

aim to maintain the life-supporting capacity and natural dynamism of islands and their associated ecosystems; reflect the diversity of island types; recognize the complex interaction of island biophysical systems (people, land, water, ecology); and embrace a broad range of practical management solutions that comprise land use and resource planning as well as hard and soft engineering tools.

v) To identify, design and implement alternative adaptation strategies that are sensitive to the natural dynamics of island biophysical systems.

vi) To implement, monitor and evaluate ecosystem-based management plans for island biophysical systems through effective implementation of the Pacific Oceanscape.

b. Increased Safety and Resilience of Island Communities

b-1. The international community should continue to support a range of disaster risk management measures to assist island States to reduce their levels of vulnerability and risk. Measures that can be considered for support are reflected in the priorities endorsed by representatives of Pacific island countries and territories at a range of regional and global fora such as the annual sessions of the Pacific Platform for Disaster Risk Management, and biennial sessions of the Pacific Climate Change Roundtable and Global Platform for Disaster Risk Reduction, to name a few.

b-2. Based on assessments grounded in scientific data of natural disasters such as typhoons, storm surges, earthquakes and tsunamis for individual States and islands, island States should draft a comprehensive disaster preparedness plan and implementation framework in order to improve their observation systems, protective infrastructure (e.g., breakwaters and seawalls) and evacuation facilities (e.g., storm surge and tsunami shelters, escape towers and escape ships), education for higher disaster preparedness (e.g., raising disaster awareness and carrying out emergency drills) together with early warning systems, including national communication systems. Disaster resilient societies require development of both hard and soft infrastructures.

b-3. Adoption of conservation measures that are sensitive to individual characteristics of an island contributes to the establishment of a disaster resilient society. For example, in the case of the 2011 tsunami disaster in Japan, re-establishment of settlements in the areas that were affected by tsunamis in the past increased the damage. In order to build societies resilient to natural disasters, it is critical that island States develop and implement appropriate land use plans or national land plans to minimize the use of land, which is deemed vulnerable, based on detailed damage predictions. Particularly for very small islands, there is also a need to provide accessible shelters for populations in vulnerable areas.

b-4. In order to cooperate with island States to carry out the actions identified above, it is necessary for the international community to support scientific research on disaster risks for individual islands and observation systems (e.g., establishment of a core regional observatory), data and information sharing, and establishment or improvement of comprehensive disaster preparedness plans and their implementation, from technical, capacity building, and financial perspectives.

c. Implementation of Waste Management

c-1. The international community should support island States in the development and implementation of comprehensive waste management strategies in accordance with the Pacific Regional Solid Waste Management Strategy 2010-2015, designed by the Secretariat of the Pacific Regional Environment Programme (SPREP).

c-2. There is an urgent need to improve waste disposal facilities that may affect the region's environment and reduce waste in particular (e.g., by introducing the 3R (Reduce, Reuse and Recycle) system and refuse compost). It is also important to increase the understanding and awareness of island residents about waste management issues.

c-3. For atoll islands, which are small in land area and so have difficulty securing waste disposal facilities, it is essential to develop and implement a medium- to long-term national strategy.

c-4. It is recommended that island States consider the utilization of economic mechanisms so as to control commercial product inputs which are released as waste products in time. In addition, consideration should also be given to establishing zero waste measures ("bring it in, take it out"). Developed countries that export goods to island States such as cars, equipment, electric and electronic goods) should assist in the implementation of such an approach.

c-5. To implement sustainable management of waste in island States, it is important to use treatment techniques appropriate to the various types of waste (e.g., plastic marine litter and organic waste need be collected and processed separately), make efforts to reduce waste and raise public awareness, and obtain the support of the international community to support these activities.

d. Development of Renewable Energy

d-1. A key to the economic independence of island States is to encourage societies that do not depend excessively on imported energy. Consequently, it is necessary to promote renewable energy innovation according to the natural conditions of each island, and provide business operators with the necessary incentives to promote the use and development of renewable energy as appropriate. In addition, there is a need to encourage measures to save energy and promote increased energy efficiency, including awareness-raising at both the political and civil levels.

d-2. The international community should assist island States in the identification and adoption of feasible renewable energy technologies and their dissemination schemes appropriate to the environmental conditions of each country.

e. Conservation of Coral Reefs and Mangrove Forests

e-1. Coral reefs and mangrove forests play an important role not only in environmental conservation but also in disaster prevention. For example, coastal erosion is prevented by the breaking of waves at the reef margin, creating sheltered areas along island coasts; also, bottom sediment stability is secured by mangrove root systems, reducing tsunami traction force. Island States thus need

to take an adaptive and perceptual approach to maintaining island ecosystems by using well-designed structures and beach nourishment; also, a long-term approach that takes into account coral and foraminifera ecological systems is required to achieve social, economic and environmental services (ecosystem services).

e-2. Island States need to establish environmental criteria and monitoring mechanisms to manage excess land-based nutrient budgets or hazardous material spills (e.g., oil spills) that could damage coastal ecosystems.

e-3. The international community should support a multifaceted approach by island States based on the aforementioned utilization plan and conservation plan for conserving coral reefs and mangrove forests to promote achievement of the Aichi Target, which was set at COP10 of CBD in consideration of the environmental and geomorphologic features of islands.

2-2. Management of the Surrounding Ocean Areas

a. Establishment of Baselines and Maritime Limits

a-1. In order to fully implement integrated ocean management, it is important that island States that have not done so, establish their maritime baselines, zones, and outer limits as well as negotiate maritime boundary treaties. Likewise, where applicable, island States also need to complete the procedures for the extension of their continental shelf in accordance with UNCLOS. It should be noted that charts at appropriate scales are necessary to depict baselines and to publicize maritime limits.

a-2. Where appropriate the international community should continue to give island States technical and legal assistance to establish baselines and maritime zones and update existing maritime legislation and charts as well as to conduct surveys necessary for States to establish their continental shelf.

b. Implementation of Practical Fisheries Management Policies

b-1. It is recommended that island States strengthen conservation and management of small scale fisheries in coastal areas and of fishery resources in their EEZs. Support should be provided for the implementation of community based fisheries management measures, utilizing the best available scientific data. In order to support this implementation, further socio-economic research is required into fishing activities, indigenous knowledge, and community benefits. Coastal fisheries management should be considered a priority area for capacity building and institutional strengthening.

b-2. It is recommended that island States and their distant water fishing State partners should strengthen monitoring, control and surveillance (MCS) at the national and regional levels to better combat illegal, unreported and unregulated (IUU) fishing, taking into account the global nature of these issues. Particular consideration should be given to measures that combat misreporting and strengthen enforcement of license conditions. Some island States may benefit from the establishment and enhancement of enforcement organizations such as coastguards or national MCS committees to coordinate and maintain law and order at sea. The possibility of establishing joint coastguards and multi-lateral surveillance enforcement agreements among some island States should also be considered. Furthermore, as measures from the consumer side, additional consideration needs to be given to increasing traceability of products.

b-3. The international community should promote sustainable fisheries through regional fishery management organizations, including activities that remove excessive fishing capacity, address IUU fishing problems, prevent overexploitation of fishery resources, and implement an ecosystem based approach to fisheries management. Consideration should be given to the development of new processes that ensure an equitable distribution of the conservation burden in a transparent manner. At the same time, the international community should provide support to island States to add value through processing and export of seafood products, which lead to job creation and economic development.

b-4. The international community should increase its support for the strengthening of fishery management systems in the Pacific islands, including capacity building and institutional strengthening at the local, national and regional levels.

c. Maintenance and Securing of Shipping Services

c-1. Island States need to address the maintenance and safety of shipping services which are essential for transportation among the islands. The introduction and promotion of vessels that can easily be operated, managed and maintained should be encouraged. It is also recommended that island States and flag States act to prevent marine pollution and ecological damage caused by ships to island environments and to promote efficient use of energy.

c-2. The international community needs to provide financial support for island States to secure maritime transportation and technical support for human resource development to implement conservation measures.

d. Exploitation of Marine Mineral Resources and Preservation of Marine Environment

d-1 Island States need to enact effective regulatory measures based on a precautionary approach and environmental impact assessment for environmentally responsible exploitation of seabed mineral resources. This requires implementing legal measures covering prospecting, exploration, and production. Seafloor mineral resource activities should be undertaken with careful attention to public health, preservation of marine life, safe operation of relevant processing facilities, appropriate management of resources and social and financial benefits.

d-2 It is imperative to provide appropriate assistance to island States to establish special guidelines and policies to guide all aspects of this new industry and ensure the protection of islands States' interests and environments when developing mineral resources on the seabed.

d-3. The international community should support workshops and processes that facilitate the sharing of technical knowledge related to environmental impact assessments and management of seabed mining activities, particularly for the benefit of developing countries.

e. Conservation and Sustainable Use of the Marine Environment and Marine Biodiversity

e-1. Island States should consider utilizing a range of management tools, including Marine Protected Areas (MPA), and other similar tools to achieve integrated ocean management and ecosystem-based management (EBM) to conserve and use the marine environment and marine biodiversity in a sustainable manner, while taking into account local conditions and circumstances.

e-2. To be effective, it is necessary that scaled up MPAs (e.g., by networking) are designed around clear objectives, developed and implemented in harmony with other objectives for use of marine space and resources. Marine conservation is about stewardship and thus is much more than no-take areas. The broader approach to EBM is important for addressing the complex issues already facing island States, such as sustainable development, the human environment and maintenance of ecosystem processes and biological diversity, as reflected in the Aichi Targets set at COP10 of CBD.

e-3. It is desirable that island States develop and adopt guidelines as appropriate for establishing and managing MPAs and applying suitable environmental impact assessment measures. The international community should strengthen technical and financial support for island States.

2-3. Response to Climate Change and Variability

a. Adaptation to Climate Change and Variability by Island Societies

a-1. The small land area of islands and their vulnerability to natural threats raise the likelihood that they will be more affected by climate change and

variability. Climate change and variability may affect islands through damage to coral reef and near-shore ecosystems due to sea surface temperature increase and emerging ocean acidification. Climate variability already affects islands through changes in the intensity and frequency of disasters due to ongoing ENSO cycles, El Niño Modoki and other meteorological irregularities; and climate change is expected to increase possible variability and extremes.

Understanding of data relating to climate/oceanic extremes and socio-economic indicators offer many important lessons to reduce vulnerability of islands (e.g., droughts caused by El Niño Modoki or urbanization). It is also important to undertake further targeted scientific research and to implement evidence-based, practical solutions to climate stress. This will engender long-term resilience and enable islands to appropriately adapt to disasters and climate change impacts.

a-2. It is important to take measures to address the following three issues. First, as to global scale climate change, there is a need to deepen our understanding through observation and experimental research of vulnerable ecosystem services and resources (e.g., coral reefs, fish, mangroves, shoreline systems, etc). Second, as to climate variability, basic climate monitoring capacity must be strengthened in small islands to provide critical baseline data and broader research on meteorological irregularities such as decadal climate cycles, ENSO and El Niño Modoki. Third, in terms of aggravation of local inshore marine environments caused by existing anthropogenic stress, appropriate action and exploration of impact-response mechanisms should be taken in line with Sub-section 2-1 of Section 2 of this document.

b. Response to International Law Issues Related to Climate Change

b-1. The low water lines of islands are important, as they constitute the normal baseline for measuring the breadth of territorial seas, contiguous zones, EEZs and continental shelves, as well as the base point for drawing straight baselines and archipelagic baselines.

b-2. Current rules of international law do not adequately address the adverse impacts of climate change on the limit and the status of territorial seas,

contiguous zones, EEZs and continental shelves in cases where low water lines shift or part or the whole of the island territory is submerged due to sea level rise. It is therefore desirable for the international community to consider adopting new rules to mitigate unfair impacts by Climate Change. In this respect, consideration should be given to adopting a supplementary agreement to UNCLOS.

3. Capacity Building and Institutional Strengthening

Capacity building is essential to ensure that island States are able to effectively implement their national and international obligations and to ensure the long term conservation and sustainable use of their marine environments. Accordingly, the international community should support research into identifying priority institutional strengthening and capacity building needs for small island States in the fields of marine management, governance and development. Support should be given to capacity building and institutional strengthening programmes that target national and regional priorities while minimizing disturbance to ongoing management responsibilities. As far as possible, such support should be coordinated through existing regional agencies.

4. Suggestions for Responding to the Challenges

4-1. Various types of scientific knowledge should be accumulated in order to effectively respond to natural threats, problems associated with climate change and climate variability, maintenance and conservation of islands, and environmental preservation of islands.

4-2. In order to respond to issues relating to the degradation of the living environments and increasing vulnerability of marine and coastal environments and communities, it is desirable for island States to establish and implement appropriate land use plans or national planning mechanisms, taking due account of environmental conservation.

4-3. It is recommended that island States work towards sustainable development through effective management of the ocean areas under their jurisdiction so as to conserve and manage the environment and resources, in

order to achieve a long-term sustainable utilization of marine living resources.

4-4. In their effort to achieve sustainable development, the nature, history, culture, politics, and institutional arrangements (e.g., traditional use and ownership of land and the sea) that are unique to the States and islands concerned should be taken into account.

4-5. It is recommended that the international community work with island States to identify the necessary forms and level of support through proper evaluation and analysis of the problems and their causes. The international community should provide focused cooperation and financial support to address identified needs.

4-6. In order to manage islands and their surrounding ocean areas effectively, it is necessary to establish systems or frameworks for the management and development of islands, to enhance capacity in national administrations and to support national community awareness programmes. Close working relations with NGOs should be explored and harnessed.

4-7 It is important to manage the various problems impacting the conservation and management of islands and their surrounding ocean areas through approaches that recognize the interconnected nature of islands and their surrounding ocean areas.

5. Toward Realization of This Policy Proposal

5-1. Island States are facing various challenges affecting their islands and surrounding oceans. These issues are closely interconnected and thus it is important to find solutions to them in an integrated manner.

5-2. We recommend that in order to respond to these issues, island States should develop and adopt integrated policies and plans for oceans, coasts, and islands based on their respective social and cultural backgrounds, and then establish implementing institutions and organizations.

5-3. We support the development of island State policies and plans that promote an integrated approach, given the interconnected nature of ocean management issues and the requirements for States to share in the responsibility of managing the oceans under UNCLOS and other international initiatives, such as The Future We Want (Rio+20), Agenda 21 (Rio summit), the World Summit on Sustainable Development (WSSD) Plan of Implementation, the Barbados Programme (1st SIDS) of Action and the Mauritius Strategy (2nd SIDS). It is desirable that the Ocean Declaration (Ocean Days, Rio+20), which calls for action to meet the sustainable development goals for oceans, coasts, and SIDS, is used as a reference.

5-4. OPRF, ANCORS and their technical partners urge the international community to give full consideration to these recommendations, promote their implementation, and work for their inclusion in the Action Plan for the Third International Conference on SIDS in 2014 and the Sustainable Development Goals in 2015.

The document can be accessed at

<http://www.sids2014.org/content/documents/35Binder1.pdf>

or

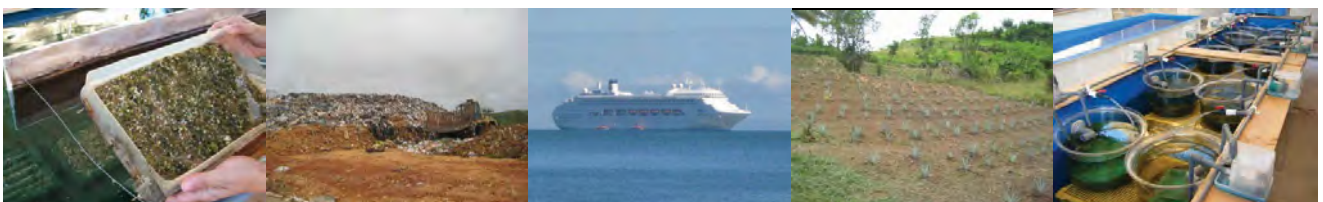
<http://sustainabledevelopment.un.org/index.php?page=view&type=9500&menu=1562&nr=3724>

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August 2014

この報告書は、ポートルースの交付金による日本財団の助成を受けて作成しました。

Proceedings of Islands and Oceans Net 1st General Meeting

2016年3月発行

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本書の無断転載、複写、複製を禁じます。 ISBN978-4-88404-334-6

